AstraZeneca

What science can do

AstraZeneca Annual Report and Form 20-F Information 2020

Welcome

We are a global, science-led, patient-focused pharmaceutical company. We are tireless in seeking to realise the potential of...

...what science can do.

In this Annual Report we report on the progress we made in 2020 in pushing the boundaries of science to deliver life-changing medicines.

Our Strategic Report

How our therapy areas and business performed in delivering our strategic priorities in 2020, including our response to the COVID-19 pandemic.

See our Strategic Report from page 2.

Our Corporate Governance Report

How we are managed and take decisions, including our report on Directors' remuneration.

See our Corporate Governance Report from page 101.

Our Financial Statements and Additional Information

Detailed information on our finances, our marketed medicines and medicines in development, as well as information for shareholders.

See our Financial Statements from page 169 and Additional Information from page 245.

Use of terms:
In this Annual Report, unless the context otherwise requires, 'AstraZeneca', 'the Group', 'we', 'us' and 'our' refer to AstraZeneca PLC and its consolidated entities.

Front cover image: Clinical innovation
Digital technologies are creating never- seen-before opportunities to capture real-time data from patients.

AstraZeneca is growing its digital capabilities across R&D to explore how we can better inform our clinical trials and help patients prevent, manage or treat their disease.

Inside front cover image:
Data science & AI are transforming drug discovery and development.

Contents

Financial highlights

Total Revenue*
Up 9% at actual rate of exchange to $26,617 million (up 10% at CER), comprising Product Sales of $25,890 million (up 10%; 11% at CER) and Collaboration Revenue of $727 million (down 11%; 11% at CER)

2020	**$26,617m**
2019	$24,384m
2018	$22,090m

$26.6bn

Net cash flow from operating activities
Up 62% at actual rate of exchange to $4,799 million

2020	**$4,799m**
2019	$2,969m
2018	$2,618m

$4.8bn

Reported operating profit
Up 77% at actual rate of exchange to $5,162 million (up 81% at CER)

2020	**$5,162m**
2019	$2,924m
2018	$3,387m

$5.2bn

Core operating profit
Up 14% at actual rate of exchange to $7,340 million (up 17% at CER)

2020	**$7,340m**
2019	$6,436m
2018	$5,672m

$7.3bn

Reported EPS
Up 137% at actual rate of exchange to $2.44 (up 142% at CER)

2020	**$2.44**
2019	$1.03
2018	$1.70

$2.44

Core EPS
Up 15% at actual rate of exchange to $4.02 (up 18% at CER)

2020	**$4.02**
2019	$3.50
2018	$3.46

$4.02

// Denotes a scale break. Throughout this Annual Report, all bar chart scales start from zero. We use a scale break where charts of a different magnitude, but the same unit of measurement, are presented alongside each other.

For more information in relation to the inclusion of Reported performance, Core financial measures and constant exchange rate (CER) growth rates as used in this Annual Report, see the Financial Review from page 82.

* As detailed from page 181, Total Revenue consists of Product Sales and Collaboration Revenue.

Key

For more information within this Annual Report

For more information, see www.astrazeneca.com

BV Denotes sustainability information independently assured by Bureau Veritas

This Annual Report is also available on our website, www.astrazeneca.com/annualreport2020

AstraZeneca at a Glance

Inspired by our Values and what science can do, we are focused on accelerating the delivery of life-changing medicines that create enduring value for patients and society.

Our strategic priorities

Our Strategy and Key Performance Indicators, see from page 18.

Our priorities reflect how we are working to deliver our growth through innovation strategy and achieve our Purpose: to push the boundaries of science to deliver life-changing medicines.

1. Deliver Growth and Therapy Area Leadership
2. Accelerate Innovative Science
3. Be a Great Place to Work

A science-led value proposition

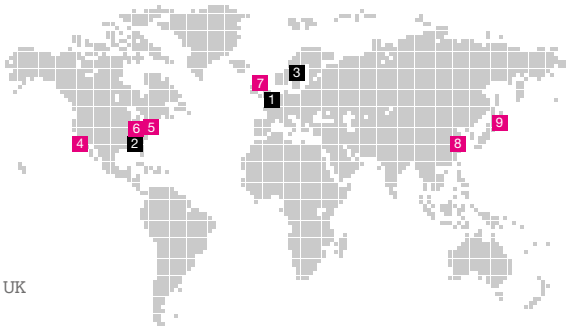
Research & Development, see from page 53 and Development Pipeline, see from page 245.

Distinctive R&D capabilities

Small molecules, biologics, protein engineering and innovative delivery devices, as well as new scientific modalities, new technologies and new biology.

171

projects in our development pipeline



Strategic R&D centres
1. Cambridge, UK (HQ)
2. Gaithersburg, MD, US
3. Gothenburg, Sweden

Other R&D centres and offices
4. South San Francisco, CA, US
5. Boston, MA, US
6. New York, NY, US
7. Alderley Park and Macclesfield, UK
8. Shanghai, China
9. Osaka, Japan

Focus on three main therapy areas

Therapy Area Review, see from page 30 and Research & Development, see from page 53.

Oncology

Our ambition is to provide cures for cancer in every form. We are following the science to understand cancer and all its complexities to discover, develop and deliver life-changing treatments and increase the potential for cure.

Cardiovascular, Renal & Metabolism

Our mission is to protect the lives of people from the consequences of CVRM diseases. We are committed to their seamless management, improving patient outcomes and decreasing the mortality rate.

Respiratory & Immunology

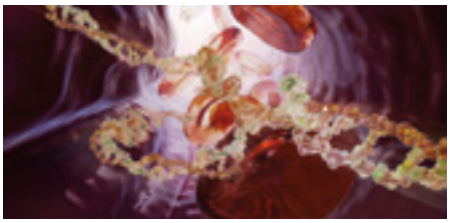
We aim to transform the treatment of R&I diseases, with the bold ambition to eliminate preventable attacks and achieve durable remission or even cure for millions of people with these potentially devastating conditions.

Other Medicines and COVID-19

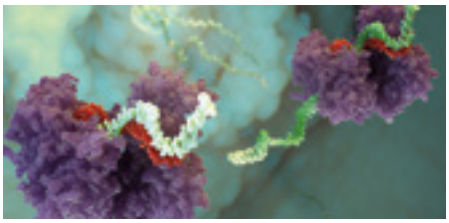
We have medicines and vaccines in other disease areas that have an important impact for patients. We are working to defeat the COVID-19 pandemic by advancing and accelerating the development of potential medicines.

Diversified portfolio of specialty and primary care medicines (Product Sales)

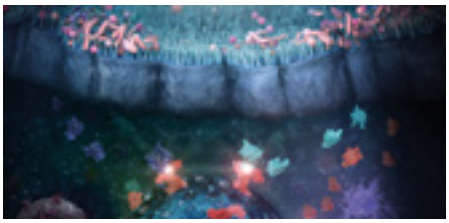
Oncology	Cardiovascular, Renal & Metabolism	Respiratory & Immunology	Other Medicines and COVID-19
$10,850m	**$7,096m**	**$5,357m**	**$2,587m**
42% of total	27% of total	21% of total	10% of total
2019: $8,667m	2019: $6,906m	2019: $5,391m	2019: $2,601m
2018: $6,028m	2018: $6,710m	2018: $4,911m	2018: $3,400m
Sales growth of 25% (26% at CER)	Sales growth of 3% (5% at CER)	Sales decline of 1% (0% at CER)	Sales decline of 1% (0% at CER)



Oncology. See page 30.



Cardiovascular, Renal & Metabolism. See page 36.



Respiratory & Immunology. See page 42.

Global strength, balanced presence across regions (Product Sales)

Commercial, see from page 57.

Emerging Markets	US	Europe	Established Rest of World
$8,679m	$8,638m	$5,059m	$3,514m
34% of total	33% of total	20% of total	14% of total
2019: $8,165m	2019: $7,747m	2019: $4,350m	2019: $3,303m
2018: $6,891m	2018: $6,876m	2018: $4,459m	2018: $2,823m
Sales growth of 6% (10% at CER)	Sales growth of 12% (12% at CER)	Sales growth of 16% (15% at CER)	Sales growth of 6% (6% at CER)

Commitment to people

A focus on inclusion and diversity, as well as life-long learning and development.

People, see from page 68.

76,100 employees 2019: 70,600 2018: 64,600	46.9% of our senior roles are filled by women	92% of employees believing strongly in AstraZeneca's future direction and key priorities	81% of employees believing there is effective collaboration between teams

Commitment to society

Improving access to healthcare, environmental protection and ethics and transparency, including delivering our Ambition Zero Carbon programme.

Sustainability, see from page 72.

Priority	Priority	Priority	
1 Access to healthcare	2 Environmental protection	3 Ethics and transparency	87% of employees saying they understand their contribution to our sustainability priorities
access to medicine index: 7th overall	CDP: A List for Climate and Water Security	Member of Dow Jones Sustainability Indices In Collaboration with RobecoSAM: World and Europe constituent	FTSE4Good: Index Series constituent

Capital allocation priorities

After providing for investment in the business, supporting the progressive dividend policy and maintaining a strong, investment-grade credit rating, we keep under review potential investment in immediately earnings-accretive, value-enhancing opportunities.

Financial Review, see from page 82.

Dividends	R&D expenditure (Reported)	Credit rating (Standard & Poor's)	Credit rating (Moody's)
$3,572m	$5,991m	BBB+	A3
2019: $3,592m	2019: $6,059m	Long term: CreditWatch Positive outlook	Long term: Negative outlook
2018: $3,484m	2018: $5,932m		

Comprehensive response to the COVID-19 pandemic

Our response was consistent with our Values of following the science, putting patients first and doing the right thing.

COVID-19 pandemic, see from page 28.

Helped ensure the safety of patients and their continued access to care and medicines.	Protected our employees and critical operations to ensure the continued supply of our medicines.	Contributed to the process of scientific innovation to combat the virus.	Contributed more broadly to society, including emergency relief.

Chairman's Statement

Despite the significant impact from the COVID-19 pandemic, we delivered double-digit revenue growth in 2020 to leverage improved profitability and cash generation.

"Our patient-centric strategy, focus on innovation and capital-allocation priorities remain unchanged."

$2.80

Full-year dividend of $2.80 per share (2019: $2.80)

2020 was a year quite unlike any other. It was also a remarkable year for AstraZeneca as we pursue our growth through innovation strategy. Under the excellent leadership of our CEO, Pascal Soriot, our focus on execution delivered significant advances, while we also build the capabilities to progress in a rapidly changing world and respond to the pandemic.

A year of pandemic

The pandemic has impacted the lives of us all. Many employees at AstraZeneca have been working from home but others have continued to work in our laboratories and factories, ensuring the continued supply of our medicines to patients. I am grateful to them, and all those who worked so hard to ensure the safety of our places of work and the wellbeing of employees.

Your Board took the decision early in the pandemic to conclude our agreement with the University of Oxford to develop, manufacture and supply their potential vaccine to prevent COVID-19. It was a decision that was aligned to our Purpose and a practical way in which we were able to help in a time of health crisis.

Operating sustainably

Our decision to develop and supply the vaccine at no profit during the pandemic was not taken lightly and brings scrutiny to what we do and how we do it. However, how we do things is as important as what we do, including operating in a sustainable way. Our commitment to sustainability includes our Ambition Zero Carbon target which is our contribution to help tackle the climate crisis. I am also pleased that this Annual Report contains our first statement on the progress we are making against the requirements of the Taskforce on Climate-related Financial Disclosures.

Financial sustainability

Of course, if we are to continue to deliver our pipeline of innovative medicines to patients around the world, we need to be financially sustainable. In this regard, our results in 2020 were in line with guidance. We also improved profitability, while the strategy of sustainable growth through innovation brought numerous further benefits for patients. This performance enabled the Board to reaffirm its commitment to our progressive dividend policy by keeping the full-year dividend per share at $2.80.

Our patient-centric strategy, focus on innovation and capital-allocation priorities remain unchanged, with sustainable growth in revenue, profit and cash generation set to continue. Consequently Total Revenue is expected to increase by a low-teens percentage in 2021, accompanied by faster growth in Core EPS to $4.75 to $5.00.

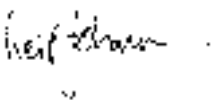
Our guidance does not include any revenue or profit impact from sales of *COVID-19 Vaccine AstraZeneca,* or any impact from the proposed acquisition of Alexion which we believe could accelerate the combined company's strategic ambitions and will improve profitability and strengthen cash flow. I will write to you later in the year with more information about this proposed transaction, ahead of the shareholders' general meeting at which your approval to go ahead with it will be sought.

Succession planning

At the AGM this April, Geneviève Berger and Graham Chipchase intend to retire from the Board. By then, each will have served as a Non-Executive Director for nine years. On behalf of the Board, I would like to thank them for their service to AstraZeneca and valuable contributions to the Board's work. We will miss their input and collegiality, although they each have very able successors for two of their key roles. Nazneen Rahman has taken over responsibility from Geneviève for overseeing sustainability matters on behalf of the Board and Philip Broadley will succeed Graham as the senior independent Non-Executive Director.

I will also have served as a Director for nine years by April 2021. Typically, non-executive directors would step down after that period in line with UK corporate governance best practice. However, your Board believes it would be in the best interests of shareholders for me to continue to serve as Chairman, to lead the Board's oversight of completion of the proposed acquisition of Alexion, and has asked me to seek re-election at the AGM. I am honoured and happy to accept the Board's request.

During 2020, the Nomination and Governance Committee and the Board continued to consider carefully plans for succession to the senior Board roles of Chairman, CEO and CFO. We have a clear understanding of the way in which we intend to sequence succession over a sensible period of time. In the meantime, I could not be prouder of leading AstraZeneca at such an important time in its history.



Leif Johansson
Chairman

Chief Executive Officer's Review

AstraZeneca's many achievements in 2020 demonstrated the power of living our Values to push the boundaries of science to deliver life-changing medicines.

"I am confident that we will continue to deliver more progress for patients and sustained, compelling results."

Despite the impact of the COVID-19 pandemic, our performance in 2020 ensured that we were able to continue delivering value for patients and shareholders as well as for society. The announcement of our proposed acquisition of Alexion is further evidence of our intention to drive long-term value creation for shareholders and make an even bigger difference to the lives of patients.

Delivering our strategic priorities

As demonstrated throughout this Annual Report, the value we delivered in 2020 was made possible through the progress we made against all our strategic priorities and across the whole organisation:

1. **Deliver Growth and Therapy Area Leadership:** We delivered strong results in 2020, despite the adverse impact of the pandemic, with Product Sales up 10% (11% at CER) to $25,890 million. Sales grew in all regions, while Total Revenue from our New Medicines[1] improved by 33% (33% at CER) to $13,950 million.
2. **Accelerate Innovative Science:** We had remarkable pipeline and regulatory performances in 2020, with 29 approvals of new medicines or life-cycle management indications in major markets. Despite the occasional setback, which is to be expected, we also had 14 data or regulatory designations for accelerated, priority or other expedited review in major markets.
3. **Be a Great Place to Work:** 2020 brought focus to our inclusion and diversity activities, while employee survey results confirmed we remained a great place to work. We also made good progress with our ambition of leading in sustainability.

Building a sustainable company includes building financial sustainability. In 2020, that meant results in line with guidance given throughout the year and more than half of Total Revenue coming from our New Medicines.

COVID-19 and living our Values

I am proud of everyone in AstraZeneca who achieved so much in the face of the biggest health crisis the world has encountered in more than a generation. I am even more proud of the fact that, despite the pandemic, employees worked tirelessly to ensure the safety of patients, and their continued access to care and medicines. We also focused on protecting our staff and critical operations. Working with partners across the world, we played a leading role in the process of scientific innovation to combat the virus and contributed more broadly to society, including with emergency relief.

While delivering our growth through innovation strategy and responding to the pandemic may seem different challenges, the key to our success is the same in both: being true to our Purpose and living our Values.

We follow the science

Our response to the pandemic was led by science and included our landmark agreement with the University of Oxford for the global development, production and supply of *COVID-19 Vaccine AstraZeneca*. We committed to doing this at no profit during the pandemic and to providing the broad and equitable supply of billions of vaccine doses around the world. We continue to work around the clock to deliver these as speedily as possible while retaining the highest of quality standards.

Our response to the pandemic also included the repurposing of our existing compounds and the development of our potential long-acting antibody (LAAB) combination against the virus, AZD7442.

As soon as the gene sequence of the SARS-CoV-2 virus was published in January 2020, our teams worked rapidly to screen thousands of antibodies and, in just 99 days, identified a combination of two potent neutralising antibodies that is designed to reduce the risk of resistance developed by the virus and engineered to increase the durability of the therapy for six to 12 months following a single administration. By running all our usual early development processes in parallel rather than sequentially, we were able to start Phase I trials of AZD7442 in August and Phase III trials in October, thereby reducing to months processes that normally take years.

We put patients first

Throughout the pandemic, we put patients first by working closely with investigators to find solutions and by accelerating the use of digital health technologies in R&D to keep our clinical trials running. For example, we were able to continue more than 80% of our studies. We did so by moving to new ways of working and using digital solutions, such as electronic consent, remote data collection and using devices to collect patient data from home. Our teams also helped patients continue to receive their treatment. For example, we made more than 2,400 shipments to patients' homes in more than 60 studies across 35 countries.

[1] *Tagrisso*, *Imfinzi*, *Lynparza*, *Calquence*, *Enhertu*, *Koselugo*, *Farxiga*, *Brilinta*, *Lokelma*, roxadustat, *Fasenra*, *Bevespi* and *Breztri*.

Chief Executive Officer's Review *continued*

33%

Total Revenue from New Medicines improved by 33% to $13,950 million

29

29 approvals of new medicines or life-cycle management indications in major markets

99.9%

Sourced 99.9% of our imported electricity globally from renewable sources in 2020

"I am proud of everyone in AstraZeneca who achieved so much in the face of the biggest health crisis the world has encountered in more than a generation."

For more information on our strategy and 2020 performance, see Our Strategy and Key Performance Indicators from page 18 and Performance in 2020 from page 24.

At the same time, we worked hard to accelerate patient-centred care. In the case of chronic kidney disease (CKD), only 12% of cases are currently diagnosed and we are working with digital partners to increase awareness, expand early diagnosis and transform CKD management.

In the case of respiratory diseases, where patients are at greater risk if they contract COVID-19, it can typically take seven years for severe asthma to be diagnosed and treated. We therefore use digital tools, such as chatbots which, in 2020, helped more than 200,000 patients self-diagnose and seek specialist consultation. We are also working with healthcare systems to remove barriers to better care and accelerating homecare: the number of patients self-administering *Fasenra* more than doubled in 2020, offering them a safer way to manage their condition in the context of a higher vulnerability to COVID-19.

We are entrepreneurial

During the year, by changing the way we work, we were able to serve an estimated 200,000 new cancer patients against a background that saw a 40% drop in the number of patients who would typically be diagnosed with cancer. Partnering closely with health authorities, we delivered nearly 20 new launches across our major markets, including patient-friendly dosing of *Imfinzi* in the US and Europe that halved the number of hospital visits needed by patients.

Additionally, we sought to reduce the impact of the pandemic on cancer outcomes by, for example, launching a 'New Normal, Same Cancer' campaign, which we co-created with seven leading global patient coalitions, to encourage patients whose care had been interrupted to re-engage with the healthcare system. We also transformed the patient experience by enabling continuity of care and connectivity between healthcare practitioners and patients with the accelerated launch of HAYA, our fully-integrated oncology patient care management platform. It has been launched in Europe and will be deployed more widely as a result of the positive response.

We play to win

For us, playing to win in 2020 meant working hard to manage our global supply chain flows and inventory in order to protect the supply of medicines to our patients. That included the challenging management of more than 1,300 global logistics routes and moving available product as close to the patient as possible, as borders closed or restrictions were put in place around the world. It also involved staff temperature monitoring and carrying out more than 22,000 COVID-19 assessments to ensure all our operations sites could remain open.

As a result of our efforts, we delivered 91 on-time launches during the year, including the successful launch of *Imfinzi* in China early in the COVID-19 outbreak.

Overall, our actions allowed us to achieve outstanding stock availability levels of 99.5% throughout our global markets.

We do the right thing

Doing the right thing ensures that we are a great place to work, both through how each of us contributes to the enterprise and, more broadly, to society. That includes embracing the power of diversity and leading the way to avoid a climate catastrophe. Inclusion and diversity foster creativity, generate innovation and drive performance. In 2020, that was exemplified by colleagues from across AstraZeneca coming together to create a comprehensive plan to address racial equity issues that include the design and enrolment into clinical trials, as well as how to attract, retain and develop ethnic minority talent.

Ambition Zero Carbon is our flagship commitment to help reduce our carbon footprint – for our health and the health of the planet. To achieve this, we are following a greenhouse gas hierarchy of avoiding, reducing, substituting and, only if necessary, compensating for our greenhouse gas emissions. We are making good progress, which includes sourcing 99.9% of our imported electricity globally from renewable sources in 2020.

Appreciation and looking ahead

In closing, I want to thank my colleagues on the SET and across AstraZeneca. In particular, I want to congratulate Jeff Pott who, in addition to his role as General Counsel, has taken over as Chief Human Resources Officer from Fiona Cicconi. Fiona left at the end of 2020 to undertake a similar role at an iconic technology company and I want to thank her for her leadership in making us a great place to work.

Our performance in 2020 marked a significant step forward for AstraZeneca. We delivered double-digit revenue growth to leverage improved profitability and cash generation. The consistent achievements in the pipeline, accelerating performance of our business and the success of the COVID-19 vaccine demonstrated what we can achieve. The proposed acquisition of Alexion is intended to accelerate our commercial and scientific evolution even further.

Thanks to the focus on an industry-leading pipeline and consistent execution, I am confident that we will deliver more progress for patients and sustained, compelling results.

Pascal Soriot
Chief Executive Officer

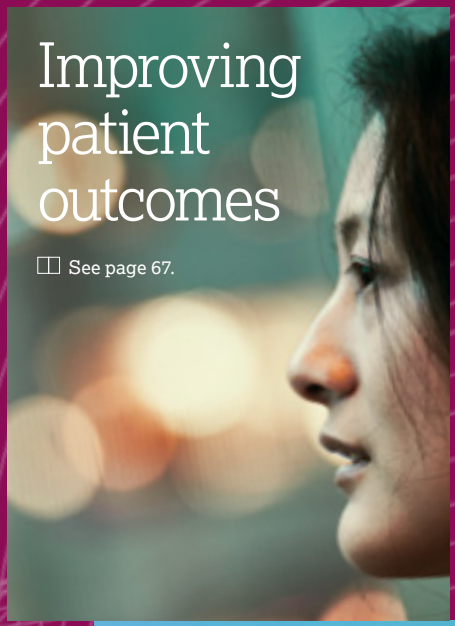
Transforming our science

We are never complacent about scientific discovery and development, always pushing our R&D productivity, searching for new knowledge and the next breakthrough.

Our strategy guides our business, supporting us in advancing our scientific knowledge to extend the possible and helping shape the future of healthcare. We are committed to investing in and embedding four key areas, which will help us in our aspiration to create the greatest and swiftest impact on disease:

- Enhancing our understanding of disease biology with the aim of treating, preventing, modifying and even curing complex diseases.
- Discovering new ways to target the drivers of disease to create the next generation of therapeutics.
- Better predicting clinical success to make sure we accelerate delivery to get the right medicines to the right patients.
- Pioneering new approaches to engagement in the clinic and beyond to deliver a better experience for the patient and by doing so, improve outcomes.

For more information, see Research & Development from page 53.



Improving patient outcomes

See page 67.

Understanding disease biology

See page 56.

Creating new therapies

See page 11.

Predicting clinical success

See page 23.

Business Model and Life-cycle of a Medicine

We invest resources to create financial and non-financial value, bringing benefits to our patients, our world and our business.

Why AstraZeneca?

We are a global pharmaceutical business and have a science-led and patient-focused value proposition:

- >Focus on three main therapy areas: Oncology; Cardiovascular, Renal & Metabolism (CVRM); and Respiratory & Immunology (R&I)
- >Diversified portfolio of specialty and primary care medicines
- >Global strength, balanced presence across regions
- >Commitment to people and society

Advanced drug delivery of a small molecule using a polymer drug conjugate.

Who we are

Inspired by our Values and what science can do, we are focused on accelerating the delivery of life-changing medicines that create enduring value for patients and society.

We are committed to operating in a way that recognises the interconnection between business growth, the needs of society and the limitations of our planet.

Our sustainability priorities in access to healthcare, environmental protection, and ethics and transparency support the delivery of our business strategy.

Our Purpose

We push the boundaries of science to deliver life-changing medicines.

Our Purpose underpins everything we do. It gives us a reason to come to work every day. It reminds us why we exist as a company. It helps us deliver benefits to patients and create value for shareholders.

Our Values

Our Values determine how we work together and the behaviours that drive our success. They guide our decision making and define our beliefs.

We follow the science.
Pushing the boundaries of science and working creatively with partners and collaborators.

We put patients first.
Striving to understand patients' needs and considering them in every decision we take.

We play to win.
Building high-performing, inclusive and diverse teams and making the right choices to win.

We do the right thing.
Employing high ethical standards when carrying out all aspects of our business globally.

We are entrepreneurial.
Acting with urgency, bravery, resilience and taking smart risks.

Our Culture

Our culture is defined by our shared Values and Purpose. Accompanying this, our commitment to sustainability, performing as an enterprise team, lifelong learning and inclusion and diversity makes us a great place to work.

Business Review, see from page 52.

What we do

Our business activities span the entire life-cycle of a medicine.

How we create financial value

Investment

We invest in the discovery, development, manufacturing and commercialisation of our pipeline of innovative small molecule and biologic prescription medicines, including targeted business development through collaboration, in-licensing and acquisitions.

Revenue generation

We generate revenue from Product Sales of our existing medicines and new medicine launches, as well as from our collaboration activities. Our focus is on creating medicines that facilitate profitable future revenue generation, while bringing benefits to patients.

Reinvestment

We reinvest in developing the next generation of innovative medicines and in our business to provide the platform for future sources of revenue in the face of losses of key patents.

Life-cycle of a medicine

Research and development phases – duration: 5–15 years

1. Find potential medicine
> Identify unmet medical need and undertake scientific research to identify potential new medicines.
> Initiate process of seeking patent protection.

2. Pre-clinical studies
> Conduct laboratory and animal studies to understand if the potential medicine is safe to introduce into humans and in what quantities.
> Determine likely efficacy, side effect profile and maximum dose estimates.

3. Phase I trials
> Begin clinical trials with small groups of healthy human volunteers (small molecules) or patients (biologics) to understand how the potential medicine is absorbed into the body, distributed around it and excreted.
> Determine approximate dosage and identify side effects.

4. Phase II trials
> Conduct studies on small- to medium-sized groups of patients to test effectiveness and tolerability of the medicine and determine optimal dose.
> Design Phase III studies to generate data needed for regulatory approvals and pricing/reimbursement globally.

5. Phase III trials
> Engage in trials in a larger group of patients to gather information about effectiveness and safety of the medicine and evaluate the overall benefit/risk profile.
> Initiate branding for the new medicine in preparation for its launch.

6. Regulatory submission and pricing
> Seek regulatory approvals for manufacturing, marketing and selling the medicine.
> Submit clinical data to regulatory authorities (and, if requested, generate further data increasingly in real-world settings) to demonstrate the safety and efficacy of the medicine to enable them to decide whether to grant regulatory approvals.

Launch phase – duration: 5–15 years

7. Launch new medicine
> Raise awareness of patient benefit and appropriate use, market and sell the medicine.
> Clinicians begin to prescribe the medicine and patients begin to benefit.
> Continuously monitor, record and analyse reported side effects. Review need to update the side effect warnings to ensure that patients' wellbeing is maintained.
> Assess real-world effectiveness, and opportunities to support patients and prescribers, to achieve maximum benefit from the medicine.

8. Post-launch research and development
> Conduct studies to further understand the benefit/risk profile of the medicine in larger and/or additional patient populations.
> Life-cycle management activities to broaden understanding of a medicine's full potential.
> Consider additional diseases or aspects of disease to be treated by or better ways of administering the medicine.
> Submit data packages with requests for life-cycle management to regulatory authorities for review and approval.

Post-exclusivity – duration: 20+ years

9. Post-exclusivity
> Patent expiry and generic medicine entry.
> Reinvestment of returns.

Note: This is a high-level overview of a medicine's life-cycle and is illustrative only. It is neither intended to, nor does it, represent the life-cycle of any particular medicine or of every medicine discovered and/or developed by AstraZeneca, or the probability of success or approval of any AstraZeneca medicine.

Business Model and Life-cycle of a Medicine *continued*

What does our business model require to be successful?

A talented and diverse workforce
We need to acquire, retain and develop a talented and diverse workforce united in pursuit of our Purpose and Values and fostering a strong AstraZeneca culture.

46.9%
of our senior roles are filled by women

A leadership position in science
We need to achieve scientific leadership if we are to deliver life-changing medicines. To that end, we need to focus on innovative science, prioritise and accelerate our pipeline and transform our innovation and culture model.

$6.0bn
invested in our science in 2020

Understand our stakeholders
We need to understand the factors and issues that are most important to the various stakeholders that we interact with, and who are impacted by our business.

>76,000
registered holders of Ordinary Shares

Effective collaborations
We need business development, specifically partnering, which is an important element of our business model. It supplements and strengthens our pipeline and our efforts to achieve scientific leadership and leads to improved outcomes for patients.

>800
collaborations worldwide

Commercialisation skills
We need a strong global commercial presence and skilled people to ensure that we can successfully launch our medicines, that they are available when needed and that patients have access to them.

>100
countries in which we are active

Intellectual property (IP)
We need to create and protect our IP rights. Developing a new medicine requires significant investment over many years, with no guarantee of success. For our investments to be viable, we seek to protect new medicines from being copied for a reasonable period of time through patent protection.

>100
countries where we obtained patent protection

A robust supply chain
We need a supply of high-quality medicines, whether from one of the 26 Operations sites in 16 countries in which we manufacture or the $13.3 billion we spend on the purchase of goods, services and active pharmaceutical ingredients (APIs).

$13.3bn
spent with suppliers

Financial strength
We need to be financially strong, including having access to equity and debt financing, to bear the financial risk of investing in the entire life-cycle of a medicine.

$4.8bn
net cash flow from operating activities

>120m
Our medicines impact more than 120 million[1] patient lives annually

How we add value

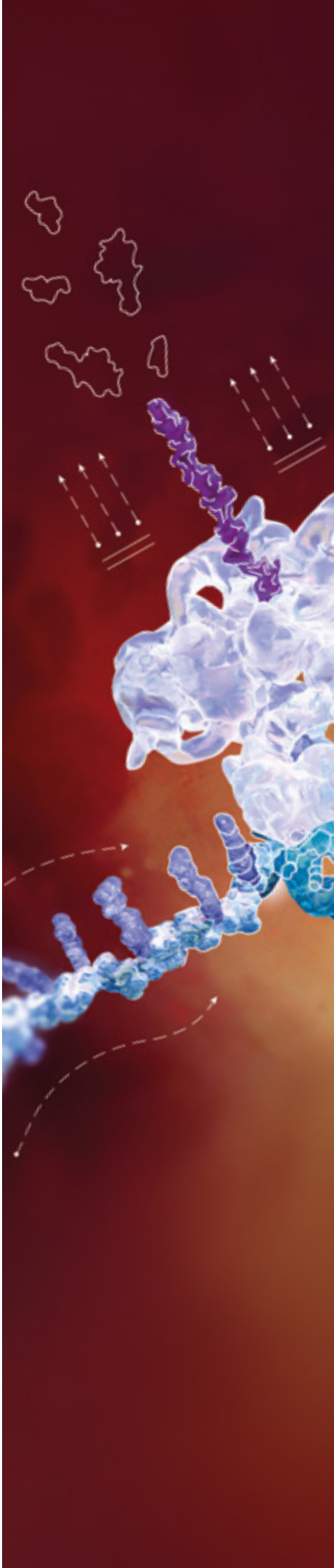
Improved health
Continuous scientific innovation is vital to achieving sustainable healthcare which creates value by:

- Improving health outcomes and transforming the lives of patients who use our medicines.
- Enabling healthcare systems to reduce costs and increase efficiency.
- Improving access to healthcare and healthcare infrastructure.
- Helping develop the communities in which we operate through local employment and partnering.

Financial value
Revenue from our Product Sales and collaboration activities generates cash flow, which helps us:

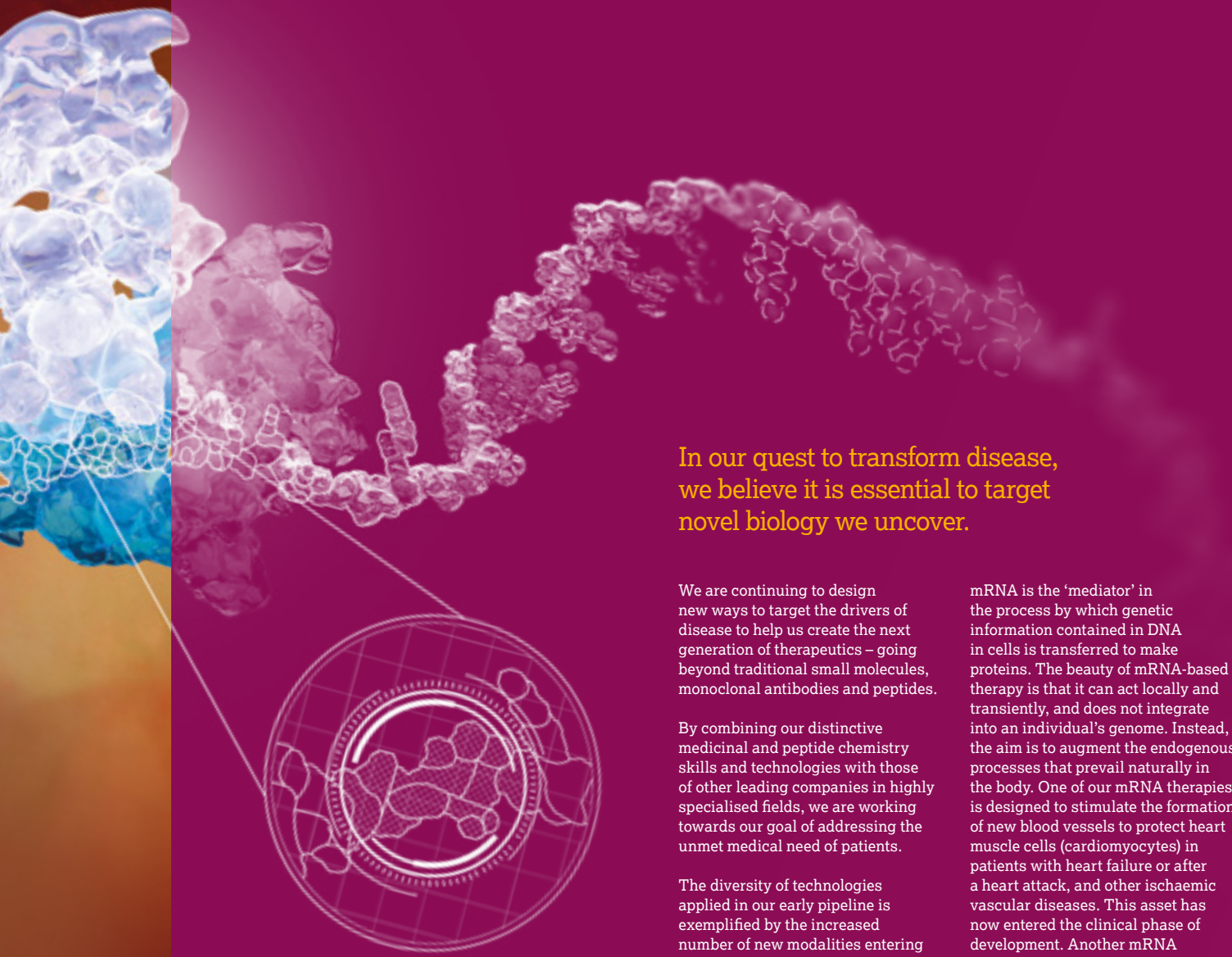
- Fund our investment in science and the business to drive long-term value.
- Follow our progressive dividend policy.
- Meet our debt service obligations.

[1] Figure for 2019; excludes *COVID-19 Vaccine AstraZeneca*.



Creating the next generation of therapeutics

Working with mRNA in collaboration with Moderna



Messenger RNA (mRNA) is a single stranded RNA that conveys genetic information from DNA to the ribosome, where it is translated into protein products.

In our quest to transform disease, we believe it is essential to target novel biology we uncover.

We are continuing to design new ways to target the drivers of disease to help us create the next generation of therapeutics – going beyond traditional small molecules, monoclonal antibodies and peptides.

By combining our distinctive medicinal and peptide chemistry skills and technologies with those of other leading companies in highly specialised fields, we are working towards our goal of addressing the unmet medical need of patients.

The diversity of technologies applied in our early pipeline is exemplified by the increased number of new modalities entering clinical development. 30% of our early pipeline now consists of new drug modalities, including oligonucleotides, mRNA, bicyclic peptides and Anticalin® proteins.

mRNA is the 'mediator' in the process by which genetic information contained in DNA in cells is transferred to make proteins. The beauty of mRNA-based therapy is that it can act locally and transiently, and does not integrate into an individual's genome. Instead, the aim is to augment the endogenous processes that prevail naturally in the body. One of our mRNA therapies is designed to stimulate the formation of new blood vessels to protect heart muscle cells (cardiomyocytes) in patients with heart failure or after a heart attack, and other ischaemic vascular diseases. This asset has now entered the clinical phase of development. Another mRNA therapy in clinical development is being tested in patients with advanced solid tumours. In this case, the therapy is injected directly into a tumour. Localising treatment in this manner may prevent systemic toxicity that may otherwise occur.

30%

of our early pipeline now consists of new drug modalities

For more information, see Research & Development from page 53.

Healthcare in a Changing World

Healthcare systems are having to meet increasing demand, a task made more challenging by the impact of COVID-19.

Globally, the demand for healthcare is increasing and the sector has grown for a number of years. This growth is anticipated to continue and, as it does, we are presented with both challenges and opportunities that require us to adapt, innovate and build trust.

Recently, our sector's traditional focus on treatment has started to shift towards prevention and early intervention, while social, economic and political challenges remain in meeting unmet medical need. At the same time, healthcare systems are having to address the challenges posed by COVID-19.

Impact of global trends

Global trends continue to increase the demand for healthcare and breakthroughs in technology are helping improve health outcomes. The COVID-19 pandemic has highlighted challenges and accelerated healthcare innovation and change.

The global economy has undergone a shock

COVID-19 has triggered the deepest global recession in decades. Although the global economy is growing again after a 4.3% contraction in 2020, the World Bank noted, in January 2021, that the pandemic has caused a heavy toll of deaths and illness, plunged millions into poverty, and may depress economic activity and incomes for a prolonged period.

China has been faster to recover than expected, but the global economy's recovery to pre-pandemic levels of activity remains prone to setbacks. In the longer term, economic growth is shifting east: India, China, Africa and Southeast Asia will drive 50% of global economic growth over the next 10 years.

$4.7tn

Global GDP in 2021 forecast to be 5.3% below pre-pandemic projections – about $4.7 trillion

(Source: World Bank)

10%

2020-21 growth forecast for China

(Source: IMF)

Growing and ageing populations

The world's population is growing and life expectancy is increasing. By 2050, the number of people aged 60 and above is expected to reach 2.1 billion; and 80% will be living in developing regions.

As the number of older people grows faster than the number of people in all younger age groups, so does the incidence of non-communicable diseases (NCDs).

54%

Approximately 54% of people worldwide now live in cities, up from 30% in 1950

(Source: UN and Grayline Group)

Estimated world population (UN, bn)

Increasing burden of chronic disease

While communicable diseases continue to pose a threat, especially in emerging markets, chronic and NCDs are increasing with the impact of urban lifestyle choices, including smoking, diet and a lack of exercise.

Disability caused by NCDs, rather than early death, has become an increasingly large share of the global disease burden.

41m

NCDs kill 41 million people each year, equivalent to 71% of all deaths globally

(Source: IQVIA)

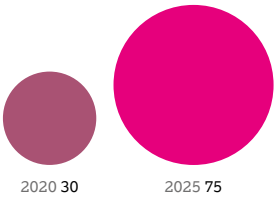
Disabilities caused by NCDs (as % of the total disease burden)

Digital and technical breakthroughs

Data management in healthcare is moving beyond storing data, to focusing on extracting insights on population health management and value-based care to improve health outcomes and personalised healthcare.

Innovations in technology are allowing people to monitor their own health and become active participants in managing their healthcare. For example, Internet of Things (IoT) applications and technologies are influencing patient engagement strategies and improving patient interactions with healthcare systems.

Active global healthcare IoT devices (bn)



(Source: Statista)

$640bn

The digital health market is expected to increase nearly six times in size by 2026 to nearly $640 billion

(Source: Global Market Insights)

The impact of COVID-19 on a changing world

COVID-19 has highlighted challenges and accelerated change within the healthcare sector. It has left people living with NCDs more vulnerable and highlighted the need for health systems to better respond to those diseases. It has also accelerated the adoption of digital and social tools as HCPs sought virtual channels to continue patient engagement.

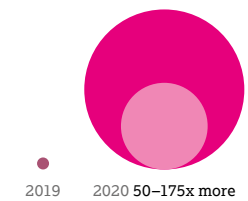
Additionally, the pandemic has encouraged the development and use of localised supply chains, particularly around medical supplies and pharmaceuticals.

70%

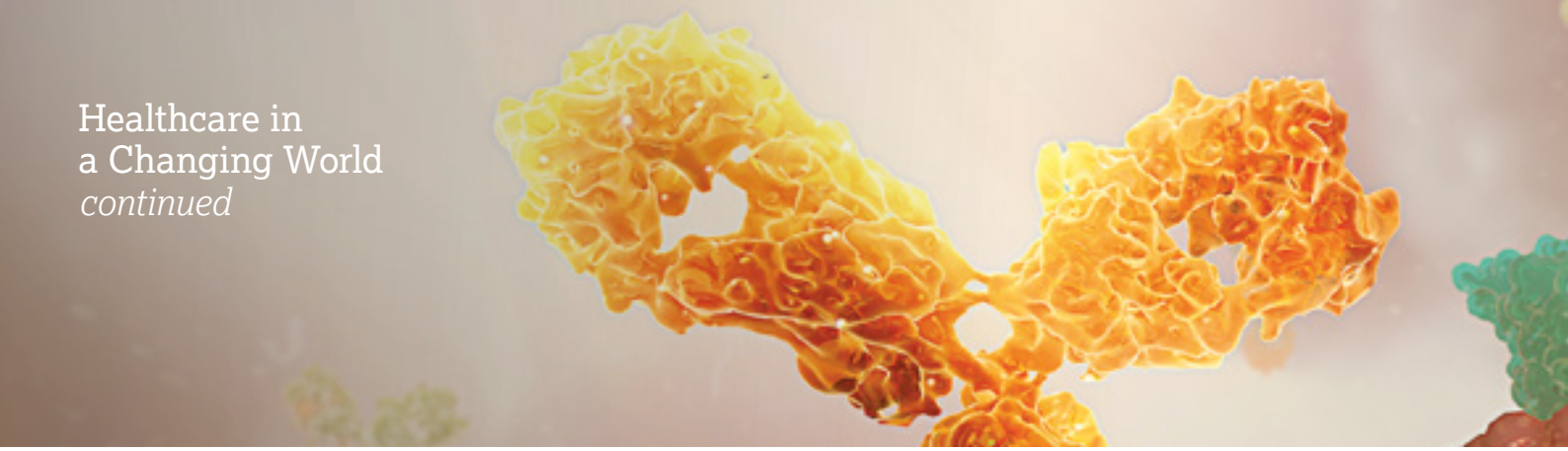
70% of patients in US, EU, and Asia deferred or cancelled scheduled treatment early in the global pandemic

(Source: Accenture)

Patients treated via telehealth



(Source: McKinsey)



A growing pharmaceutical sector

As a result of increased demand for healthcare, the pharmaceutical sector continues to grow. Global pharmaceutical sales grew by 3.8% in 2020. Global healthcare spending is projected to increase at an annual rate of 4.2% from 2019 to 2024.

Global pharmaceutical sales

In 2020, Established Markets saw an average revenue increase of 3.8% and Emerging Markets revenue grew at 3.7%. The US, Japan, China, Germany and France are the world's top five pharmaceutical markets by 2020 sales. In 2020, the US had 48.0% of global sales (2019: 47.7%; 2018: 48.0%).

World ($bn)

2020	1,070
2019	1,031
2018	972

$1,070bn (3.8%)

US ($bn)

2020	514
2019	492
2018	467

$514bn (4.5%)

Europe ($bn)

2020	211
2019	203
2018	192

$211bn (4.0%)

Established ROW ($bn)

2020	117
2019	117
2018	113

$117bn (0.4%)

Emerging Markets ($bn)

2020	228
2019	220
2018	199

$228bn (3.7%)

// Denotes a scale break.

Data based on world market sales using AstraZeneca market definitions as set out in the Market definitions, see page 280. Changes in data subscriptions, exchange rates and subscription coverage, as well as restated IQVIA data, have led to the restatement of total market values for prior years. Source: IQVIA, IQVIA Star Q3 2020, IQVIA Midas Quantum Q3 2020 (including US data). Reported values and growth are based on CER. Value figures are rounded to the nearest billion and growth percentages are rounded to the nearest tenth.

Estimated pharmaceutical sales and market growth to 2024

We expect developing markets, including Africa, the Commonwealth of Independent States (CIS), the Indian subcontinent and Latin America, to fuel pharmaceutical growth. Market growth in China is expected to remain below historical levels at a compound annual growth rate of 4.4%. This is due to the continued slowdown of the major hospital sector.

	Estimated pharmaceutical sales – 2024. Data is based on ex-manufacturer prices at CER. Source: IQVIA	Estimated pharmaceutical market growth. Data is based on the compound annual growth rate from 2019 to 2024. Source: IQVIA Market Prognosis 2020 to 2024 (September 2020 forecast)
North America	$633bn	3.5%
EU (Including UK)	$287bn	3.9%
Other Europe (Non-EU countries)	$27bn	9.2%
Japan	$87bn	–0.7%
Oceania	$14bn	2.0%
Southeast Asia and East Asia	$232bn	4.5%
Latin America	$87bn	10.6%
Africa	$29bn	5.6%
CIS	$37bn	11.0%
Middle East	$24bn	3.8%
Indian subcontinent	$41bn	8.4%
China	$171bn	4.4%

Opportunities and challenges for the sector

In addition to global trends, the pharmaceutical sector faces a number of opportunities and challenges, as set out below. The strategy section of this Annual Report includes an overview of how we are responding to this environment.

For more information, see Our Strategy and Key Performance Indicators from page 18.

Innovation

Scientific innovation is critical to addressing unmet medical need but enhancing R&D productivity is a constant challenge for the sector.

R&D models are therefore changing in an effort to be more productive. For example, scientific and technological breakthroughs in the next generation of therapeutics have the potential to help accelerate innovation and are leading to new treatment options. Such advances include new scientific modalities, such as ProTACs, in vivo biologics and cell therapy; new technologies, such as OMICs; and new biology, such as the microbiome. These have already resulted in significant numbers of FDA Priority Reviews and Breakthrough Therapy Designations.

Innovation can also be accelerated through the use of large volumes of data from disease biology and genomics, which is driving precision medicine, while advances in data management and integration can improve the speed and quality of clinical trials. Additionally, a better understanding of disease biology can assist the delivery of new medicines and new approaches to health, including improved methods of prevention.

Link to strategy

Accelerate Innovative Science

For more information, see Risk from page 254.

Regulatory environment

Public expectation of safe, effective and high-quality medicines is reflected in a highly regulated biopharmaceutical industry. Increased health authority scrutiny and requirements for more testing and documentation may prolong the approval process for new medicines. However, government policies and regulations have been implemented by health authorities to stimulate innovation in drug development and accelerate patient access to transformative medicines. Facilitated review pathways relying on reference agency assessments have been introduced by regulatory authorities in many developing countries to expedite patient access to medicines. Continued advances in the harmonisation of international regulatory requirements will contribute to faster access to new medicines for patients and promote public health.

The COVID-19 pandemic has accelerated health authority consideration and implementation of innovative approaches that may transform drug development in the future. These approaches include: decentralised trials; digital health technology applications in the conduct of clinical trials to facilitate remote patient monitoring and eConsent; the use of real-world data/evidence in regulatory decision making; risk-based oversight of manufacturing facilities; expedited review and approval pathways; remote data and site monitoring; remote audits and inspections; and heightened collaboration between global health authorities.

There are uncertainties and challenges, including how the UK will work with the EU regulatory system following the UK's exit from the EU in 2020 and the approach the UK will take to establish its own regulatory system outside the EU. Additionally, the relocation of the EMA from London to Amsterdam has created some disruption and delay to regulatory processes. China continues to evolve its regulatory requirements at a rapid pace, impacting drug development for that country and globally.

The release of the EU Health Strategy in November 2020 is the first step of an initiative to build a 'European Health Union'. This strategy will form the basis of the new pharmaceutical legislative framework targeted for 2023 that will define how the EU pharmaceutical industry will be regulated. In addition, the EU Clinical Trials Regulation which is intended to create a favourable environment for conducting clinical trials while maintaining high standards for patient safety, is expected to be implemented by the end of 2021.

Identification of Medicinal Products (IDMP) international standards, intended to uniquely identify medical products to facilitate public safety through the exchange of information in the context of pharmacovigilance and supply chain traceability, are under consideration by global health authorities. EMA regulations require adoption of IDMP standards, presenting a significant challenge to industry as the requirements are complex.

The regulatory requirements for biosimilar medicines are better defined, but significant regulatory policies are still evolving, including transparency of data regarding the level of evidence to support approval of biosimilarity labelling claims, standards for interchangeability and pharmaceutical substitution, and traceability of pharmacovigilance reports through naming conventions that permit differentiation of medicines.

Increased transparency of data used for regulatory decisions in the EU and Canada requires public disclosure of patient-level data, significantly increasing regulatory burdens to ensure privacy laws are met during disclosure. Increased transparency policies continue to be evaluated by regulatory authorities globally.

"Continued advances in the harmonisation of international regulatory requirements will contribute to faster access to new medicines for patients and promote public health."

Link to strategy

Accelerate Innovative Science

For more information, see Risk from page 254. For more information about biosimilars, see Loss of exclusivity and genericisation on the next page.

Healthcare in a Changing World *continued*

Pricing of medicines

There is continuing downward pressure on pricing and reimbursement in many markets, including the US and China. We continue to see examples where healthcare services (including pharmaceuticals) are highly regulated by governments, insurers and other private payers through various controls on pricing and reimbursement. Implementation of cost-containment reforms and shifting market dynamics are further constraining healthcare providers, while difficult economic conditions burden patients who have out-of-pocket expenses relating to their medicines. Pharmaceutical companies are now expending significant resources to demonstrate the economic as well as the therapeutic value of their medicines.

The need and desire for payers to manage healthcare expenditure has been heightened by the shift over the last decade from a primary care to a specialty care focus. Specialty medicines are used for the treatment of complex, chronic or rare conditions, such as cancers, and pricing for these products reflects the higher value they bring to patients and payers, as well as the smaller patient numbers as a result of targeted treatment options.

Pricing controls and transparency measures remain a priority in key markets such as China, where the National Reimbursement Drug List was updated in December. According to the Chinese National Healthcare Security Administration, 119 medicines will be added to the NRDL from March 2021 with an average price reduction of 50%.

Also in China, value-based procurement (VBP), was expanded in 2019, placing downward pressure on the pricing of medicines and products that have lost exclusivity in the VBP.

In Europe, governments continue to implement and expand price control measures for medicines, and the EU has committed to introducing a harmonised health technology assessment (HTA) review. In other markets, there has been a trend towards rigorous and consistent application of pricing regulations, including reference pricing and group/alliance purchasing.

There is also pressure on pricing in the US. For example, federal and state policymakers are considering legislative and regulatory efforts to lower drug prices and to implement transparency measures. President Biden has conceptually supported proposals aimed at prescription drug pricing that include allowing the government's Medicare programme to negotiate costs, limiting launch prices through the use of international reference pricing and other tools, encouraging importation and limiting price increases beyond inflation. The Democrat majority in Congress increases the potential for drug pricing legislation and executive authorities could also become a vehicle for policies. This environment could create further downward pressure on pricing.

"Pharmaceutical companies are now expending significant resources to demonstrate the economic as well as the therapeutic value of their medicines."

Link to strategy

Deliver Growth and Therapy Area Leadership

For more information, see Risk from page 254.

Loss of exclusivity and genericisation

Patent protection for pharmaceutical products is finite and after protection expires, payers, physicians and patients gain greater access to generic alternatives (both substitutable and analogue) in many important drug classes. These generic alternatives are primarily lower priced because generic manufacturers are largely spared the costs of R&D and market development. As a result, demand for generics is high. For prescriptions dispensed in the US in 2020, generics constituted 85.3% of the market by volume (2019: 84.8%).

Generic competition can also result from patent disputes or challenges before patent expiry. Increasingly, generics companies are launching products 'at risk', for example, before resolution of the relevant patent litigation. This trend, which is likely to continue, creates significant market presence for the generic version while the litigation remains unresolved. Given the unpredictable nature of patent litigation, some companies have settled such challenges on terms acceptable to the innovator and generic manufacturer.

Biologics typically retain exclusivity for longer than traditional small molecule pharmaceuticals, with less generic competition.

85.3%

For prescriptions dispensed in the US in 2020, generics constituted 85.3% of the market by volume (2019: 84.8%)

Link to strategy

Deliver Growth and Therapy Area Leadership

For more information, see Intellectual property from page 65.

Trust

Organisations are no longer valued or trusted solely on the quality of products and services, and financial performance. It also depends on their engagement with employees, customers, communities and society as a whole, as well as the way in which they address sustainability issues, such as the environment or human rights. Therefore, to be trusted, companies need to address both how their operations are impacted by these issues and how their operations impact stakeholders. For example, the shift in focus of healthcare systems to prevention and early intervention, as well as treatment, presents an opportunity for the sector to enter into health management. But if it is to do so successfully, healthcare professionals and patients need to trust that the industry has their best interests at heart.

Historically, the pharmaceutical industry has faced challenges in building and maintaining its reputation and the trust of its stakeholders. This was as a result of improper sales and marketing practices by some companies and related inquiries and investigations carried out by government and regulatory authorities in connection with, for example, the selling of opioid pain relievers and improper pricing practices, including price gouging.

The industry's response to the COVID-19 pandemic and the quick mobilisation of resources to develop a vaccine appears to have contributed to a slight increase in public trust. To build on this, the sector will need to commit to affordable access, be transparent, and measure outcomes in trials that have real-world implications.

There is also increasing recognition and concern about healthcare disparities by race, region, and socioeconomic status, in particular, the growing prevalence of NCDs and the human symptoms of climate change. An emphasis on public health, screening and early intervention that is designed with the engagement of civil society, patient organisations and government is critical.

Additionally, it is important to recognise that by exacerbating social, economic and demographic inequalities, climate change is further undermining progress on public health.

To address these challenges, companies are seeking to operate in a way that meets stakeholders' expectations by, for example:

> embedding a culture of ethics and integrity
> adopting higher governance standards
> setting ambitious sustainability targets
> partnering across sectors
> improving relationships with employees, shareholders and other stakeholders.

"Organisations are no longer valued or trusted solely on the quality of products and services, and financial performance."

Link to strategy

Be a Great Place to Work

For more information, see Ethics and transparency from page 73.

Reshaping of the sector

The pharmaceutical market is highly competitive and, while our peers face similar challenges and opportunities, they approach them in different ways. Some companies have pursued a strategy focused on branded prescription pharmaceuticals. Others have diversified by acquiring or building branded generics businesses or consumer portfolios, or have looked to geographic expansion, especially in Emerging Markets. Companies are also focused on improving R&D productivity and operational efficiency. Across the industry, mergers and acquisitions, business development deals (including licensing and collaborations) and competition for business development opportunities have continued.

Companies are also adopting more 'patient-centric' approaches that encompass all aspects of disease management – prevention, screening, diagnosis, treatment and rehabilitation. In particular, the speed of technological change is rapidly transforming current business models. Existing and new entrants to the industry, for example from the technology sector, are focusing on patient outcomes rather than just products and services, and prediction and prevention rather than just diagnosis and treatment. They are driving innovative thinking around how to improve health through technology and how to improve patient satisfaction through a heightened focus on user experience. Patients are becoming more engaged and willing to take greater control of their own health. These non-traditional companies are applying their years of experience in environments where products change all the time to the healthcare industry. New entrants have a great opportunity to improve healthcare and partner with researchers and manufacturers to more effectively develop and commercialise treatments. This may also entail new ways of competing.

If new approaches such as outcomes-based pricing are to be successful, companies will need to develop systems that capture outcomes data linked to the use of their medicines. The sustainability and growth of a more patient-centric pharmaceutical industry is predicated on organisations being able to take full advantage of these breakthroughs in digital and other technologies.

More generally, to be successful, companies will need to be able to respond to the pressures and demands made on them by patients and caregivers, health authorities, payers, policymakers and others.

"...the speed of technological change is rapidly transforming current business models."

Link to strategy

Global, science-led, patient-focused pharmaceutical company

For more information, see Risk from page 254.

Our Strategy and Key Performance Indicators

We are always seeking new ways in which to accelerate delivery of our growth through innovation strategy.

As outlined in Business Model and Life-cycle of a Medicine from page 8, the fundamentals of our science-led, patient-focused value proposition endure. In furtherance of this, our strategic priorities support delivery of our growth through innovation strategy. They include a focus on embedding a patient-centric business model and culture to incorporate patient insights, doing more with technology, digital and data, and advancing more cutting-edge science. They are accompanied by our unwavering commitment to being a trusted partner for all our stakeholders, having a positive impact on society, and being an indispensable ally in the quest to meet rising global demand for effective healthcare. Those priorities are:

1. Accelerate Innovative Science
2. Deliver Growth and Therapy Area Leadership
3. Be a Great Place to Work

Achieve Group Financial Targets

Effective delivery of our strategic pillars will help us achieve our financial targets. We aim to deliver great medicines to patients while maintaining cost discipline and a flexible cost base, driving operating leverage and increased cash generation.

We wish to maintain a progressive dividend policy and a strong balance sheet.

Accelerating in the 'next normal'

The world around us continues to change, including, in 2020, the biggest health crisis in a generation. Recognising this, and in line with our Values, we invited employees to participate in a crowdsourcing event – COVID-19: Now & Next. This provided an opportunity to share perspectives, thoughts and ideas to support the delivery of our strategy and enable us to emerge stronger from the pandemic. Almost half our employees participated and more than 12,000 people from across 47 countries contributed ideas, reactions and comments.

Following the event, suggestions were reviewed and prioritised, contributing to recommendations covering the following areas:

> healthcare delivery
> future of R&D
> digital foundations
> organisation of the future
> supply chain.

These recommendations were considered by the Senior Executive Team and Board, and are reflected further on the following pages.

Our KPIs and remuneration

Our KPIs are aligned to our strategic priorities and are the indicators against which we measure our productivity and success.

A number of the KPIs used in this section are used to measure the remuneration of Executive Directors and allow us to disclose aggregated targets without disclosing sensitive commercial information at the individual KPI level. Any variances between the KPI and values used in determining remuneration are explained in the Directors' Remuneration Report from page 140. Other indicators used are now included in Performance in 2020 from page 24.

From 2021, a metric focusing on the delivery of our Ambition Zero Carbon commitments will be included in our executive incentive arrangements, to underline the importance we place on eliminating our Scope 1 and Scope 2 greenhouse gas emissions by 2025.

KPI key

- New in 2020
- Used for remuneration of Executive Directors
- // Denotes a scale break.

For more information, see the Directors' Remuneration Report from page 140.

Accelerate Innovative Science

What this means

Delivering the next wave of our innovative pipeline and ensuring the sustainable delivery of new products.

Pursuing the next wave of disruptive R&D platforms with new scientific modalities, such as ProTACs and cell therapies; new technologies, such as OMICs; and new biology, such as epigenetics, oligonucleotides and antibody drug conjugates.

Driving R&D productivity through clinical trial excellence and the use of artificial intelligence (AI), data science and digital technology, that enable new insights, accelerated processes and an improved patient experience and adherence.

How our strategy responds to market trends

Aiming to lead in new science platforms, leveraging technology to transform R&D productivity and the patient's experience:

> Developing an R&D culture of inspiring people with curious minds, harnessing data and technology, working seamlessly and inclusively, and always learning from patients.
> Focusing on innovative science in three main therapy areas, a range of drug modalities, emerging drug platforms and new technologies.
> Driving R&D productivity by focusing on quality rather than quantity at all stages of drug discovery and development, and strengthening our ability to match targeted medicines to patients who need them most.
> Transforming our science and leveraging technology, including the provision of enhanced data and clinical insights, as well as digital and AI approaches.
> Working in collaboration with academia, governments, industry, and scientific and patient organisations to access the best science.
> Attracting the brightest minds and creating an environment where science can thrive.

How we progressed in the year

> During 2020, we secured 29 approvals for new medicines and made 24 NME or major LCM regulatory submissions in the US, EU, China and Japan.
> Our pipeline includes 171 projects, of which 145 are in the clinical phase of development.
> At the end of the year, we had 10 NME projects in pivotal trials or under regulatory review covering 16 indications (2019: 8).
> 22 projects were discontinued.

"Developing an R&D culture of inspiring people with curious minds, harnessing data and technology, working seamlessly and inclusively, and always learning from patients."

For more information, see Performance in 2020 from page 24, Therapy Area Review from page 30 and Research & Development from page 53.

Key Performance Indicators

Our science measures incentivise the development of new molecular entities (NMEs) and the maximisation of the potential of existing medicines. Pipeline progression events (Phase II NME starts/progressions and Phase III investment decisions) measure innovation and sustainability. Regulatory events (regulatory submissions and approvals) demonstrate the advancement of this innovation to patients and the value to the Group.

For more information on performance against the Group scorecard, see page 140.

Pipeline progression events

36

[1] 25 against our Group scorecard for determining annual bonus.
[2] 17 against our Group scorecard for determining annual bonus.
[3] 28 against our Group scorecard for determining annual bonus.

Regulatory events

53

[1] 43 against our Group scorecard for determining annual bonus.
[2] 37 against our Group scorecard for determining annual bonus.
[3] 47 against our Group scorecard for determining annual bonus.

Deliver Growth and Therapy Area Leadership

What this means

Meeting our growth and profitability goals by driving growth through successful innovation and commercial excellence, and creating sustainable profitability.

Transforming healthcare delivery through a focus on:

- Patients, impacting and improving the whole patient experience, from disease prevention and awareness, diagnosis, treatment, post-treatment to wellness.
- Data analytics, omnichannel and go-to-market models.
- Innovative value strategies for pricing that focus on the outcomes our medicines deliver to patients and healthcare systems.

Implementing our plans for 'smart factories' and next-generation manufacturing technologies.

How our strategy responds to market trends

Aiming to shift from a focus on treatment to improving the whole patient experience and developing new payer models that improve access to our medicines:

- Fostering a patient-focused approach and embedding patient insights across our organisation, building fully-integrated therapy area ecosystem models and establishing 'health innovation hubs'.
- Engaging with policymakers to support improvements in access, coverage, care delivery, quality of care and patient care outcomes.
- Leveraging technology across prevention and awareness, diagnosis, treatment and post-treatment to wellness to deliver better patient outcomes more efficiently.
- Enabling our Emerging Markets to deliver better and broader patient access through faster submissions, innovative and targeted equitable pricing strategies and practices.
- Partnering with industry, governments and academia to find ways to bring new medicines to market more quickly and efficiently.
- Collaborating with the funders of healthcare to increase the use of value-based pricing solutions.
- Basing pricing policy on four principles: value, sustainability, access and flexibility; and developing novel and flexible ways to access and pay for medicines.
- Pursuing a strong patent strategy – building robust patent estates that protect our pipeline and products to defending and enforcing patent rights.

How we progressed in the year:

- Total Revenue, comprising Product Sales and Collaboration Revenue, increased by 9% (10% at CER) to $26,617 million.
- Product Sales grew by 10% (11% at CER) to $25,890 million; Collaboration Revenue fell by 11% (11% at CER) to $727 million.
- Total Revenue from New Medicines[1] increased by 33% (33% at CER) to $13,950 million, representing 52% of total Product Sales (2019: 43%).
- Oncology Product Sales grew by 25% (26% at CER) to $10,850 million, while CVRM increased by 3% (5% at CER) to $7,096 million. R&I declined by 1% (stable at CER) to $5,357 million, reflecting the impact in China of COVID-19.
- Total Revenue grew in Emerging Markets by 7% (10% at CER) to $8,711 million. In the US it grew by 13% to $8,833 million and in Europe by 10% (9% at CER) to $5,540 million.
- COVID-19: Now & Next – Healthcare Delivery: thinking differently about how we deliver healthcare to patients, for example, mixing remote and in-person approaches.
- COVID-19: Now & Next – Digital Foundations: developing new approaches and advancing behaviours and skills required to speed digital transformation.
- COVID-19: Now & Next – Supply Chain: better connecting our people, processes and platforms to enhance our performance.

[1] *Tagrisso*, *Imfinzi*, *Lynparza*, *Calquence*, *Enhertu*, *Koselugo*, *Farxiga*, *Brilinta*, *Lokelma*, roxadustat, *Fasenra*, *Bevespi* and *Breztri*.

For more information, see Performance in 2020 from page 24, Therapy Area Review from page 30 and Commercial from page 57.

Key Performance Indicator

Our Total Revenue measure reflects the importance of incentivising sustainable growth in both the short and longer term.

For details of how Total Revenue is considered when calculating the annual bonus, see from page 140.

Total Revenue

$26,617m

2020	$26,617m
2019	$24,384m
2018	$22,090m

Actual growth	CER growth
2020 +9%	**2020 +10%**
2019 +10%	2019 +13%
2018 -2%	2018 -2%

Be a Great Place to Work

What this means:

> Contributing to the enterprise, with a focus on inclusion and diversity, as well as lifelong learning and development.
> Contributing to society by improving access to healthcare, environmental protection, and ethics and transparency, as well as delivering our Ambition Zero Carbon programme.
> Living our Values and behaviours.

How our strategy responds to market trends

Aiming to be a great and sustainable organisation, trusted by all our stakeholders:

> Empowering employees through our Code of Ethics to make decisions in the best interests of the Group and society.
> Refusing to tolerate bribery or any other form of corruption.
> Recruiting the best talent which underpins our innovation and growth.
> Living our Values and engendering a high-performing team and lifelong learning.
> Harnessing different perspectives, talents and ideas to be inclusive, as well as ensuring that employees reflect the diversity of the communities in which we operate.
> Contributing to society in support of the United Nations Sustainable Development Goals.
> Broadening access to healthcare solutions for life-changing treatment and prevention.
> Addressing the environment's impact on human health.

How we progressed in the year

> We continue to invest in our people to ensure we recruit, retain and develop a talented workforce.
> In 2020, we delivered a strong performance across the key priorities of our People and Sustainability strategies.
> We continue to score highly in our Pulse surveys for questions relating to our Purpose, direction, patient centricity and employee commitment to our success.
> We achieved a 'Green' rating for performance across our three sustainability pillars
> COVID-19: Now & Next – Future of R&D: how we use our office and lab spaces; what flexibility and working practices look like and how we can keep ahead of technology advancements; assessing whether we could bring more flexibility to how we work as well as advancing other ways to continue to evolve our organisation.

"Our Great Place to Work strategy is built around two priorities: contribution to the enterprise and contribution to society."

For more information, see Performance in 2020 from page 24 and People and Sustainability from pages 68 and 72.

Key Performance Indicators

Our Great Place to Work strategy is built around two priorities: Contribution to the enterprise and Contribution to society.

Our Contribution to the enterprise KPI is based on our Pulse survey measure of those employees who believe that AstraZeneca is a great place to work.

Our new Contribution to society KPI is based on our Sustainability scorecard. It measures progress on annual and long-term targets across our three pillars of sustainability: Access to healthcare, Environmental protection, and Ethics and transparency.

Employee belief that AstraZeneca is a great place to work[1]

89%

[1] Source: December Pulse survey for each year. 2020 and 2019 were a full census survey, 2018 surveyed a 50% sample of the organisation.

Sustainability scorecard performance[2]

93%

[2] A Green rating = more than 70% of our categories are rated green. Each category consists of several key performance indicators.

Our Strategy and Key Performance Indicators *continued*

Achieve Group Financial Targets

What this means

Effective delivery of our three strategic pillars will help us achieve our financial targets. We aim to deliver great medicines to patients while maintaining cost discipline and a flexible cost base, driving operating leverage and increased cash generation.

We wish to maintain a progressive dividend policy and a strong balance sheet.

For more information, see Financial Review from page 82.

Key Performance Indicators

Cash generation is a key driver of long-term shareholder returns and facilitates reinvestment in our pipeline, which is critical for delivering new medicines and future value.

Earning per share (EPS) is an important profitability metric and a key driver of shareholder value. For more information on our Core measures, see from page 82 in the Financial Review.

For details of how Achieve Group Financial Targets are considered when calculating the annual bonus, see page 141.

// Denotes a scale break.

Net cash flow from operating activities

$4,799m

2020	$4,799m
2019	$2,969m
2018	$2,618m

Actual growth
2020 +62%
2019 +13%
2018 -27%

Reported EPS

$2.44

2020	$2.44
2019	$1.03
2018	$1.70

Actual growth
2020 +137%
2019 -40%
2018 -28%

CER growth
2020 +142%
2019 -33%
2018 -29%

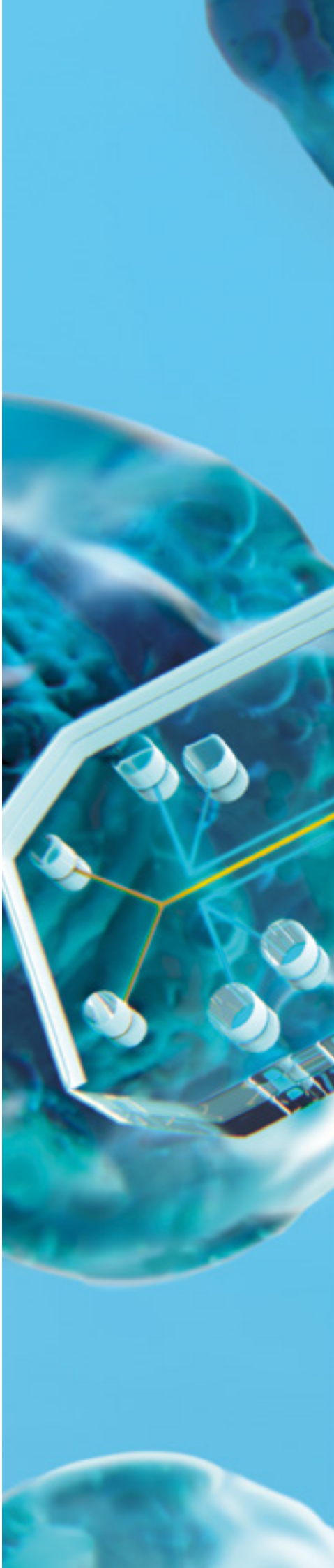
Core EPS

$4.02

2020	$4.02
2019	$3.50
2018	$3.46

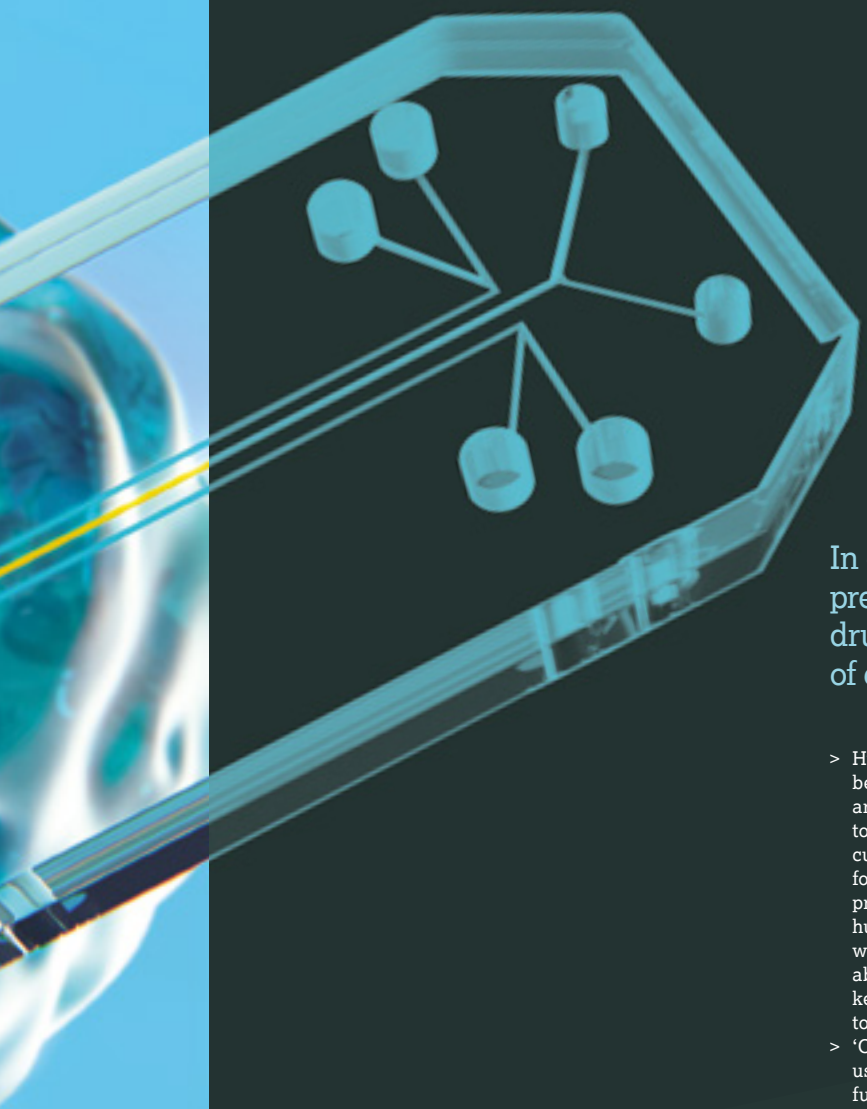
Actual growth
2020 +15%
2019 +1%
2018 -19%

CER growth
2020 +18%
2019 0%
2018 -19%



Better prediction of clinical success

Bridging the gap between animals and humans



Organ-Chips: enhancing our ability to translate science into medicines.

In our efforts to improve our ability to predict the clinical success of our candidate drug molecules, we are adopting a range of cutting-edge technologies.

> Humanised models bridge the gap between animals and humans and are a big step forward compared to the conventional human cell cultures which have been in use for many years. These models provide an environment in which human cells behave more like they would in the body, generating data about toxicity, efficacy and other key effects that are more relevant to patients than previous methods.
> 'Organ-Chips' are helping us recreate what happens in full-size tissues and organs. Recently published research, in collaboration with the Emulate, Inc. and the Wyss Institute at Harvard University, respectively, demonstrates the ability of the Liver-Chip to model the liver toxicity of eight previously-studied compounds, and the bone marrow chip to effectively replicate drug-induced toxicity responses observed in human patients at clinically relevant doses.
> 3D bioprinting and organoid models are helping us create complex structures for research into kidney and other diseases where preclinical to clinical translation is a challenge. Our collaboration with Harvard University created human vascularised renal proximal tubules to study cellular crosstalk and the behaviour of our compounds in the kidney.
> In the development of 'miniature organs' to recreate the mechanical and electrical properties in a beating heart, we are working with Novoheart, using its 3D human ventricular cardiac organoid chamber. This 'heart-in-a-jar' technology is designed to reproduce key characteristics of heart failure with preserved ejection fractions.

>3D

3D bioprinting and organoid models help create complex structures for research into diseases

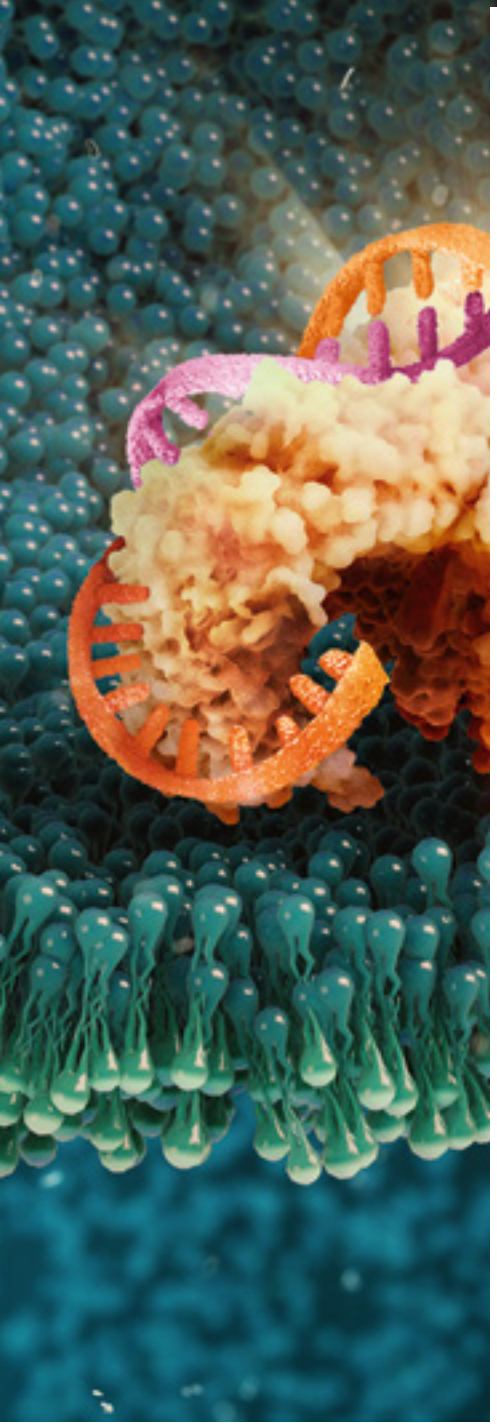
For more information, see Research & Development from page 53.

Performance in 2020

How we delivered against our three strategic pillars.

In this section, we report in detail on how we have delivered against our strategic priorities, which are to:

1. Accelerate Innovative Science
2. Deliver Growth and Therapy Area Leadership
3. Be a Great Place to Work



1. Accelerate Innovative Science

1a. Advancing our scientific knowledge to extend the possible

2020 was another exceptional year for our science, with our pipeline producing overwhelmingly positive news for patients. This included 53 regulatory events, either submissions or approvals for our medicines in major markets. That performance is backed by a healthy pipeline of high potential medicines, with a record number of 36 pipeline progression events, either NME Phase II starts or Phase III investment decisions, indicating our ability to deliver longer-term sustainable growth.

Development pipeline

During 2020, we delivered clinical trial data and submissions that resulted in 29 approvals for new medicines in the US, EU, China and Japan. As shown in the table opposite, our pipeline includes 171 projects, of which 145 are in the clinical phase of development. We are making significant progress in advancing our late-stage programmes through regulatory approval with 24 NME or major life-cycle management (LCM) regulatory submissions in the US, EU, China and Japan during 2020. At the end of the year, we had 10 NME projects in pivotal trials or under regulatory review (covering 16 indications), compared with eight at the end of 2019.

Also in 2020, 18 NMEs progressed to their next phase of development and 22 projects were discontinued: 12 for poorer than anticipated safety and efficacy results and 10 as a result of a strategic shift in the environment or portfolio prioritisation.

Accelerating our pipeline

We are prioritising our investment in specific programmes, focusing on scientific innovation. As a result, we had numerous positive trial readouts in 2020 including the presentation of scientific rationale that resulted in 14 Regulatory Designations for Breakthrough Therapy, Priority Review or Fast Track for new medicines which offer the potential to address unmet medical need in certain diseases. We also secured Orphan Drug Designation for the development of six medicines to treat very rare diseases.

For more information, see Therapy Area Review from page 30 and Research & Development from page 53.

1b. Harnessing data and technology to accelerate change

As outlined in Information technology and information services resources on page 66, a programme of digital transformation is helping deliver our strategic priorities. During 2020, we leveraged our capabilities and technologies to respond to the challenges posed by COVID-19 and maintain care for patients. This included building integrated, remote care solutions that helped release capacity in hospitals by providing services such as home delivery of medicines, self-administration and telemedicine consultation. Internally, we deployed MS Teams to more than 77,000 employees and contract workers within eight days.

For healthcare practitioners (HCPs), we ensured continued day-to-day engagement by rolling out a number of technologies to more than 15,000 employees across 71 countries in less than two weeks. We did not fully replace our traditional face-to-face interactions, but identified what approach added most value. We also arranged webcasts for HCPs to share knowledge and clinical insights from experts in treating COVID-19.

Many of our commercial launches and congresses moved to digital. For example, *Imfinzi* in China was the first medicine ever to be launched virtually, engaging nearly 6,000 HCPs.

Performance indicators

By measuring both Phase II and Phase III pipeline progressions, we are focused on both near-term and longer-term delivery. Phase II NME starts ensure the ongoing robustness and future stability of the pipeline (and reflect the outcome of nearer-term strategic investment decisions). Phase III investments measure assets that will deliver nearer-term value (and reflect the outcome of longer-term strategic investment decisions).

Submissions and approvals metrics demonstrate the advancement of this innovation through filing and approval in our four major markets (US, EU, China and Japan).

// Denotes a scale break.

NME Phase II starts/progressions

8

NME and major LCM submissions

24

NME and major LCM Phase III investment decisions

28

NME and major LCM approvals

29

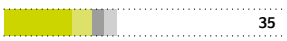
Development pipeline overview (as at 11 February 2021)

171 projects

Projects are counted here until they have launched in all applicable major regions.

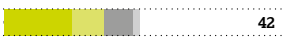
Phase I — 35

> 35 projects in Phase 1 including:
- 27 NMEs
- 8 novel combinations



Phase II — 42

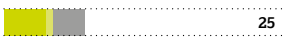
> 42 projects in Phase II, including:
- 36 NMEs or novel combinations
- 6 significant additional indications for projects that have reached Phase III



Late-stage development* — 25

> 25 projects in late-stage development, either in Phase III/pivotal Phase II trials or under regulatory review:
- 10 NMEs or novel combinations not yet approved in any market
- 6 projects exploring additional indications for these NMEs
- 9 NMEs already approved or launched in the US, EU, China and/or Japan

* NMEs or novel combinations and significant additional indications.



Life-cycle management projects* — 69

> 69 LCM projects
- 52 LCMs not yet approved in any market
- 17 LCMs already approved or launched in the US, EU, China and/or Japan

* Only includes material projects where first indication is already launched.

Oncology CVRM Respiratory & Immunology Other

Performance in 2020 *continued*

2. Deliver Growth and Therapy Area Leadership

2a. Leading in science and healthcare to create value and growth

Product Sales grew by 10% (11% at CER) to $25,890 million. This total included $2 million of *COVID-19 Vaccine AstraZeneca* Product Sales. Growth was driven primarily by the performance of new medicines across Oncology and BioPharmaceuticals, including *Tagrisso* and *Farxiga*.

The impact of COVID-19 included reduced sales of *Pulmicort* in China on lower nebulisation-centre visits and reduced elective surgery, and less use globally of infused and injectable medicines, such as *Imfinzi* and *Fasenra*. A decline in the number of hospitalisations for the treatment of heart attacks adversely impacted sales of *Brilinta*. Some medicines, however, may benefit from shifts in patient care and behaviours, including oral medicines such as *Calquence*.

Additional investment in new medicines continued to fuel our growing Oncology and BioPharmaceuticals therapy areas. *Tagrisso*'s future was enhanced with its first regulatory approval in early, potentially-curative lung cancer and further national reimbursement in China in advanced disease. *Farxiga* expanded its potential beyond diabetes, while tezepelumab has potential for patients suffering from severe asthma.

Oncology

Oncology Product Sales grew by 25% (26% at CER). Annual sales of *Tagrisso*, *Lynparza* and *Imfinzi* each exceeded $1 billion. AstraZeneca's share of *Enhertu* profits are included in Collaboration Revenue.

Cardiovascular, Renal & Metabolism

Cardiovascular, Renal & Metabolism (CVRM) Product Sales grew by 3% (5% at CER). Annual sales of *Farxiga*, *Brilinta* and *Crestor* each exceeded $1 billion.

Respiratory & Immunology

Product Sales from Respiratory & Immunology (R&I) medicines declined by 1% (stable at CER) which included a decline in *Pulmicort* sales of 32% (32% at CER). Annual sales of *Symbicort* exceeded $1 billion.

Performance by geography

Product Sales in Emerging Markets increased by 6% (10% at CER). In the US, Product Sales increased by 12% and in Europe by 16% (15% at CER). Japan sales increased 2% (1% at CER).

A strong performance in China was limited by the adverse impacts of COVID-19 on sales of *Pulmicort* and the pricing effect of the China volume-based procurement programme on *Brilinta*, *Losec* and *Arimidex*.

For more information, see Financial Review from page 82.

2b. Recognising patients as people first and putting them at the heart of what we do

The healthcare landscape is evolving rapidly and we are working to make an impact across the entire healthcare system and better address current and future patient needs. We understand that putting patients first, or patient centricity, makes a real difference to the lives of people living with various diseases. In committing to patient centricity, we listen to their experiences and embed their insights to innovate and strengthen the way we work. By working across AstraZeneca, from R&D to commercial development, and with external partners in the broader healthcare environment, we believe we can deliver the healthcare experience and outcomes that people care about most so that they can enjoy fulfilling lives.

Our work with and for patients recognises the entire patient network – caregiver, family, friends, co-workers, HCPs and others – as partners. We use their diverse experiences, values and expertise to better understand needs at all points during the patient journey – from prevention and awareness, diagnosis, treatment and post- treatment to wellness.

We swiftly adapted the way we work to address the challenges caused or exacerbated by COVID-19 in order to meet the needs of diverse patients and patient communities.

For more information on how our patient-centric approach drove our response to the pandemic, see COVID-19 pandemic on page 28.

Performance indicators

Global Product Sales by geography

	2020			2019			2018		
	Product Sales $m	**Actual growth %**	**CER growth %**	Product Sales $m	Actual growth %	CER growth %	Product Sales $m	Actual growth %	CER growth %
Emerging Markets	**8,679**	**6**	**10**	8,165	18	24	6,891	12	13
US	**8,638**	**12**	**12**	7,747	13	13	6,876	11	11
Europe	**5,059**	**16**	**15**	4,350	(2)	2	4,459	(6)	(10)
Established Rest of World	**3,514**	**6**	**6**	3,303	17	18	2,823	(8)	(9)
Total	**25,890**	**10**	**11**	23,565	12	15	21,049	4	4

Oncology

$10,850m

Product Sales

2020	$10,850m
2019	$8,667m
2018	$6,028m

Actual growth	CER growth
2020 + 25%	**2020 + 26%**
2019 +44%	2019 +47%
2018 +50%	2018 +49%

Cardiovascular, Renal & Metabolism

$7,096m

Product Sales

2020	$7,096m
2019	$6,906m
2018	$6,710m

Actual growth	CER growth
2020 + 3%	**2020 + 5%**
2019 +3%	2019 +6%
2018 -8%	2018 -8%

Respiratory & Immunology

$5,357m

Product Sales

2020	$5,357m
2019	$5,391m
2018	$4,911m

Actual growth	CER growth
2020 -1%	**2020 0%**
2019 +10%	2019 +13%
2018 +4%	2018 +3%

3. Be a Great Place to Work

3a. Enabling our people to make a difference

In 2020 we made progress across the three pillars of our People Strategy. To ensure we continue to perform as an enterprise team, we removed performance ratings and shifted our focus to coaching, development and contribution. We saw a four percentage point increase in our employee survey question addressing effective collaboration between teams. To support our employees' lifelong learning, we made a substantial investment in a global online learning platform providing on-demand access to a comprehensive library of educational resources.

We have updated our Values to clearly reflect our commitment to inclusion and diversity, developed a comprehensive plan to ensure that the actions we take to address racial equity are meaningful and sustainable, with long-term impact, and saw significant progress in the representation of women in senior roles.

We are committed to supporting our employees through the personal challenges presented by the impact of the COVID-19 pandemic, and were encouraged that 91% of employees stated they are getting the support they need during this time.

3b. Contributing sustainably to society and the planet

In 2020, we continued toward our ambition to be Leading in sustainability. We hosted our first ESG-specific webcast for the investor community with Non-Executive Chairman of the Board, Leif Johansson and Executive Vice-President, Sustainability and Chief Compliance Officer; President AstraZeneca AB, Sweden, Katarina Ageborg. We also presented at the United Nations General Assembly on health system resiliency, in support of broadening access to healthcare.

We progressed on our Ambition Zero Carbon commitment, announced in January 2020 and, during the year, sourced 99.9% of our imported electricity globally from renewable sources. To further our efforts in ethics and transparency, we deepened our commitment to inclusion and diversity with a commitment to ensure racial equity in our workplace and access to our medicines, in our clinical trials and beyond.

Performance indicators BV

Contribution to the enterprise
This priority is built on three pillars: performing as an enterprise team, commitment to lifelong learning and development, and championing of inclusion and diversity.

For more information, see People from page 68.

Performing as an enterprise team[1,2]

81%

2020	81%
2019	77%
2018	74%

[1] Source: December Pulse survey for each year, based on the percentage of favourable responses to the question 'effective collaboration between teams'.
[2] Source: December Pulse survey for each year. 2020 and 2019 were a full census survey, 2018 surveyed a 50% sample of the organisation.

Building a culture of lifelong learning and development[3,4]

84%

2020	84%
2019	83%
2018	80%

[3] Source: December Pulse survey for each year, based on the percentage of favourable responses to the question 'opportunity for personal development and growth'.
[4] Source: December Pulse survey for each year. 2020 and 2019 were a full census survey, 2018 surveyed a 50% sample of the organisation.

Inclusion and diversity[5]

46.9%

2020	46.9%
2019	45.4%
2018	44.6%

[5] Female representation at career level F+ (the most senior 13% of the employee population).

Contribution to society – Leading in sustainability
The Leading in sustainability performance indicators measure the progress of our environmental, social and governance practices. They are representative indicators of each of the three priorities for our sustainability approach – to broaden access to healthcare, to protect the environment, and to foster ethics and transparency.

For more information, see Sustainability from page 72.

Access to healthcare: through our access to healthcare programmes[1,2]

25.0m
people

2020	25.0m
2019	20.5m
2018	15.0m

[1] Our access to healthcare programmes, including Healthy Heart Africa, Healthy Lung, Phakamisa, and Young Health Programme (YHP), have reached 25.0 million people through education, screenings, diagnosis and treatment cumulatively since the start of each programme. See from page 74 for more information.
[2] We expanded this measure to include the YHP for all years. Totals for each programme individually are reported in the Sustainability Data Summary at www.astrazeneca.com/sustainability.

Environmental protection: Scope 1 and 2 greenhouse gas (GHG) footprint[1]

248 kt CO_2e

2020	248 kt CO_2e
2019	385 kt CO_2e
2018	413 kt CO_2e

[1] This indicator is consistent with a new 2025 target included in our Ambition Zero Carbon commitment. Previously reported operational GHG footprint emissions included select Scope 3 sources. See page 75 for more information.

Ethics and transparency: non-compliance with our Code of Ethics[1]

49.1
per 1,000 employees in Commercial Business Units

2020	49.1
2019	63.3
2018	56.6

[1] There were 2,113 instances, most of them minor, of non-compliance with our Code of Ethics or supporting requirements in our Commercial Business Units by employees and third parties. See page 61 for more information.

Performance in 2020 *continued*

COVID-19 pandemic

AstraZeneca's response to the COVID-19 pandemic was consistent with our Values of following the science, putting patients first and doing the right thing.

Our priorities

Our priorities were driven by the needs of patients, caregivers and communities. To respond effectively, we partnered with governments, international organisations, HCPs, industry and non-profit organisations. Our response had the following objectives:

- Help ensure the safety of patients and their continued access to care and medicines.
- Protect critical operations to ensure the continued supply of our medicines to patients who need them.
- Ensure the safety and wellbeing of our employees.
- Contribute to the process of scientific innovation to combat the virus.
- Contribute more broadly to society, including emergency relief.

Patient safety and continuity of care

In addition to healthcare systems, significant support for patients, their caregivers and communities comes from the charitable and non-profit sector. Yet more than 90% of these organisations were negatively impacted in 2020 and one quarter expected to close down within the next 12 months if the situation did not change. Therefore, in addition to our longstanding support, in 2020 we pledged to maintain our support to these groups, including additional financial commitments to dozens of patient advocacy groups and professional societies across the globe to prioritise continuity of care during the pandemic.

In addition, we helped medical professionals, which included being lead donor of the COVID Impacts Cancer Initiative – an emergency initiative that was launched by the American Society of Clinical Oncology to establish a registry for its members to share data on how the pandemic impacted cancer care and patient outcomes. It also provided patients and providers with information and resources on cancer and its relationship with COVID-19.

The pandemic will have longer-lasting implications for healthcare systems. Hence, in November, we launched our Partnership for Health System Sustainability and Resilience with the World Economic Forum and the London School of Economics. Working with academia, local governments and other institutions around the world, the partnership will work to identify practical solutions to strengthen the resilience and sustainability of healthcare systems.

Throughout the pandemic, we continued to progress our pipeline and, fuelled by digital technologies, we closely monitored our clinical trials, adapting and responding on a study-by-study basis to maintain continuity wherever possible. We redesigned trials to protect patients and avoid disruption by increasing the use of initiatives like home-based treatments and remote monitoring.

Continued supply of medicines

The pandemic placed challenges on global supply chains, in particular for the highly integrated pharmaceutical sector. We monitored the situation closely, working with national authorities and agencies, activating business continuity plans and managing inventory to ensure manufacturing and supply continuity. We also monitored logistics channels to safeguard the efficient flow of medicines and maintained our quality standards. This enabled us to continue to deliver our medicines during the pandemic and respond effectively to the growth in global demand for some medicines. There were no meaningful disruptions to the supply of our medicines during the pandemic.

For more information, see Operations from page 62.

Safety and wellbeing of employees

We are committed to providing safe working environments for our employees and suppliers. Throughout the pandemic, our employees adapted to new ways of working and a secure digital platform was rolled out to more than 77,000 employees and contract workers in eight days so that most, including some laboratory staff, could work from home. In locations where employees were able to return to offices, and at our sites where manufacturing staff and critical frontline workers remained in our workplaces, additional health and safety measures were put in place, including temperature screenings, physical distancing and mandatory mask-wearing.

At key sites, we launched internal PCR and antibody assessments and we carried out more than 50,000. We provided support and guidance to employees with suspected or confirmed COVID-19 and performed contact tracings among our site-based employees whenever a colleague tested positive. We also launched toolkits for employees and leaders, including advice on working effectively from home while maintaining wellbeing.

To ease the challenges for employees of having their children at home, in May we launched 'MyClassroom' in the UK, a programme of virtual classroom sessions. In addition, we assisted our key workers, who work at manufacturing sites, laboratories, and distribution centres, or who directly support our sites, in finding places at nurseries and with registered childminders.

For more information, see People from page 68.

Research and development

In 2020, our R&D teams focused on researching new ways to tackle the virus. This included initiating new clinical trials to investigate our new and existing medicines to see how they might protect organs from damage or suppress the body's overactive immune response and turn off the cytokine storm in severely ill patients. We used our scientific expertise in infectious disease and proprietary antibody discovery technology to identify novel coronavirus-neutralising antibodies as a potential preventative or treatment approach to COVID-19 disease. A clinical candidate, AZD7442, was selected in just 99 days. It is now in Phase III clinical trials.

As a longer-term preventative approach, in April 2020, we concluded an agreement with the University of Oxford for the global development, production and supply of their potential vaccine for COVID-19, now known as *COVID-19 Vaccine AstraZeneca*. We committed to doing this at no profit during the pandemic and to providing the broad and equitable supply of billions of doses.

To date, up to 60,000 participants have been recruited into clinical trials and, following publication of high-level results in *The Lancet*, *COVID-19 Vaccine AstraZeneca* received its first approval for emergency use in the UK on 30 December 2020. It now has conditional marketing authorisation or emergency use approval in more than 50 countries. We are working with our supply partners to optimise the manufacturing process and ensure that the vaccine is produced at the scale and pace required while retaining the highest quality standards.

For more information, see R&D and Other Medicines and COVID-19 from pages 53 and 47.

Contribution to society

As mentioned above, charities struggled to keep their programmes going in 2020. In March, we therefore reaffirmed our commitment to the non-profit organisations we support around the world, allowing them to divert grants towards pandemic-related activities, delay projects and defer reporting. In all, we provided more than $15 million in COVID-19 donations to patient advocacy groups, health charities and relief agencies, supporting 340 non-profit organisations in 78 countries.

At the start of the pandemic, and faced with a critical shortage of protective medical equipment, we donated emergency supplies and resources to support health systems around the world. We donated nine million face masks to 49 countries, collaborating with the World Economic Forum's COVID Action Platform, created with the support of the WHO, to identify countries in greatest need and with Direct Relief to distribute across the US, with a focus on medically unserved communities. We also donated surgical gloves, monitors, medicines and other medical supplies.

In line with our global focus on adolescent health, we provided additional support to our Young Health Programme collaborators to adapt programming and address issues specific to this demographic. We also provided disaster relief funds to Direct Relief, Americares and Project Hope and pre-positioned medicines with Direct Relief to expedite relief work.

More broadly, we shared our employee toolkits externally for other organisations to use and repurpose. By January 2021, they had been downloaded more than 6,000 times.

We updated our Global Volunteering Policy, extending the amount of leave for medically trained employees, and encouraged volunteering more generally to relieve exhausted health systems and support communities. In 2020, 894 employees volunteered 17,397 hours.

For more information, see Community investment from page 78.

Impact on the business

AstraZeneca faced a number of challenges arising from the pandemic. These included:

- Reduced levels of patient screenings, diagnoses, testing and elective procedures.
- Less face-to-face engagement with HCPs for commercial field sales teams.
- Additional costs and procedures related to COVID-19, such as facilities cleaning, face masks and COVID-19 assessments.
- An increase in Distribution Expense.
- An impact on initiation, ongoing recruitment and follow-up in some clinical trials, primarily in the early stage.

COVID-19 has had a direct impact on some of our medicines, including reduced sales of *Pulmicort* in China on fewer nebulisation-centre visits and reduced elective surgery, and less use globally of infused and injectable medicines, such as *Imfinzi* and *Fasenra*. Other medicines, however, may benefit from shifts in patient care and behaviours, including oral medicines such as *Calquence*.

Other impacts include savings on expenses and travel with, for example, a one-third reduction in business miles driven and a reduction in greenhouse gases from flying of more than 80%.

We believe it remains prudent to assume that additional delays will arise as a consequence of the pandemic. However, despite a delayed global recovery, we believe AstraZeneca is well-placed to manage these challenges. The unprecedented environment has also provided multiple opportunities to explore more efficient ways of working, which have the potential to provide long-term benefits to patients and to the Group.

For more information, see Financial Review, Principal Risks and Risk from pages 82, 80 and 254.

Supporting the UK response to COVID-19

In April 2020, we collaborated with GSK and the University of Cambridge to create the UK's fourth COVID-19 testing centre.

The project drew on AstraZeneca and GSK's drug discovery and technology expertise, as well as the University's interdisciplinary research capabilities. Volunteers from all three organisations and our technical partners set up the facility in record time at the University's Anne McLaren building.

They installed innovative robotics and automation, implemented an entire supply chain and ensured that the testing facility was both resilient and efficient.

We also improved the testing process by combining molecular biology expertise with automation, building capacity to process thousands of samples per day.

Oncology

Leading a revolution in oncology to redefine cancer care. Our ambition is to provide cures for cancer in every form. We are following the science to understand cancer and all its complexities to discover, develop and deliver life-changing treatments and increase the potential for cure.

Unmet medical need and world market

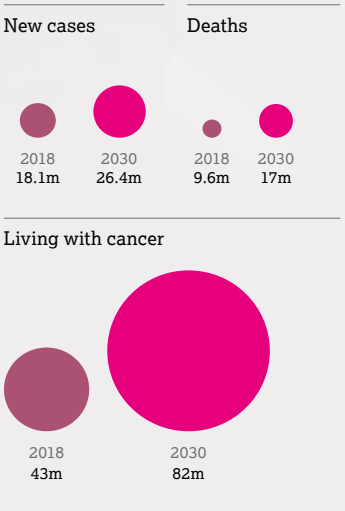
> Cancer is the second leading cause of death globally
> Lung cancer claims a life every 18 seconds; it has the highest cancer mortality rate, followed by colorectal, stomach, liver and breast cancer
> With over two million new cases worldwide for each in 2019, lung cancer and breast cancer are the two most common types of cancer
> Other common cancers include prostate and ovarian cancer

Minute pieces of tumour DNA circulating in the bloodstream.

1.8m
Lung cancer was responsible for the deaths of 1.8 million people in 2018.

2.1m
Breast cancer is the most frequent cancer among women, impacting 2.1 million women each year.

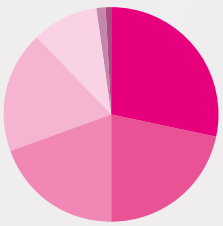
Cancer worldwide burden



Source: International Agency for Research on Cancer.

Therapy area world market
(MAT/Q3/20)

$140.2bn
Annual worldwide market value



- Small molecule targeted agents $40.3bn
- Monoclonal antibodies (mAbs) $30.3bn
- Chemotherapy $27.4bn
- Immune checkpoint inhibitors $25.9bn
- Hormonal therapies $14.1bn
- PARP Inhibitors $1.9bn
- Other oncology therapies $0.2bn

Source: IQVIA. AstraZeneca focuses on specific segments within this overall therapy area market.

Key marketed products and revenues 2020

Our Oncology performance in 2020 was driven by the rapid and broad market penetration of our new medicines, with several launches and 18 approvals.

Oncology Product Sales

$10,850m

42% of total

2019: $8,667m

2018: $6,028m

Product	Disease area	Revenue	Commentary
Tagrisso (osimertinib)	Lung cancer	↑ $4,328m, up 36% (36% at CER)	Approved in the US for the adjuvant treatment of patients with early-stage EGFR mutated (EGFRm) non-small cell lung cancer (NSCLC). Approved in 85 countries, including the US, Japan, China and the EU, for 1st-line EGFRm advanced NSCLC, and in 89 countries, including the US, Japan, China and the EU, for 2nd-line use in patients with EGFRm T790M mutation-positive advanced NSCLC.
Lynparza (olaparib)	Ovarian cancer Breast cancer Pancreatic cancer Prostate cancer	↑ $2,236m, up 24% (24% at CER)	Approved in 78 countries for the treatment of ovarian cancer; it has also been approved in 76 countries for the treatment of metastatic breast cancer, and in 55 countries, including the US, for the treatment of pancreatic cancer. It is also approved in the US for the 2nd-line treatment of homologous recombination repair gene mutated (HRRm) metastatic castration-resistant prostate cancer (mCRPC) and in the EU and Japan for breast cancer susceptibility gene mutated (BRCAm) mCRPC.
Imfinzi (durvalumab)	Lung cancer Bladder cancer	↑ $2,042m, up 39% (39% at CER)	Approved in the curative-intent setting of unresectable, Stage III NSCLC after chemoradiotherapy in 67 countries, including the US, Japan, China and the EU. Also approved in extensive-stage small cell lung cancer (ES-SCLC) in 51 countries including the US, Japan and the EU. Also approved for previously treated patients with advanced bladder cancer in 18 countries.
Calquence (acalabrutinib)	Mantle cell lymphoma (MCL) Chronic lymphocytic leukaemia (CLL)	↑ $522m, up 219% (219% at CER)	Approved for the treatment of CLL and small lymphocytic lymphoma in the US and approved for CLL in the EU and several other countries worldwide. Also approved for the treatment of adult patients with MCL who have received at least one prior therapy in the US and several other countries.
Enhertu (trastuzumab deruxtecan)	Breast cancer Gastric cancer	↑ $94m share in profits	Approved in the US and Japan for human epidermal growth factor receptor 2 (HER2)-positive unresectable or metastatic breast cancer following two or more prior anti-HER2 based regimens. Approved in Japan for patients with HER2-positive metastatic gastric cancer. Regulatory reviews in other countries are also under way in breast and gastric cancers.
Koselugo (selumetinib)	Neurofibromatosis type 1 plexiform neurofibromas (PN)	↑ $38m	Approved in the US for the treatment of paediatric patients two years of age and older with neurofibromatosis type 1 (NF1) who have symptomatic, inoperable PN. Regulatory review is also under way in the EU for this indication.
Lumoxiti (moxetumomab pasudotox-tdfk)	Hairy cell leukaemia (HCL)		Approved in the US for adult patients with relapsed or refractory HCL who have received at least two prior systemic therapies, including treatment with a purine nucleoside analogue. Regulatory review is under way in the EU.
Equidacent (bevacizumab biosimilar)	Colon, breast, lung, kidney, ovarian and cervical cancers		Approved in the EU for metastatic colorectal cancer, metastatic breast cancer, advanced NSCLC, advanced renal cell cancer, epithelial ovarian, fallopian tube or primary peritoneal cancer, and advanced cervical cancer. Regulatory review is also under way in the US.

Legacy

Zoladex (goserelin acetate implant)	Prostate cancer Breast cancer	↑ $938m, up 13% (17% at CER)	*Arimidex* (anastrozole)	Breast cancer	↓ $185m, down 18% (16% at CER)
Faslodex (fulvestrant)	Breast cancer	↓ $580m, down 35% (34% at CER)	*Casodex/Cosudex* (bicalutamide)	Prostate cancer	↓ $172m, down 14% (14% at CER)
Iressa (gefitinib)	Lung cancer	↓ $268m, down 37% (36% at CER)	Others		↓ $51m, down 47% (46% at CER)

Full product information from page 25.

Our strategy in Oncology

Our Oncology strategy is built with one goal in mind – to push the boundaries of science to change the practice of medicine and transform the lives of patients living with cancer. Our broad pipeline of next-generation medicines, together with our focus on excellence in execution, are aimed at expanding treatment options and improving outcomes for patients with solid tumours and haematological cancers. With this vision in mind, we focus on four strategic priorities:

1. Pioneering research across six scientific platforms: we are exploring several monotherapy and combination approaches across our six scientific platforms:

a. Tumour drivers and resistance (TDR) – targeting the genetic mutations and resistance mechanisms that enable cancer cells to evade treatment, survive and proliferate.

b. Immuno-oncology (IO) – activating the body's own immune system to help fight cancer.

c. DNA damage response – targeting the DNA repair process to block cancer cells' ability to reproduce.

d. Antibody drug conjugates (ADC) – delivering highly-potent cancer-killing agents directly to cancer cells via a linker attached to a targeted antibody.

e. Epigenetics – identifying epigenetic changes (how the genome is expressed) and deploying inhibitors targeting key processes in cancer cells.

f. Cell Therapies – harnessing living cells to target cancer.

2. Advancing innovative clinical strategies to treat early stages of disease and relapsed or refractory patients: to redefine the current cancer treatment paradigm, we recognise that we must both identify and treat patients earlier in their disease progression when there is a possibility of cure, and also improve the treatment of relapsed or refractory patients to extend survival and deliver the most transformative outcomes.

3. Building expertise and leadership in the most prevalent and highest mortality rate tumour types: on our path to eliminating cancer as a cause of death, we have set ourselves the goal of improving five-year survival across key tumour types including lung, breast, ovarian and haematologic malignancies. We also continue to concentrate on biomarker-driven indications where the benefits to patient populations are tangible and significant.

Therapy Area Review
Oncology
continued

4. Delivering across our global footprint – to deliver cancer therapies to every eligible and appropriate patient, we are building oncology-specific expertise and capability across all geographies. We are deploying innovative access solutions to ensure that patients that need our medicines can get them and leveraging digital and data to optimise our commercial efforts. In addition, through our Oncology Business Unit, we are increasing focus and improving response time in key markets such as the US, UK, Italy, France, Germany, Spain, Japan and China.

2020 pipeline highlights

Life-cycle phases – R&D

NME Phase II a/b starts/progressions

Product	Cancer type
AZD4573	Haematological malignancies
MEDI2228	Multiple myeloma
Enhertu + *Imfinzi* (platform)	Post IO NSCLC (HUDSON)

NME and major life-cycle management (LCM) positive Phase III investment decisions

Product	Cancer type
Imfinzi + chemoradiation therapy	Locally advanced, unresectable oesophageal squamous cell carcinoma (KUNLUN)
Tagrisso	Neoadjuvant EGFRm NSCLC (NeoADAURA)
Imfinzi + chemotherapy	Neoadjuvant/adjuvant gastric cancer (MATTERHORN)
Enhertu	HER2-positive post-neoadjuvant high-risk breast cancer (DESTINY-Breast05)
Datopotamab deruxtecan (DS-1062)	2nd-line+ NSCLC without activating mutations (U301, TROPION-Lung01)

Investment decisions have been made for 16 projects; five clinical trials have started and 11 have yet to start.

NME and major LCM regional submissions

Product	Cancer type	Region
Imfinzi	New, once every four weeks (Q4W) dosing	US, EU
Calquence	Relapsed/refractory CLL (ASCEND)	Japan
Enhertu	HER2-positive metastatic breast cancer (DESTINY-Breast01)	EU
Enhertu	HER2-positive metastatic gastric cancer (DESTINY-Gastric01)	US
Imfinzi + SoC	1st-line extensive-stage SCLC (CASPIAN)	China
Koselugo	Neurofibromatosis type 1 (SPRINT)	EU
Lynparza	Prostate cancer (PROfound)	China, Japan
Lynparza + Avastin	Ovarian cancer (PAOLA-1)	Japan
Tagrisso	Adjuvant EGFRm NSCLC (ADAURA)	US, EU, China

Life-cycle phases – approvals

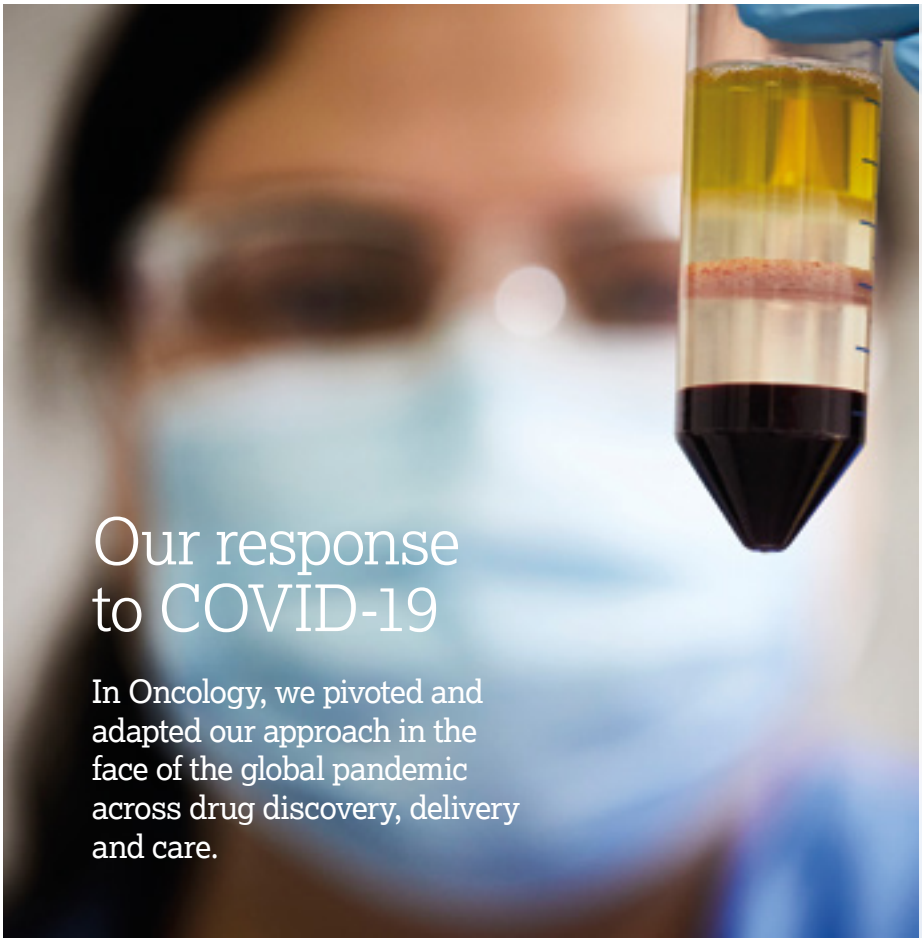
NME and major LCM regional approvals

Product	Cancer type	Region
Calquence	Relapsed/refractory CLL (ASCEND)	EU
Calquence	1st-line CLL (ELEVATE-TN)	EU
Enhertu	HER2-positive metastatic breast cancer (DESTINY-Breast01)	Japan
Equidacent (bevacizumab biosimilar)	Vascular endothelial growth factor cancer treatment	EU
Imfinzi + SoC	1st-line extensive-stage SCLC (CASPIAN)	US, EU, Japan
Koselugo	Neurofibromatosis type 1 (SPRINT)	US
Lynparza	1st-line pancreatic cancer (POLO)	EU, Japan
Lynparza	Prostate cancer (PROfound)	EU, US, Japan
Lynparza + Avastin	Ovarian cancer (PAOLA-1)	EU, US, Japan
Tagrisso	Adjuvant EGFRm NSCLC (ADAURA)	US
Imfinzi	New, once every four weeks (Q4W) dosing	US

Discontinued projects

Product	Cancer type	Reason
Imfinzi + tremelimumab	1st-line bladder cancer (DANUBE)	Safety/efficacy
Imfinzi + AZD5069 or *Imfinzi* + danvatirsen	Head and neck squamous cell carcinoma, bladder and NSCLC	Safety/efficacy
Lynparza + adavosertib	Solid tumours	Strategic
Lynparza + cediranib	Recurrent platinum-resistant ovarian cancer (CONCERTO)	Safety/efficacy
MEDI5083	Solid tumours	Safety/efficacy
AZD4635	Prostate cancer	Safety/efficacy
AZD9496	Oestrogen receptor positive breast cancer	Safety/efficacy
Calquence	COVID-19 (CALAVI)	Safety/efficacy
AZD5153	Solid tumours, haematological malignancies	Safety/efficacy
Imfinzi + *tremilimumab*	1st-line head and neck squamous cell carcinoma	Safety/efficacy
oleclumab + imaradenant (AZD4635)	Prostate cancer	Safety/efficacy

For more information on the life-cycle of a medicine, see page 9.



Our response to COVID-19

In Oncology, we pivoted and adapted our approach in the face of the global pandemic across drug discovery, delivery and care.

Along with the entire healthcare community, we faced extremely challenging circumstances, but also unique opportunities to evolve in ways that will have a positive, lasting impact. We moved quickly to launch a range of strategies to mitigate the impact of COVID-19, embracing our responsibility to ensure continuity of care for our current patients, while maintaining our momentum around screening and early diagnosis. For example:

- 80% of late-stage Oncology clinical trials continued with minimal delays or disruptions.
- We partnered with global patient coalitions to launch *New Normal, Same Cancer*, a programme to raise awareness regarding the impact of COVID-19 and call for patients to contact their doctor and return to cancer care services.
- In Brazil, we worked with our collaborator to introduce at-home testing for cancers with EGFR mutations, which has been replicated in other countries.
- In Russia, retrospective lung cancer screening allowed COVID-19 scans to be analysed using AI to determine if signs of lung cancer were present.

80%

of late-stage Oncology clinical trials continued

For more information on our response to COVID-19, see COVID-19 pandemic from page 28.

2020 pipeline highlights *continued*

Our late-stage pipeline delivered a strong flow of new clinical data across our portfolio and we continued to present our scientific progress at major medical congresses. We also continued to invest in new medicines through collaborations and acquisitions.

Full details are given in the Development Pipeline from page 245, and for highlights from the progress our Oncology pipeline made in 2020 against our KPIs, see opposite.

2020 review – strategy in action

We are striving to make cure a reality for the millions of people across the world living with cancer every day. Our focus is on some of the most hostile and hard-to-treat cancers including breast, lung, ovarian, prostate, certain blood cancers and gastrointestinal cancers. By understanding the complexities of these cancer types, we can truly achieve life-changing benefits for patients.

2020 saw strong continued growth, underpinned by the performance of our new oncology medicines and our established products while our pioneering late-stage pipeline dominated news flow in each of our four strategic tumour types.

Lung cancer

AstraZeneca is committed to transforming the treatment of lung cancer with a comprehensive portfolio of approved and potential new medicines in late-stage development spanning different histologies, several stages of disease, lines of therapy and modes of action.

Our strategy in lung cancer focuses on detecting and treating patients as early as possible, revolutionising care to give patients the best chance of cure. We also continue to advance research in metastatic disease, bringing new solutions to patients that meaningfully extend survival in advanced lung cancer settings using precision medicine and combination approaches.

In 2020, *Tagrisso* remained our top-selling medicine, as we continued its global rollout for 1st-line advanced EGFRm NSCLC and secured the first global approval in the adjuvant setting in the US in December 2020, based on the unprecedented disease-free survival benefit demonstrated in the ADAURA Phase III trial.

Tagrisso also continues to be investigated in the Stage III, unresectable setting (LAURA), in the neoadjuvant resectable setting (NeoADAURA), in combination with chemotherapy in the metastatic setting (FLAURA2), and in combination with potential new medicines to address resistance to EGFR-tyrosine kinase inhibitors (TKIs) (SAVANNAH, ORCHARD).

Imfinzi continued its strong commercial performance in 2020, supported by new approvals in 51 countries in the extensive-stage small cell lung cancer (ES-SCLC) setting including the US, Japan and the EU, and accelerating growth in the Stage III NSCLC setting in markets outside the US. *Imfinzi* is also being tested in the limited-stage SCLC setting following concurrent chemoradiation therapy (CRT) (ADRIATIC).

Therapy Area Review
Oncology
continued

Imfinzi is the current global standard of care for the treatment of unresectable, Stage III NSCLC based on the PACIFIC trial, and we remain focused on bringing *Imfinzi* to other early lung cancer settings where cure is possible. In 2020, *Imfinzi* continued to demonstrate unprecedented overall survival in Stage III NSCLC with an estimated 50% of patients surviving four years compared to 36% for placebo after CRT in updated data from the PACIFIC trial.

We recognise that, for some, cancer has become a secondary priority to the COVID-19 pandemic. *Imfinzi* was approved for a new four-week, fixed-dose regimen in Stage III NSCLC and advanced bladder cancer in the US, and was approved in January 2021 in this dosing for Stage III NSCLC patients in the EU. The new dosing regimen helps simplify and improve treatment by enabling continuity of care while minimising the risk of exposure to infection in the healthcare setting.

In May 2020, we received US Breakthrough Therapy Designation for *Enhertu* in HER2-mutant metastatic NSCLC. In the interim results of the DESTINY-Lung01 Phase II trial, *Enhertu* demonstrated meaningful clinical activity for patients with HER2-mutant NSCLC, with a confirmed objective response rate of 61.9%. Additionally, an interim analysis presented in January 2021 at the World Conference on Lung Cancer showed preliminary evidence of anti-tumour activity for *Enhertu* in patients with HER2-overexpressing metastatic NSCLC as well.

In July 2020, we entered a new global development and commercialisation agreement with Daiichi Sankyo for datopotamab deruxtecan, Daiichi Sankyo's TROP2-directed ADC for the potential treatment of multiple tumour types, including lung cancer. In December 2020, we announced two new trials exploring the potential of this ADC: the pivotal Phase III TROPION-Lung01 trial versus docetaxel in previously treated patients with advanced or metastatic NSCLC without actionable genomic alterations, and the Phase II TROPION-Lung05 trial in patients with advanced or metastatic NSCLC with actionable genomic alterations previously treated with a kinase inhibitor and platinum chemotherapy.

Savolitinib, a selective inhibitor of mesenchymal epithelial transition factor (c-MET) receptor tyrosine kinase, is being investigated with Hutchison China MediTech Limited (Chi-Med), both as a monotherapy and in combination, and is showing promising signs of clinical efficacy in patients with MET gene alterations in lung cancer and gastric cancer. It also showed promise in the TATTON Phase Ib expansion cohort when combined with *Tagrisso* in patients with EGFRm MET-amplified NSCLC; this combination has been taken into a large Phase II trial, SAVANNAH, which is ongoing.

Breast cancer

By continuing to understand the complexities of breast cancer and directly addressing patients' greatest unmet medical needs, we hope to redefine breast cancer care.

Following approval of *Enhertu* in the US in December 2019, we are continuing to work with regulators in other markets to expand its availability for patients with HER2-positive metastatic breast cancer. In March 2020, *Enhertu* was approved in Japan. We have also submitted an application for approval in the EU, for which we received a positive opinion from the Committee for Medicinal Products for Human Use in December 2020. We also continue to expand the access to *Lynparza* for patients with triple-negative breast cancer (TNBC) in more than 67 countries.

Other agents in development for breast cancer include: camizestrant (AZ9833), a next-generation oral selective oestrogen receptor degrader (SERD), which recently entered into Phase III development for the treatment of ER-positive breast cancer, and capivasertib (AZD5363), an AKT (also known as Protein kinase B) inhibitor, in Phase III development for advanced or metastatic TNBC or hormone receptor-positive (HR+) breast cancer. Datopotamab deruxtecan is also in development for TNBC in collaboration with Daiichi Sankyo.

Ovarian cancer

We are committed to changing the way advanced ovarian cancer is treated in the 1st-line setting. Our focus in ovarian cancer is centred on *Lynparza*, which is our first and best-in-class oral poly ADP-ribose polymerase (PARP) inhibitor. We have a global collaboration with MSD to co-develop and co-commercialise *Lynparza*.

The positive results from the Phase III PAOLA-1 trial showed *Lynparza* as 1st-line maintenance treatment with bevacizumab demonstrated a substantial progression free survival (PFS) benefit for patients with homologous recombination deficiency (HRD)-positive advanced ovarian cancer. One in two women with advanced ovarian cancer has an HRD-positive tumour and represents a broader patient group than in the SOLO-1 trial, which had already demonstrated the significant benefit of extending PFS much earlier. The goal of 1st-line treatment is to delay progression of the disease for as long as possible, with the intent of achieving complete remission or cure, and these data have the potential to change clinical practice in how women with advanced ovarian cancer are treated.

Lynparza is being evaluated in combination with adavosertib (AZD1775), our WEE1 inhibitor, in recurrent ovarian, primary peritoneal or fallopian tube cancers. Adavosertib is also being evaluated as monotherapy in the Phase II ADAGIO trial in uterine serous carcinoma.

Blood cancers

Leveraging our strength in solid tumours, we have established haematology as one of four key oncology disease areas of focus. Our approach to tackling the diversity and complexity of blood cancers is to identify highly promising mechanisms in our pipeline and align them with the greatest unmet medical need.

Calquence is our irreversible oral Bruton's tyrosine kinase (BTK) inhibitor, now approved in over 50 markets. In November 2020, the European Commission approved *Calquence* for adult patients with CLL. The approval was based on positive results from the interim analyses of two Phase III clinical trials. The ASCEND trial compared *Calquence* with rituximab combined with idelalisib or bendamustine in patients with relapsed or refractory CLL. The ELEVATE-TN trial evaluated the safety and efficacy of *Calquence*, alone or in combination with obinutuzumab, compared with chlorambucil in combination with obinutuzumab in patients with previously untreated CLL. Together, the trials showed that *Calquence*, in combination with obinutuzumab, or as a monotherapy, significantly reduced the relative risk of disease progression or death versus the comparator arms in both 1st-line and relapsed or refractory CLL.

Positive data from the ACE-CL-003 trial demonstrated that *Calquence*, in combination with venetoclax and either obinutuzumab or rituximab, in CLL patients resulted in high complete response and undetectable minimal residual disease after a median follow-up of 23.2 months with a tolerable safety profile.

We also made progress in our haematology early-phase clinical programme, with MEDI2228, an investigational B-cell maturation antigen (BCMA)-targeted ADC being explored for the treatment of relapsed or refractory multiple myeloma.

The blood cancer pipeline also includes ceralasertib (AZD6738), an ataxia telangiectasia and Rad3-related (ATR) serine/threonine protein kinase inhibitor being investigated in combination with *Calquence* in CLL, and in combination with radiation therapy and chemotherapy. AZD2811 an aurora kinase B inhibitor is in development as monotherapy in Phase II in acute myeloid leukaemia.

Prostate cancer

We are pushing the boundaries of science, aiming to provide precision medicines matched to the patients who can benefit most from them.

In 2020, *Lynparza* became the first and only PARP inhibitor to improve overall survival in patients with advanced prostate cancer.

Based on final results from the PROfound Phase III trial of *Lynparza* in men with metastatic castration-resistant prostate cancer (mCRPC), it has been approved in the US for men with homologous recombination repair (HRR) gene-mutated mCRPC and in the EU and Japan for patients with BRCAm mCRPC.

The potential benefits of *Lynparza* in mCRPC will continue to be tested in the Phase III PROpel trial that will assess the combination of *Lynparza* with abiraterone in 1st-line mCRPC.

Capivasertib (AKT inhibitor) is being evaluated in combination with abiraterone in the Phase III CAPItello-281 trial for metastatic hormone-sensitive prostate cancer and PTEN deficiency.

Gastrointestinal/Genitourinary cancers

We have a number of ongoing trials testing our medicines in gastrointestinal cancers, notably in gastric and bladder cancers – rare but life-threatening diseases. In 2020, we announced results from two key trials – DESTINY-Gastric01 and DANUBE.

The positive results from the DESTINY-Gastric01 Phase II trial of *Enhertu* versus chemotherapy was the first time that a HER2-directed medicine showed an improvement in survival for previously treated HER2-positive metastatic gastric cancer patients. Based on these results and the significant unmet clinical needs of these patients, we achieved several regulatory milestones, including US BTD, US Orphan Drug Designation (ODD), US Priority Review and approval in Japan. Additional trials are ongoing and planned for *Enhertu* in gastric cancer as well as colorectal cancer.

Results from the Phase III DANUBE trial showed *Imfinzi*, alone and in combination with tremelimumab, versus standard of care platinum-based chemotherapy in the 1st-line treatment of patients with unresectable, Stage IV bladder cancer, failed to meet either of its primary endpoints of overall survival. Secondary analyses suggested that this combination has clinical activity, which is enhanced in patients with tumours that have high PD-L1 expression.

We continue to test *Imfinzi* extensively in bladder cancer and in other gastrointestinal (GI) cancer settings. Data from the Study 22 Phase II trial presented in May, showed *Imfinzi* plus tremelimumab demonstrated promising clinical activity and tolerability in patients with advanced hepatocellular carcinoma (HCC). This combination was granted ODD in the US for HCC. In addition, tremelimumab was granted orphan designation for HCC in the EU, and *Imfinzi* was granted ODD in the US for biliary tract cancer.

Head and neck cancer

In February 2021, the KESTREL Phase III trial did not meet the primary endpoint of improving overall survival for patients treated with *Imfinzi* versus the EXTREME treatment regimen, a standard of care, in the 1st-line treatment of recurrent or metastatic head and neck squamous cell carcinoma (HNSCC) whose tumours expressed high levels of PD-L1. Also, the combination of *Imfinzi* plus tremelimumab did not indicate an overall survival benefit in 'all-comer' patients, a secondary endpoint.

Paediatric cancers

Historically, attention and research are not directed to paediatric cancers, even though they may be fatal and there is significant unmet medical need. In 2020, *Koselugo* became the first and only medicine approved in the US for the treatment of paediatric patients two years of age and older with neurofibromatosis type 1 (NF1) who have symptomatic, inoperable PN. NF1 is a rare and debilitating genetic condition. Some 30-50% of patients with NF1 experience PN – tumours growing inside their nerve sheaths. The approval was based on results from the Phase II SPRINT Stratum 1 trial coordinated by the National Cancer Institute Centre for Cancer Research, Paediatric Oncology Branch.

Koselugo, which is part of a collaboration with MSD, is also being investigated in a Phase III trial for the treatment of adult patients with NF1 symptomatic and/or progressive, inoperable PN.

Our robust pipeline across cancers

We follow the science, without fear of failure, wherever it takes us, in pursuit of the best medicines. It is through this relentless quest for innovation that we have created one of the most diverse portfolios and pipelines in the industry; encompassing molecules and modalities designed to kill cancer cells preferentially, at every stage of the disease.

Our pipeline continues to expand and progress across cancers, including:

- AZD7648, a potent and selective DNA-PK inhibitor which could be an innovative new way to target alternative DDR dependencies.
- Ceralasertib (AZD6738), an ATR serine/threonine protein kinase inhibitor is being evaluated in Phase I/II trials in solid tumours and haematological malignancies as monotherapy and in combination with other targeted therapies, including *Lynparza* in TNBC.
- AZD1390, a blood-brain barrier penetrant inhibitor of ataxia-telangiectasia, mutated (ATM) is in Phase I for brain tumours.
- AZD2811, an aurora kinase B inhibitor in development as monotherapy in Phase II for SCLC.
- MEDI2228, a BCMA-directed ADC being investigated in relapsed/refractory multiple myeloma.
- MEDI5752, a novel bispecific antibody designed to target PD-1 and CTLA-4 checkpoints on immune cells, is being studied in a range of solid tumours.
- MEDI0457, a human papilloma virus (HPV) vaccine, currently being tested in combination with *Imfinzi* in HPV-positive HNSCC.
- Monalizumab, our first-in-class humanised anti-NKG2A antibody, is being investigated in HNSCC, colorectal cancer and haematological malignancies. Monalizumab is being tested in the INTERLINK-1 Phase III trial in HSNCC in combination with cetuximab.
- AZD5153, a bromodomain-4 inhibitor in Phase I for solid tumours.
- In our cell death portfolio, AZD5991 (MCL1 inhibitor) and AZD4573 (CDK9 inhibitor), are being investigated in haematological malignancies.

Established portfolio

In 2020, our established Oncology brands – *Faslodex*, *Zoladex* and *Iressa* – performed well, with growth in *Zoladex* and moderate sales decreases of *Faslodex* and *Iressa*.

Faslodex showed a slower decline than expected, largely led by growth in combination use with CDK4/6 inhibitors and slower generic competition in the EU. Decline in the second half of the year was primarily driven by generic competition in the US.

Iressa sales continued to decline due to generic entries in select markets, the uptake of *Tagrisso* in 1st-line EGFRm advanced NSCLC, and the pricing impact on *Iressa* from centralised procurement in China.

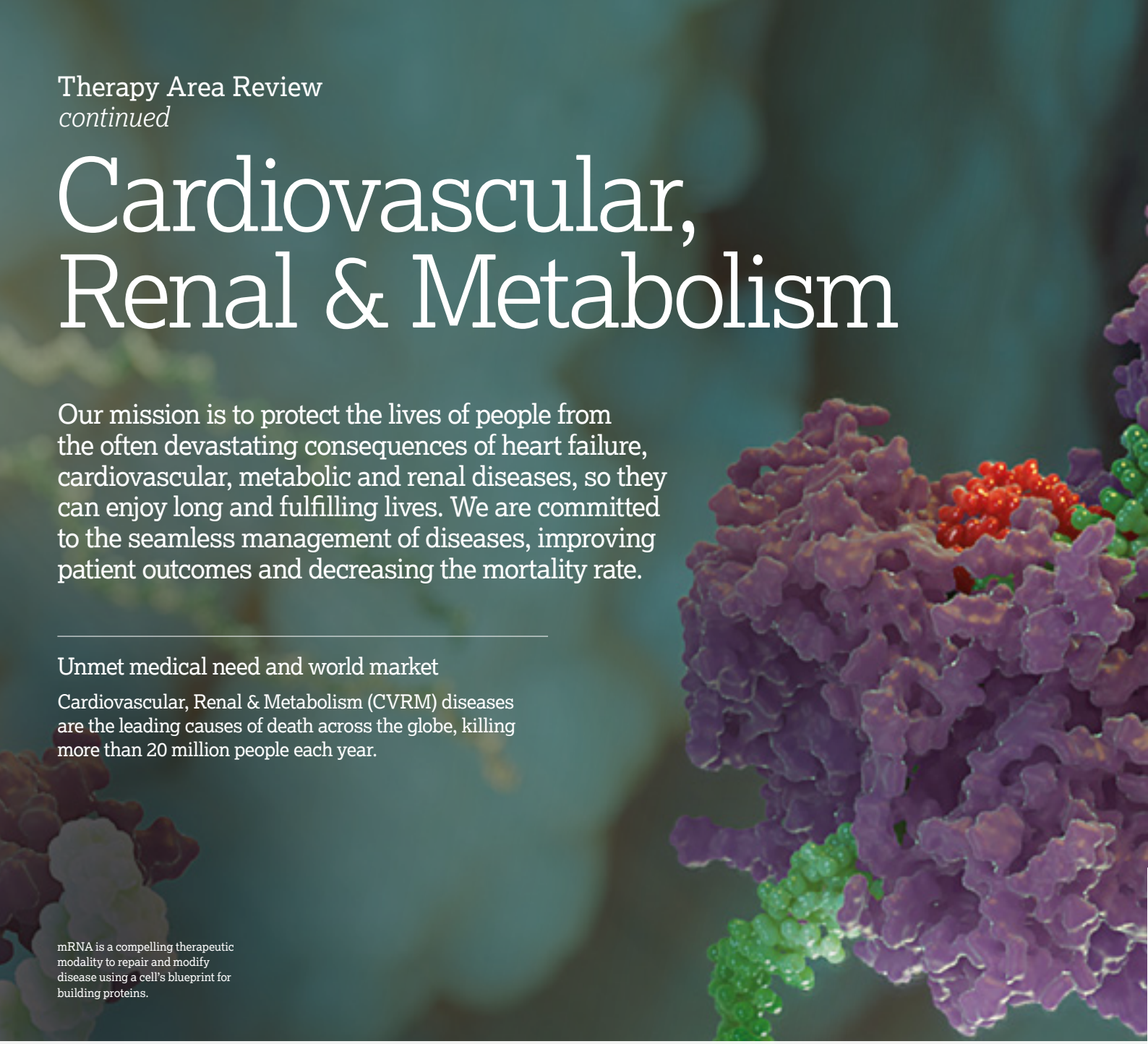
Zoladex double-digit growth was based on increased access to medical castration and ovarian suppression, as well as earlier detection and diagnosis in prostate and breast cancers, predominantly in China and Emerging Markets.

Cardiovascular, Renal & Metabolism

Our mission is to protect the lives of people from the often devastating consequences of heart failure, cardiovascular, metabolic and renal diseases, so they can enjoy long and fulfilling lives. We are committed to the seamless management of diseases, improving patient outcomes and decreasing the mortality rate.

Unmet medical need and world market

Cardiovascular, Renal & Metabolism (CVRM) diseases are the leading causes of death across the globe, killing more than 20 million people each year.



mRNA is a compelling therapeutic modality to repair and modify disease using a cell's blueprint for building proteins.

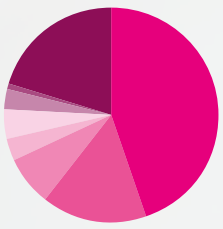
463m
Number of people living with diabetes.

17.9m
Number of people that die each year from heart failure (HF) and cardiovascular disease.

Nearly 700m
Number of people living with chronic kidney disease (CKD).

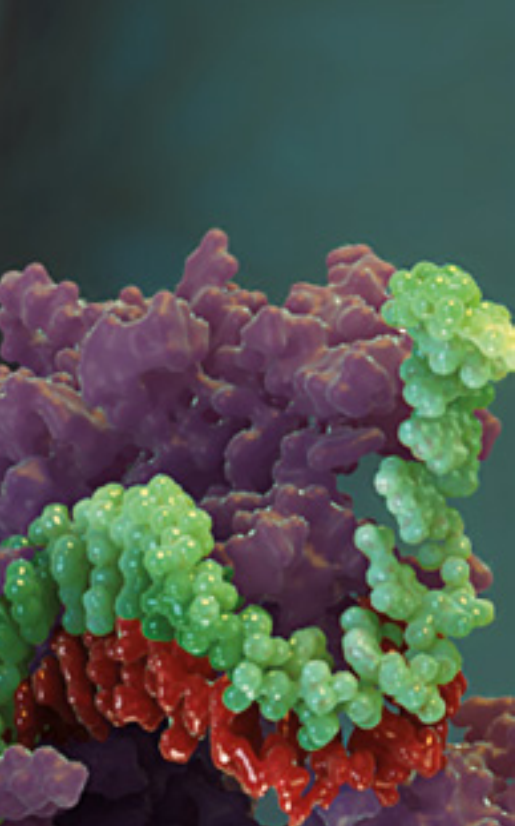
Therapy area world market
(MAT/Q3/20)

$204.3bn
Annual worldwide market value



- Diabetes $99.6bn
- High blood pressure $35.3bn
- Abnormal levels of blood cholesterol $16.7bn
- Thrombosis $7.2bn
- CKD $10.0bn
- CKD associated anaemia $6.7bn
- Hyperkalaemia $0.5bn
- Other CV $45.0bn

Source: IQVIA. AstraZeneca focuses on specific segments within this overall therapy area market. Sales for CKD ($10.0bn) and CKD-associated anaemia ($6.7bn) fall outside the CVRM total market. All sales for CKD associated anaemia ($6.7bn) fall within the CKD market and should not be double counted.



Key marketed products and revenues 2020

Brilinta and *Farxiga* continued to provide a foundation for growth and our renal franchise made progress, with *Lokelma* launching in China and Japan. Overall CVRM Product Sales were up 3% on 2019 (5% at CER).

CVRM Product Sales

$7,096m

27% of total

2019: $6,906m

2018: $6,710m

Product	Disease area	Revenue	Commentary
Farxiga/*Forxiga* (dapagliflozin)	Type-2 diabetes, Type-1 diabetes; heart failure with reduced ejection fraction (HFrEF)	↑ $1,959m, up 27% (30% at CER)	Approved in 100 countries to improve glycaemic control in adult patients with type-2 diabetes; included in major guidelines. *Farxiga* delivered consistent, solid growth quarter-over-quarter in 2020. Type-1 diabetes sNDA withdrawn in the US. First-in-class approval for HFrEF in patients with and without type-2 diabetes in the US, EU, Japan, China and several other countries worldwide.
Brilinta/*Brilique* (ticagrelor)	Acute coronary syndromes (ACS), high-risk patients with history of myocardial infarction (MI), high-risk patients with coronary artery disease (CAD), stroke	↑ $1,593m, up 1% (2% at CER)	Approved in more than 110 countries for ACS and more than 70 countries for high-risk patients with history of heart attack; included in major guidelines. Approved in the US to reduce the risk of a first heart attack or stroke in high-risk patients with CAD, and to reduce the risk of stroke in patients with acute ischaemic stroke (NIH Stroke Scale score ≤5) or high-risk transient ischaemic attack (TIA).
Onglyza (saxagliptin)	Type-2 diabetes	↓ $470m, down 11% (10% at CER)	Approved in more than 85 countries for the treatment of adults with type-2 diabetes; included in guidelines.
Bydureon (exenatide XR injectable suspension)	Type-2 diabetes	↓ $448m, down 18% (18% at CER)	Approved in 58 countries to improve glycaemic control in adults with type-2 diabetes; included in major guidelines. *Bydureon* continues launch progress with *BCise* in a highly dynamic GLP-1 class.
Lokelma (sodium zirconium cyclosilicate (SZC))	Hyperkalaemia	n/m $76m, movement n/m	Approved for the treatment of hyperkalaemia. Label extensions secured in the EU, US and China to include patients with hyperkalaemia on haemodialysis. Launched in China and Japan with further launches under way in key markets.
Byetta (exenatide injection)	Type-2 diabetes	↓ $68m, down 37% (36% at CER)	
Qtern (saxagliptin and dapagliflozin)	Type-2 diabetes	↑ $27m, up 50% (50% at CER)	Our combination therapy of dapagliflozin, saxagliptin and metformin hydrochloride was withdrawn in the US (*Qternmet XR*) and in the EU (*Qtrilmet*).
Symlin (pramlintide acetate)	Type-2 diabetes	↓ $20m, down 41% (41% at CER)	
Legacy			
Crestor (rosuvastatin calcium)	Dyslipidaemia Hyper-cholesterolaemia	↓ $1,182m, down 10% (9% at CER)	Divested rights in over 30 countries in Europe (except the UK and Spain) to Grünenthal in December 2020. Divested rights in Australia and New Zealand to Menarini in December 2020. Licensed from Shionogi.
Seloken/*Toprol-XL* (metoprolol succinate)	Hypertension Heart failure Angina	↑ $821m, up 8% (12% at CER)	Divested rights in Europe to Recordati in May 2017. Divested US rights to Aralez effective October 2016.
Atacand/*Atacand HCT*/*Atacand Plus* (candesartan cilexitil)	Hypertension Heart failure	↑ $243m, up 10% (15% at CER)	Divested rights to Cheplapharm in 28 European markets in July 2018 and approximately 70 mainly International markets in October 2020. Licensed from Takeda Chemicals Industries Ltd.
Others		↓ $144m, down 35% (34% at CER)	

Our strategy for CVRM

We are committed to advancing the science and treatment of four interrelated conditions – cardiovascular disease, heart failure, metabolic and renal diseases. Science continues to identify the underlying links between the heart, kidney and pancreas, and how the interconnectivity of these organs is reflected in the relationship of the diseases that can occur. Damage to any one of these organs can cause the other organs to fail. Unfortunately, in many instances, these conditions are either under-diagnosed or not addressed early enough to avoid life-threatening complications. We are focused on delivering targeted treatment options that address the root cause of these diseases and help to manage complications.

Our ambition in CVRM

Our aim is to grow our already robust portfolio of medicines that address the multiple risk factors and co-morbidities across the spectrum of CVRM diseases. Our efforts are built on global randomised clinical trials that are as close as possible to clinical practice and real-world evidence (RWE) research. These help us gather vital insights into patient needs and clinical practice, and develop treatments that meet the requirements of both patients and HCPs.

Our ambition is as follows:

- Cardiovascular: to reverse atherosclerosis to halt morbidity and prolong life.
- Heart failure (HF): to eliminate HF as the first cause of hospitalisations, and cure HF with reduced ejection fraction (HFrEF).
- Renal: to eliminate dialysis.
- Metabolism: to eliminate non-alcoholic steatohepatitis (NASH) as a cause of liver failure and cure diabetes.

With our existing medicines and those in late-stage development, we are already delivering life-changing results in the four CVRM disease areas and their complications:

- Cardiovascular: *Brilinta*
- Heart failure: *Farxiga*, *Lokelma*
- Renal: *Lokelma*, *Evrenzo* (roxadustat), *Farxiga*
- Metabolism: *Brilinta*, *Farxiga*, *Bydureon*.

We additionally have a pipeline of more than 25 therapies and therapy combinations and believe we have a comprehensive portfolio of potential medicines that might combat these life-threatening conditions.

Beyond our research, we also invest in strategic partnerships to better educate stakeholders about these diseases and improve patient access to healthcare worldwide.

Therapy Area Review
Cardiovascular, Renal & Metabolism *continued*

2020 pipeline highlights

Our pipeline includes biologics, small molecules, antisense oligonucleotides, mRNA, ProTACs and cell therapy. We are researching pioneering approaches in the field of disease regression and organ regeneration for conditions such as CKD, CAD, chronic HF, diabetes and NASH.

We are constantly building and investing in cutting-edge technologies to fast-forward the pace of our science, and by investing in a cell therapy department, we aim to develop the next wave of medicines that can halt or reverse the damage caused by some of the most complex diseases. We are also leveraging the power of precision medicine to target specific patient populations using genetic signatures or biomarkers to address patients with high unmet medical need and where there remains very few treatment options.

Full details are given in the Development Pipeline, see from page 245, and highlights from the progress of our CVRM pipeline made in 2020 against our KPIs are shown below.

Life-cycle phases – R&D

New molecular entity (NME) Phase II a/b starts/progressions

Product	Disease
AZD5718	CKD
AZD8233	Dyslipidaemia
MEDI6570	CAD

NME and major life-cycle management (LCM) positive Phase III investment decisions

Product	Disease
Farxiga/Forxiga	COVID-19 respiratory failure (DARE-19)
Farxiga/Forxiga	Prevention of heart failure and CV death following a myocardial infarction in patients without type-2 diabetes (DAPA-MI)

Investment decisions have been made for three projects. Two clinical trails have started and one is yet to start.

NME and major LCM regional submissions

Product	Disease	Region
Brilinta	Acute ischaemic stroke or transient ischaemic attack (THALES)	EU, US, China
Farxiga/Forxiga	Renal outcomes and cardiovascular mortality in patients with chronic kidney disease (DAPA-CKD)	EU, US, Japan
Farxiga/Forxiga	Worsening heart failure or cardiovascular death in patients with HFrEF (DAPA-HF)	Japan, China

Life-cycle phases – approvals

NME and major LCM regional approvals

Product	Disease	Region
Brilinta/Brilique	CV outcomes trial (CVOT) in patients with CAD and type-2 diabetes without a previous history of MI or stroke (THEMIS)	US
Brilinta/Brilique	Acute ischaemic stroke or transient ischaemic attack (THALES)	US
Farxiga/Forxiga	Worsening heart failure or cardiovascular death in patients with HFrHF (DAPA-HF)	EU, US, Japan
Farxiga/Forxiga	Type-2 diabetes CVOT (DECLARE)	China
Lokelma	Hyperkalaemia	Japan

Discontinued projects

Product	Disease	Reason
Brilinta/Brilique	Prevention of vaso-occlusive crises in paediatric patients with sickle cell disease (HESTIA)	Strategic
MEDI7219	Type-2 diabetes	Strategic
Qternmet XR/Qtrilmet (saxagliptin/dapagliflozin metformin)	Type-2 diabetes	Strategic
AZD6615	CV disease	Strategic
Farxiga/Forxiga	Heart failure with preserved ejection fraction (HFpEF) (DETERMINE-Preserved)	Strategic
Farxiga/Forxiga	Heart failure with reduced ejection fraction (HFrEF) (DETERMINE-Reduced)	Strategic

For more information on the life-cycle of a medicine, see page 9.

Working to improve patient outcomes

Our bold ambition can only be achieved by working with those who share our vision for a better future for those with CVRM diseases.

> In 2020, we entered into multiple strategic collaborations with healthcare innovators who share this vision to both further our understanding of CVRM diseases and look for ways to improve patient care. By working together to harness the power of digital and data science, we hope to enhance the delivery of medicines to patients, reduce inefficiencies throughout the patient journey and support patients in engaging with their own health, while building trusted data frameworks to connect health data to health research.

> By combining our expertise we look to transform the lives of patients and protect millions of people from the devastating consequences of CVRM diseases.

>5

strategic collaborations aim to address continued unmet patient need across CVRM diseases

20m

Up to 20 million people die from CVRM diseases each year

Therapy Area Review
Cardiovascular, Renal & Metabolism *continued*

2020 review – strategy in action

2020 saw label extensions across our current brand portfolio, supporting stable performances from our *Farxiga* franchise across type-2 diabetes and HF, and strong launches with roxadustat and *Lokelma*. Our pipeline remains strong, well balanced and grows with existing products, LCMs and multiple NMEs. We continue to drive best-in-class clinical programmes aimed at elucidating the commonalities and interconnectedness between these diseases and their complications.

Metabolism

Data from the landmark Phase III DECLARE-TIMI 58 trial for *Farxiga*, part of the DapaCare clinical programme which demonstrated the effective reduction in HF risk in a broad range of people with type-2 diabetes, provided the basis for the label update in China. The National Medical Products Administration (NMPA) in China has updated the *Forxiga* label to include data that demonstrate a statistically significant reduction in the composite endpoint of hospitalisation for heart failure (hHF) or cardiovascular (CV) death, versus placebo, in adults with type-2 diabetes and established CV disease or multiple CV risk factors.

NASH prevalence is growing and is a major public health burden. We are looking at how we can accelerate and broaden our portfolio in NASH. Our GLP-1 glucagon dual peptide, cotadutide, was granted Fast Track designation by the FDA for NASH and we continue to progress our novel precision medicine programme with AZD2693, an antisense oligonucleotide.

Heart failure

As part of our efforts to prevent, treat and cure HF as a leading cause of death, we are developing treatments that include earlier intervention across interconnected conditions such as type-2 diabetes. As indicated above, the DECLARE-TIMI 58 trial provided evidence of *Farxiga*'s effectiveness in the prevention of HF, and in cardio-renal protection. Meanwhile the landmark Phase III DAPA-HF trial, showed that *Farxiga* reduced the risk of CV death and the rate of hospitalisation from HF in patients with HFrEF with and without type-2 diabetes. The FDA, EMA, Ministry of Health, Labour and Welfare of Japan, and China's National Medical Products Administration (NMPA) approved *Farxiga* for the treatment of HFrEF patients with and without type-2 diabetes and it is under review in several other regions.

During the period, the Group obtained results from the DETERMINE-preserved and DETERMINE-reduced function and symptom trials, evaluating *Farxiga* as a treatment for HFpEF and HFrEF, respectively. These trials had the same primary endpoints. In the DETERMINE-reduced trial, *Farxiga* demonstrated a statistically significant reduction in HF symptoms, as measured by the Kansas City Cardiomyopathy Questionnaire (KCCQ)-Total Symptom Score, versus placebo. This trial did not, however, show a change from baseline in the distance walked in six minutes, and the KCCQ-Physical Limitation Score. The DETERMINE HFpEF trial did not meet any of the three aforementioned endpoints. No new safety concerns were identified.

Our extensive clinical programme includes several more Phase III trials for the potential cardio-renal benefits of *Farxiga*, DAPA-CKD, and DELIVER. These will explore its effectiveness in addressing areas of high unmet medical need in HF and CKD. The large randomised DELIVER Phase III trial, evaluating *Farxiga* in HFpEF, is expected to read out in the second half of 2021.

HF patients are often prescribed life-saving renin-angiotensin-aldosterone system inhibitors (RAASi), which lead to elevated potassium levels. These patients have an increased risk of developing hyperkalaemia, which can be life threatening if left untreated. *Lokelma* is a treatment for hyperkalaemia which was launched in the US and EU in 2019. Data from the Phase II PRIORITIZE-HF trial, designed to evaluate the benefits and risks of using *Lokelma* to initiate and intensify RAASi therapy in HF patients, is anticipated in 2021.

We continue to explore opportunities in HFpEF, including investigation of AZD4831 (MPO), and initiation of a Phase II trial with verinurad (currently also being investigated for CKD). We also have a *Farxiga* combination with AZD9977, a mineralocorticoid receptor modulator, moving into Phase II in heart failure. This is one of the first of several *Farxiga* combinations moving into mid-stage development across CVRM indications with the aim of extending the life cycle of *Farxiga*.

We are also rapidly progressing our research efforts in the fields of stem cell and cellular regeneration of tissues with the potential to treat life-threatening cardiovascular diseases such as heart failure.

Cardiovascular disease

In working towards our objective of eliminating CV residual risk and stopping disease progression, we believe we are already making a difference in patients with CAD, including those who are at high risk of experiencing a first heart attack or stroke, with the approval of the expanded indication in the US, based on the THEMIS trial.

Strokes remain a significant cause of mortality and disability, and a transient ischaemic attack (TIA) can be a warning of a future stroke – these individuals are at a high risk of a subsequent CV event. Detailed results from the Phase III THALES trial, as published in *The New England Journal of Medicine*, showed *Brilinta*, taken with aspirin for 30 days, reduced the rate of the primary composite endpoint of stroke and death by 17% (ARR, 1.1%; HR 0.83 95% CI 0.71, 0.96, p=0.02), compared to aspirin alone in patients who had an acute ischaemic stroke or TIA. The FDA approved *Brilinta* for the reduction of subsequent stroke in patients who experienced an acute ischaemic stroke or high-risk TIA.

Our development strategy is focused on targeting the drivers of inflammation and dyslipidaemia in order to improve blood flow to vital organs. AZD8233, our PCSK9 inhibitor, focuses on preventing long- and short-term tissue damage by tackling LDL cholesterol. Raised LDL cholesterol is a key risk factor for cardiovascular disease and is estimated to cause 2.6 million deaths worldwide each year. Whilst PCSK9 is a well-validated target for lowering LDL cholesterol it has been a hugely challenging target to inhibit with small molecules. We entered into an agreement with Dogma Therapeutics to develop the first potential small molecule, orally bioavailable PCSK9 inhibitor, for patients at risk of cardiovascular disease.

We are also exploring MEDI6570 (LOX1), that prevents tissue damage following a cardiovascular event, and addressing macro- and microvascular dysfunction resulting from the widespread systemic inflammation of major and minor blood vessels.

Renal diseases

CKD is a progressive disease that can eventually lead to end-stage kidney disease (ESKD), with the potential for dialysis and serious life-threatening complications. To help transform the lives of more patients, we are investigating the potential of roxadustat, *Lokelma* and *Farxiga* to manage these complications and reduce disease progression.

In August 2020, we presented detailed results from the ground-breaking DAPA-CKD Phase III trial showing that *Farxiga* on top of standard of care reduced the composite measure of worsening of renal function or risk of CV or renal death compared to placebo in patients with CKD Stages 2-4 and elevated urinary albumin excretion. The results were consistent in patients both with and without type-2 diabetes. The trial also met all secondary endpoints, including significantly reducing death from any cause compared to placebo.

Roxadustat is an oral hypoxia inducible factor prolyl hydroxylase (HIF-PH) inhibitor that has the potential to transform the lives of people living with anaemia of CKD, both on dialysis and not on dialysis.

Roxadustat is currently approved in China and Japan under the name *Evrenzo* for the treatment of anaemia in CKD in non-dialysis dependent (NDD) and dialysis-dependent adult patients.

People living with CKD are at an increased risk of developing hyperkalaemia. *Lokelma*, a highly selective, oral potassium-removing agent, was approved for the treatment of hyperkalaemia in Japan in March 2020, and received label updates in the US, EU and China to include patients with hyperkalaemia on chronic and stable haemodialysis in April, May and November 2020, respectively.

In order to help address the unmet medical need in CKD, we are exploring the clinical science behind our medicines with DELIGHT, an exploratory Phase II/III trial, also part of the DapaCare programme. The trial evaluates the potential albuminuria-lowering effect of *Farxiga* in the treatment of CKD and type-2 diabetes.

Our vision for the future is to stop progression of ESKD. We accelerated MEDI3506 into Phase II for diabetic kidney disease and AZD5718 (FLAP) for CKD, and continue to investigate new molecules such as MEDI8367 and AZD2373. AZD2373 targets the mRNA for APOL1 and has shown encouraging results in preclinical models. Several variants of the APOL1 gene evolved in sub-Saharan West Africa providing protection from Trypanosoma infections, but people carrying two copies of these variants have an increased risk for developing CKD. APOL1 knockdown through ASOs is being explored with the aim of being a precision medicine in CKD and, if successful, would provide a novel treatment option for patients with APOL1-mediated CKD.

Our GLP-1 glucagon dual peptide, cotadutide, has started Phase II trials, also in diabetic kidney disease. We have a *Farxiga* combination moving into Phase II for CKD indications with a selective endothelin A antagonist, zibotentan, otherwise known as AZD4054.

We are now using AI and large data sets to identify novel targets, and as part of our collaboration with BenevolentAI, we identified our first novel AI-generated CKD target.

Beyond research

We have made a long-term investment to improve CVRM patient care through a multi-disciplinary programme called Accelerate Change Together (ACT).

ACT on HF aims to improve the lives of HF patients by reducing HF hospitalisations by half and improving five-year survival rates by 20% by 2024. The initiative seeks to elevate HF as a healthcare priority, increase diagnosis rates and improve management of patients. In partnership with the World Heart Federation (WHF), we are raising awareness of HF and the need to improve prevention, diagnosis and treatment of HF. Through our support for WHF's flagship global public health platform, World Heart Day, we are also raising awareness of all causes of cardiovascular disease and championing heart health for everyone.

ACT on CKD seeks to transform kidney health and reduce the number of patients developing kidney failure by 20% by 2025. We aim to achieve this by raising awareness of kidney disease, expand early diagnosis and transform management of CKD. In partnership with the International Society of Nephrology (ISN) we intend to raise awareness of CKD and enhance education on the importance of early diagnosis among the general public, patients, healthcare professionals and policymakers worldwide.

The ACT programmes are already running in over 40 countries.

We also invest in programmes to improve patient access to healthcare. Some of our most notable programmes include Healthy Heart, which addresses hypertension and the increasing burden of CV disease (see page 74 for more information); and One Brave Idea, which aims to understand the molecular events surrounding the earliest transition from wellness to disease in coronary heart disease.

We have also entered into strategic collaborations with healthcare innovators to further explore our understanding of CVRM diseases, with the aim of harnessing data, new technologies and digital health to transform the lives of patients and clinical practice.

In March, we entered into a multi-target collaboration with Silence Therapeutics to discover, develop and commercialise small interfering RNA (siRNA) therapeutics for the treatment of cardiovascular, renal, metabolic and respiratory diseases. The collaboration will harness Silence's established mRNAi GOLD™ (GalNAc Oligonucleotide Discovery) Platform, bringing an exciting new modality into our drug discovery toolbox.

In August 2020, we announced our collaboration with two distinct digital health innovators, Eko Health and Us2.ai, in order to leverage the use of digital health solutions to facilitate the management of HF to more patients. The collaborations aim to drive practice-changing solutions for HF screening, diagnosis and management through the use of artificial intelligence (AI) and technology to enable earlier and more accurate prediction of HF risk and CV complications.

In the same month, we entered into a collaboration with RenalytixAI to develop and launch precision medicine strategies for CVRM diseases. Together, we will use an AI-enabled in vitro diagnostic platform to help identify previously hidden high-risk patient groups and accelerate patient identification and recruitment for clinical trials. The first stage of the collaboration is now under way.

We are continuing our collaboration with the NHS through Imperial College Health Partners (London, UK) who are leading Discover-NOW, the Health Data Research Hub for real world evidence (RWE). Together, we are exploring the potential of RWE, with new tools and technologies to transform clinical care pathways, resulting in better management and prevention of various long-term conditions such as type-2 diabetes and HF. This programme has huge potential to revolutionise how we are partnering with health systems and academic bodies to deliver the right care to the right patients at the right time.

Respiratory & Immunology

We aim to fundamentally transform the treatment of respiratory and immune-mediated diseases, with the bold ambition to eliminate preventable attacks and achieve durable remission or even cure for millions of people with these potentially devastating conditions.

Unmet medical need and world market

More than 700 million people have asthma or COPD. Despite currently available medicines, therapeutic advances are needed to reduce morbidity and mortality.

Lupus is a debilitating autoimmune condition affecting up to five million people. No new medicines have been approved in nearly a decade.

The epithelium is the first line of defence in the human body; interaction between the airway epithelium and bacteria, viruses, allergens or pollution can result in the release of epithelial cytokines, driving inflammation.

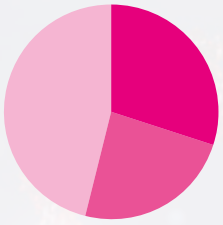
339m
339 million individuals worldwide have asthma and more than 60% of patients have uncontrolled disease. Prevalence is expected to rise.

10%
Severe asthma accounts for about 10% of asthma patients but 50% of the physical and socio-economic burden of asthma.

384m
Globally, 384 million people have COPD, and it is the third leading cause of death worldwide. COPD exacerbations represent a significant burden for patients, carers and society. COPD costs are estimated to exceed $100 billion per year globally.

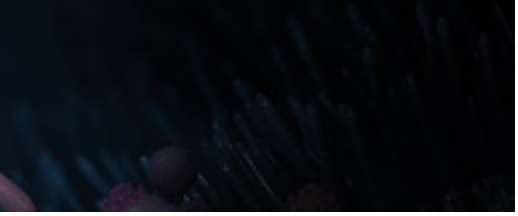
Therapy area world market
(MAT/Q3/20)

$71.8bn
Annual worldwide market value



- Asthma $21.6bn
- COPD $17.3bn
- Other $33.0bn

Source: IQVIA. AstraZeneca focuses on specific segments within this overall therapy area market.



Key marketed products and revenues 2020

Despite significant challenges created by the COVID-19 pandemic, our medicines achieved sales of $5.4 billion, representing a decline of 1% (0% at CER). Key growth drivers for Respiratory & Immunology were *Fasenra* and *Symbicort* and, in the late stages of 2020, *Breztri Aerosphere (Breztri).*

Fasenra was the leading novel biologic in new-to-brand prescriptions in key markets around the world. *Symbicort* strengthened its class leadership in 2020, driven by strong performances in the US, Europe and Emerging Markets, the anti-inflammatory reliever indication in 35 countries, launch of our authorised generic in the US and COVID-19-driven repeat prescribing in the first quarter. *Breztri*, our triple therapy, was launched in COPD in China and the US, achieving $28m in sales.

Respiratory & Immunology Product Sales

$5,357m

21% of total

2019: $5,391m

2018: $4,911m

Product	Disease area	Revenue	Commentary
Symbicort (budesonide/ formoterol)	Asthma COPD	↑ $2,721m, up 9% (10% at CER)	Continued volume and value leadership of the inhaled corticosteroid/long-acting beta2-agonist (ICS/LABA) class; growth driven by US, Europe and Emerging Markets. Pricing pressure is expected to continue in major territories such as the US and EU.
Pulmicort (budesonide)	Asthma	↓ $996m, down 32% (32% at CER)	*Pulmicort* sales were significantly affected by COVID-19. In-hospital paediatric use of nebulised *Pulmicort* reduced significantly at the start of the pandemic.
Fasenra (benralizumab)	Severe asthma	↑ $949m, up 35% (34% at CER)	*Fasenra* was the leading biologic in new-to-brand prescriptions in key markets around the world.
Daliresp/Daxas (roflumilast)	COPD	↑ $217m, up 1% (1% at CER)	Growth driven by favourable affordability-programme changes and inventory movements in the US.
Duaklir (aclidinium/ formoterol)	COPD	↓ $75m, down 10% (10% at CER)	Growth in Europe is in line with expectations. AstraZeneca and Circassia terminated their collaboration for commercial rights to *Duaklir* in the US in May 2020 and agreed a transition period during which Circassia is continuing to commercialise the medicine to ensure ongoing patient access.
Tudorza/Eklira (aclidinium)	COPD	↓ $68m, down 14% (15% at CER)	Reflects the flat long-acting muscarinic antagonist (LAMA) market. AstraZeneca and Circassia terminated their collaboration for commercial rights to *Tudorza* in the US in May 2020 and agreed a transition period during which Circassia is continuing to commercialise the medicine to ensure ongoing patient access.
Bevespi (glycopyrrolate/ formoterol)	COPD	↑ $48m, up 16% (15% at CER)	In 2020, we launched *Bevespi* in China and Germany.
Breztri (budesonide/ glycopyrrolate/ formoterol)	COPD	n/m $28m, movement n/m	*Breztri* launched in China and the US. In China, performance outpaced *Trelegy*, despite order of entry. The lifting of Japan's Ryotanki restriction accelerated uptake in Japan in the fourth quarter of 2020.
Others	Asthma COPD	↓ $273m, down 15% (15% at CER)	

Our strategy for Respiratory & Immunology

Our aim is to lead the science of respiratory medicine to transform the treatment of asthma and COPD by eliminating preventable asthma attacks across disease severities and removing COPD as a leading cause of death through earlier, biology-led treatment. In immunology, we are following the science and our expertise in key inflammatory pathways that are relevant in other immune-mediated conditions, with the ambition of achieving disease control and durable remission in areas of high unmet medical need.

Asthma

In asthma, we have a leading portfolio of inhaled and biologic medicines today and a pipeline for the future designed to address the challenges of this highly heterogeneous disease and reduce the vast unmet medical need for the majority of patients whose disease remains uncontrolled.

> The foundation of our strategy is to treat the underlying inflammation of the disease and eliminate patients' over-reliance on reliever medications such as short-acting beta2-agonist (SABA) across disease severities. Our inhaled anti-inflammatory reliever portfolio includes the leading ICS/LABA combination *Symbicort* and PT027, an ICS/SABA combination, currently in Phase III development.

> In severe disease, we are establishing ourselves as the leader in biologic medicines which aim to eliminate both asthma attacks and chronic use of oral corticosteroids, which is associated with debilitating side effects. Our portfolio addresses the different drivers of this complex, heterogeneous disease. *Fasenra* is a mAb approved in 59 countries indicated in patients with severe, eosinophilic disease. It binds directly to IL-5 receptor alpha on eosinophils and attracts natural killer cells to induce rapid and near-complete depletion of eosinophils via apoptosis (programmed cell death). Tezepelumab is a potential first-in-class mAb that inhibits the action of thymic stromal lymphopoietin (TSLP) – a key epithelial cytokine that works at the top of the inflammatory cascade. In its pivotal Phase III trial, tezepelumab, compared to placebo, significantly reduced the exacerbation rate in a broad population of severe asthma patients who are underserved by currently available biologic treatments.

> Our early portfolio is positioned to help more patients with uncontrolled disease by tackling alternative pathways not covered by current therapies and developing small molecules and new inhaled modalities with greater ease of use with the potential to enable greater access for patients. MEDI3506 (anti-IL-33 mAb) and AZD0449 (inhaled-JAK inhibitor) are two highly differentiated and promising early-stage medicines.

Therapy Area Review
Respiratory & Immunology *continued*

COPD
In COPD, our ambition is to eliminate COPD as a leading cause of death through early, biology-led intervention. Our strategy is to treat the underlying inflammation of the disease, intervene earlier in the treatment paradigm to halt disease progression and move beyond inflammation to address a broader set of disease drivers, including small airways remodelling, lung tissue destruction, mucous production and neuronal dysfunction.

> *Breztri* is indicated as a maintenance treatment for moderate to severe COPD, and is now approved in the US, China, Japan and the EU where it is marketed as *Trixeo Aerosphere.* Based on the growing body of evidence supporting triple therapies, we expect this class of medicines to become the largest in COPD.
> Biologic medicines, *Fasenra* and tezepelumab, which are in Phase III and Phase II trials respectively in COPD, target a range of disease processes, including eosinophilic and epithelial-driven inflammation. Our early COPD research looks beyond inflammation with assets such as MEDI3506.

Immunology
In 2020, we expanded the name of the respiratory therapy area to become 'Respiratory & Immunology', reflecting our growing presence in immune-mediated diseases. In immunology, our understanding of the imbalanced immune system in chronic lung diseases is being applied to immune-mediated inflammatory diseases that share key common pathways. Our ambition in immunology is to achieve disease control and ultimately clinical remission in targeted disease areas where the unmet medical need remains high.

In our mid- to late-stage portfolio, we are advancing five franchises with multi-disease potential across three key main pathways in epithelial damage, eosinophilia and type 1 interferon. Our potential multi-disease franchises in immunology include *Fasenra*, which is targeting seven diseases beyond respiratory disease, tezepelumab, MEDI3506, anifrolumab and brazikumab (an anti-IL-23), recently brought back to AstraZeneca and currently being developed for Crohn's disease (CD) and ulcerative colitis (UC).

The progress we are making in immunology complements our announcement to acquire Alexion (subject to regulatory clearances and approval by shareholders of both companies) and accelerate our ambition to become a leader in immunology in areas with high unmet medical need.

Respiratory infectious diseases
We have significant heritage in respiratory syncytial virus (RSV), having developed and launched *Synagis*, used for the prevention of serious lower respiratory tract infection (LRTI) caused by RSV in high-risk infants. See Infection on page 49 for more information.

Synagis is the current standard of care for high-risk infants and we are building on its efficacy by advancing nirsevimab, an extended half-life RSV mAb. It is being developed as a passive immunisation with the potential to provide immunity directly and offer immediate protection against RSV for a broader group of infants. Nirsevimab is being developed in conjunction with our collaborator Sanofi. See below for more information.

2020 pipeline highlights

Life-cycle phases – R&D

New molecular entity (NME) Phase II starts/progressions

Product	Disease
None	–

NME and major life-cycle management (LCM) positive Phase III investment decisions

Product	Disease
Anifrolumab	Systemic lupus erythematosus (subcutaneous)
Breztri	Asthma
Fasenra	Bullous pemphigoid (FJORD)
Fasenra	Eosinophilic gastritis/eosinophilic gastroenteritis (HUDSON)

Plus three projects where an investment decision was made, but the clinical trial is yet to start.

NME and major LCM regional submissions

Product	Disease	Region
Anifrolumab	Systemic lupus erythematosus	EU, US, Japan

Life-cycle phases – approvals

NME and major LCM regional approvals

Product	Disease	Region
Bevespi	COPD	China
Breztri Trixeo[1]	COPD	US, EU
Symbicort pressurised metered-dose inhaler (pMDI)	Asthma	EU
Symbicort[2]	Asthma	China

[1] *Trixeo* in the EU, *Breztri* in the US, Japan and China.
[2] In January 2021, Symbicort received regulatory approval in China for use in mild asthma.

Discontinued projects

Product	Disease	Reason
MEDI5117 China	Rheumatoid arthritis	Strategic
Abediterol	Asthma/COPD	Strategic
AZD5634	Cystic fibrosis	Safety/efficacy
Velsecorat	Asthma/COPD	Strategic

For more information on the life-cycle of a medicine, see page 9.

New frontiers in asthma

Completion of Phase III trial advances the science of severe asthma.

>60%

More than 60% of patients have uncontrolled asthma

Severe asthma patients are at an increased risk of mortality and experience twice as many asthma-related hospitalisations

The epithelium is the first line of defence for our body; interactions between the airway epithelium and viruses, allergy or pollution can result in the release of epithelial cytokines, driving inflammation. We are pioneering research on the role of three epithelial cytokines: thymic stromal lymphopoietin (TSLP), interleukin IL-33, and IL-25. These key cytokines activate multiple downstream innate and adaptive immune responses involved in asthma, COPD, atopic dermatitis and chronic kidney disease. AstraZeneca is bringing forward tezepelumab, a potential first-in-class human mAb that inhibits the action of TSLP, and which has completed its Phase III pivotal trial in severe asthma and MEDI3506, a mAb that inhibits IL-33 and which is in Phase I in COPD, Phase II in asthma, Phase II in atopic dermatitis and COVID-19.

2020 pipeline highlights *continued*

In 2020, highlights included positive results for the NAVIGATOR Phase III trial of tezepelumab in severe asthma, positive results in the OSTRO Phase III trial in chronic rhinosinusitis with nasal polyps (CRSwNP) for *Fasenra* and positive results in the ETHOS Phase III trial for *Breztri* leading to approvals for *Breztri* for maintenance treatment of COPD in the US and moderate to severe COPD in the EU (where it is marketed as *Trixeo*). Our early research in respiratory includes opportunities in idiopathic pulmonary fibrosis (IPF) and chronic cough. Regulatory submissions were also made in the US, EU and Japan for anifrolumab in systemic lupus erythematosus (SLE).

Full details of our pipeline are given in the Development Pipeline from page 245 and highlights from the progress of our Respiratory & Immunology pipeline made in 2020 against our KPIs are shown on previous page.

2020 review – strategy in action

Asthma

In 2020, we continued our leadership in transforming care across disease severities to address the significant unmet medical needs of this disease. The majority of patients are uncontrolled and there are 176 million asthma attacks each year.

At the foundation of asthma care, *Symbicort* continued its volume and value market leadership as the number one ICS/LABA combination globally 20 years after launch. The main drivers of growth were in Emerging Markets, particularly in China, launch of an authorised generic in the US, repeat prescribing in the first quarter due to COVID-19 and approvals of the anti-inflammatory reliever indication, which has now been achieved in 35 countries.

Our second anti-inflammatory reliever, which we are developing for US patients is PT027, a fixed-dose combination of budesonide (an ICS) and albuterol, a short-acting beta2-agonist (SABA). Results from two Phase III trials in patients with mild-to-moderate asthma, conducted by our co-development collaborator, Avillion, are expected to read out in 2021.

Breztri, our triple therapy, is also being studied in asthma and the Phase III pivotal trials, KALOS was initiated in January 2021.

In severe asthma, where our aim is to eliminate both asthma attacks and chronic use of oral corticosteroids, we are on track to be the leader in biologic medicines and address the different drivers of this complex, heterogeneous disease. Our first respiratory biologic, *Fasenra*, reached more than 70,000 patients with severe eosinophilic asthma, retaining its position as the leading novel biologic in new-to-brand prescriptions in key markets around the world. The rapid adoption of the *Fasenra Pen* in several markets was in part driven by the COVID-19 pandemic, keeping patients out of hospital and able to manage their treatment at home. Approximately 40% of patients now self-administer *Fasenra*. A significant increase in enrolment in our patient support programme, Connect 360, was seen in 2020 further supporting self-care in response to COVID-19. More than 30,000 patients across 29 countries have enrolled in this programme.

In October 2020, we announced high-level results from the PONENTE Phase IIIb open-label trial, which showed OCS-dependent asthma patients across baseline blood eosinophil counts receiving *Fasenra* were able to eliminate the use of maintenance OCS. On the first primary endpoint, 62% (95% CI: 58.2-66.1) of patients achieved complete elimination of daily OCS use. On the second primary endpoint, 81% (95% CI: 77.2-83.7) of patients achieved complete elimination or were able to reduce their daily OCS dose to 5mg or less when further reduction was not possible due to adrenal insufficiency. Both primary endpoints were sustained for at least four weeks while maintaining asthma control.

In November 2020, we announced with our collaborator Amgen the positive high-level results from the NAVIGATOR Phase III registrational trial which met the primary endpoint with tezepelumab added to standard of care (SoC) demonstrating a statistically significant and clinically meaningful reduction in the annualised asthma exacerbation rate (AAER) over 52 weeks in the overall patient population, compared to placebo when added to SoC. SoC was medium- or high-dose ICS plus at least one additional controller medication with or without OCS.

In the subgroup of patients with baseline eosinophil counts less than 300 cells per microlitre, the trial also met the primary endpoint, with tezepelumab demonstrating a statistically significant and clinically meaningful reduction in AAER. Similar reductions in AAER were observed in the subgroup of patients with baseline eosinophil counts less than 150 cells per microlitre.

In December 2020, we announced that the SOURCE Phase III trial of 150 patients did not meet the primary endpoint of a statistically significant reduction in the daily OCS dose, without loss of asthma control, with tezepelumab compared to placebo in patients with severe, OCS-dependent asthma. Tezepelumab's effect on other efficacy

parameters was similar to those observed in previous trials, including the NAVIGATOR Phase III registrational trials. Full results from the NAVIGATOR and SOURCE trials will be presented at a forthcoming medical meeting.

Chronic rhinosinusitis with nasal polyps

Fasenra is also in development for other respiratory diseases driven by eosinophils. Chronic rhinosinusitis with nasal polyps (CRSwNP) is characterised by persistent inflammation of the nasal passages and sinuses accompanied by benign growths called nasal polyps, which can block nasal passages and lead to breathing problems, reduction in the sense of smell, nasal discharge, sleep disturbance and other adverse effects on quality of life. High-level results from the OSTRO Phase III trial showed that *Fasenra* compared with placebo met both co-primary endpoints by demonstrating a statistically significant improvement in the size of nasal polyps and in nasal blockage in patients with CRSwNP.

COPD

The focus with our triple combination therapy, *Breztri*, is on treating the underlying inflammation of the disease and reducing COPD exacerbations, which are often under-reported and undertreated, despite causing irreversible lung damage and disease progression. Evidence supporting the benefits of triple therapy is driving the growth of its class, and we expect it to be the largest class of medicines in COPD in the future.

In 2020, we achieved approval for *Breztri* in the US and EU and launched *Breztri* in China and the US. We have delivered strong launches, specifically in China with *Breztri*, significantly outperforming competition and capturing the majority of market share. In the US, *Breztri* has performed better than the competitor's launch. In December 2020, *Breztri* was included in China's NRDL which will further support growth.

In June 2020, *The New England Journal of Medicine* published results from the Phase III ETHOS trial which demonstrated a statistically significant reduction in the rate of moderate or severe exacerbations compared with two different types of dual-combination therapies (*Bevespi* and PT009 – an ICS/LABA combination). As an additional analysis in a key secondary endpoint, *Breztri* showed a 49% reduction in the risk of all-cause mortality compared with *Bevespi* (unadjusted p=0.0035*). The trial also demonstrated benefit in a second dose of our fixed triple-combination therapy: at half of the budesonide dose, (budesonide/glycopyrronium/formoterol fumarate 160/14.4/9.6mcg), a dose that is not licensed for use.

In May 2020, it was announced that Circassia would hand back marketing rights for dual-combination therapy *Duaklir* and monotherapy *Tudorza* to AstraZeneca.

* Re: unadjusted p-value: The p-value is considered unadjusted, due to an endpoint in the Type I error control testing hierarchy not reaching significance.

Immunology

We made significant advances in immune-driven diseases.

SLE is the most common type of lupus and a debilitating, chronic immune-driven disease. Only one new medicine has been approved for SLE in the last 60 years, and there is an urgent medical need to bring new medicines to patients. Patients often rely on prolonged use of OCS, which can increase the risk of permanent organ damage and other poor health outcomes. Anifrolumab is a developmental mAb that inhibits the activity of type I interferons and suppresses the activation of B and T cells that contribute to the cycle of tissue destruction and inflammation seen in SLE.

In the second half of 2020, we received regulatory submission acceptances for anifrolumab from the FDA, EMA and PDMA Japan for the treatment of adult patients with moderate-to-severe SLE. Our submissions were based on results from the two TULIP Phase III trials and the MUSE Phase II trial, in which a reduction in disease activity and OCS use, and improvement in lupus skin activity were observed with anifrolumab added to standard therapy compared to placebo and standard therapy. Anifrolumab has a well-characterised safety profile, based on the safety and tolerability findings across all three trials.

At the European League Against Rheumatism annual conference, we presented pooled analysis from the TULIP trials showing the consistent clinical benefits of anifrolumab across multiple measured patient subgroups, including age, sex, age at onset and race, compared to placebo. At the American College of Rheumatology Annual Meeting, we presented pooled analysis that showed 40% of patients treated with anifrolumab plus standard therapy had a sustained reduction in OCS use without experiencing a disease flare through 52 weeks versus placebo plus standard therapy (17.3%).

Eosinophils are white blood cells and part of the immune system that, when working normally, help fight disease and infection. Having too many activated eosinophils may contribute to disease pathology and the self-perpetuating cycle of inflammation and damage across a range of debilitating diseases. *Fasenra* is being investigated in seven Phase II and Phase III trials in eosinophil-driven diseases beyond the three respiratory diseases of severe asthma, COPD and CRSwNP. First subjects have been dosed in trials for atopic dermatitis, chronic spontaneous urticaria, eosinophilic esophagitis, eosinophilic granulomatosis with polyangiitis and hypereosinophilic syndrome. We have also initiated Phase III trials in bullous pemphigoid and eosinophilic gastritis/eosinophilic gastroenteritis.

We recovered the global rights to brazikumab (formerly MEDI2070), mAb targeting IL-23, from Allergan. Brazikumab is a mAb that binds to the p19 subunit of IL-23 and is in development for CD and UC alongside development of a companion diagnostic. Brazikumab selectively blocks the IL-23 immune signal, reducing intestinal inflammation. With current biologic medicines, 40% to 55% of patients have no response to therapy, and 65% to 80% of patients do not experience a full remission. Brazikumab is currently in a Phase IIb/III programme in CD and a Phase II trial in UC, and we will work to bring this potential new treatment option to patients as quickly as possible.

Respiratory infectious diseases

In July, *The New England Journal of Medicine* published the Phase IIb trial in which nirsevimab showed a significant reduction in medically-attended LRTI and hospitalisations caused by RSV in healthy preterm infants compared with placebo. Nirsevimab has a more efficient dosing regimen than *Synagis* (which requires monthly injections for five months to cover a typical RSV season) and demonstrated for the first time that a single-dose mAb can significantly reduce medically-attended RSV LRTI, including bronchiolitis and pneumonia, in infants throughout the full RSV season, compared with placebo.

Early science

Compounds in early-stage development include: MEDI3506 (Phase I in COPD and Phase II in asthma; Phase II in atopic dermatitis and COVID-19), a mAb that inhibits IL-33, a key upstream epithelial cytokine that is functionally distinct from TSLP; AZD0449 (Phase I), a potential first-in-class inhaled JAK-inhibitor being developed for a broad population of asthma patients, intended as a step-through therapy between ICS therapy and biologics.

In our early research and development, we are also advancing the science of other chronic respiratory diseases with great unmet medical need, including IPF and chronic cough. In August 2020, we announced a licensing agreement with Redx Pharma for RXC006 – an oral small molecule, preclinical porcupine inhibitor. We will move RXC006 into clinical development targeting fibrotic diseases including IPF, a chronic, progressive, irreversible and usually fatal interstitial lung disease for which there are limited treatment options available. The porcupine inhibitor targets multiple disease drivers which may offer a competitive advantage over other investigative treatments for IPF.

Therapy Area Review
continued

Other Medicines and COVID-19

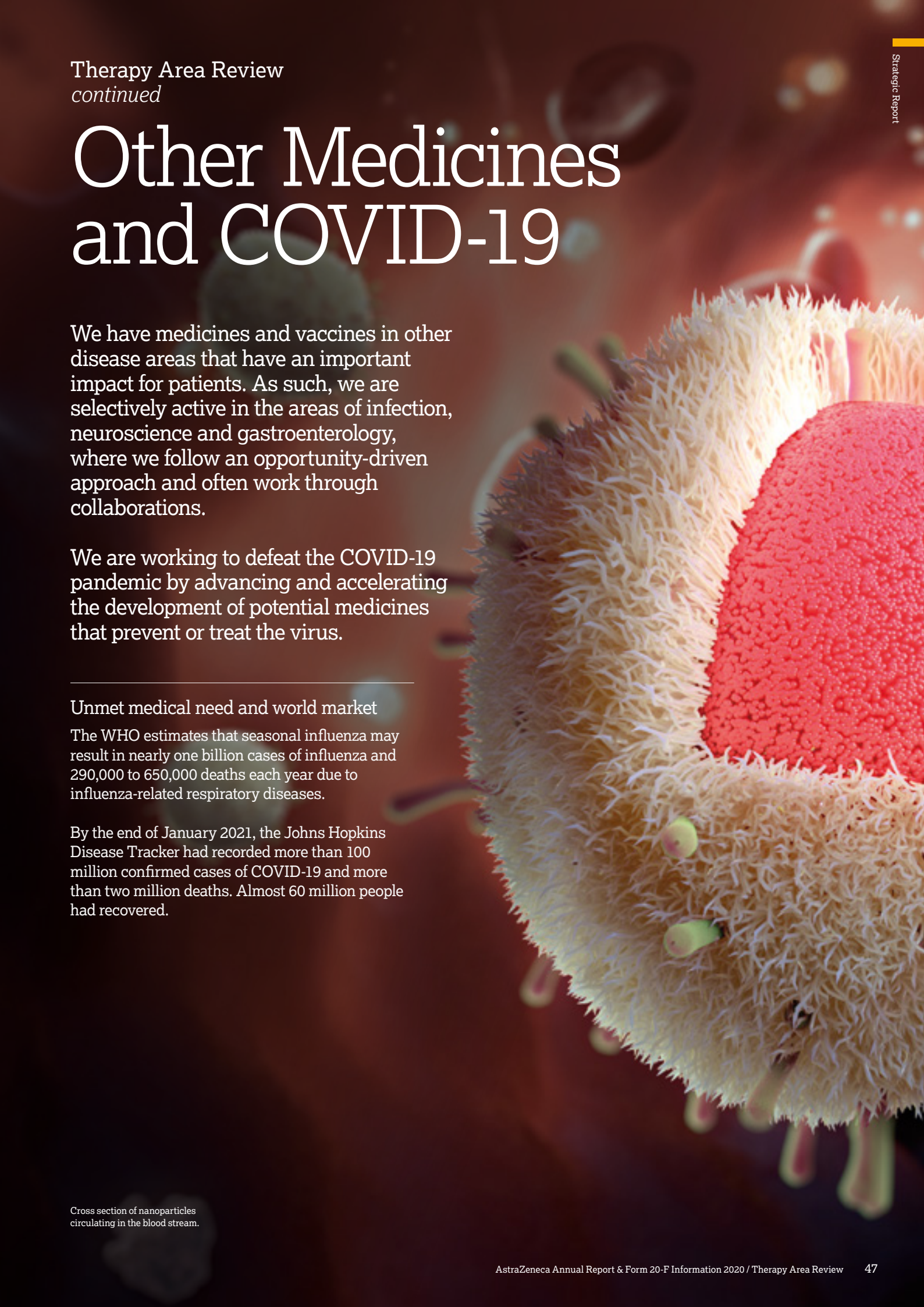
We have medicines and vaccines in other disease areas that have an important impact for patients. As such, we are selectively active in the areas of infection, neuroscience and gastroenterology, where we follow an opportunity-driven approach and often work through collaborations.

We are working to defeat the COVID-19 pandemic by advancing and accelerating the development of potential medicines that prevent or treat the virus.

Unmet medical need and world market

The WHO estimates that seasonal influenza may result in nearly one billion cases of influenza and 290,000 to 650,000 deaths each year due to influenza-related respiratory diseases.

By the end of January 2021, the Johns Hopkins Disease Tracker had recorded more than 100 million confirmed cases of COVID-19 and more than two million deaths. Almost 60 million people had recovered.



Cross section of nanoparticles circulating in the blood stream.

Therapy Area Review
Other Medicines and COVID-19
continued

Key marketed products and revenues 2020

Nexium is continuing to perform in line with expectations in all AstraZeneca retained markets including China, given pressures from generic competition. *Fluenz* Tetra/*FluMist* Quadrivalent performed strongly driven primarily by heightened focus on increased vaccination coverage as a means to further limit healthcare burden given the ongoing COVID-19 pandemic. *Fluenz* Tetra/*FluMist* Quadrivalent continues to be licensed in multiple markets, including the US, Canada, EU, Israel and Hong Kong, and it remains a central part of the UK and Finnish paediatric national influenza vaccination programmes. For the 2020-21 flu season, we have increased production of vaccine doses by more than 150% over the previous season and delivered our highest volume of flu vaccine. Total Revenue included $2 million of *COVID-19 Vaccine AstraZeneca* Product Sales.

Other Medicines and COVID-19 Product Sales

$2,587m
10% of total
2019: $2,601m
2018: $3,400m

Product	Disease area	Revenue	Commentary
Other medicines			
Infection			
Synagis (palivizumab)	RSV	↑ $372m, up 4% (4% at CER)	Divested US rights to Sobi. AbbVie holds rights to *Synagis* outside the US until 30 June 2021, after which AstraZeneca will, in general, solely distribute and promote the medicine outside the US.
Fluenz Tetra/ *FluMist* Quadrivalent (live attenuated influenza vaccine)	Influenza	↑ $295m, up 161% (153% at CER)	Approved in the US, EU, Canada, Israel and Hong Kong. Daiichi Sankyo holds rights to *FluMist* Quadrivalent in Japan.
Neuroscience			
Seroquel IR/ *Seroquel XR* (quetiapine fumarate)	Schizophrenia Bipolar disease	↓ $117m, down 39% (37% at CER)	Divested rights in Europe and Russia in October 2019 and in US and Canada in December 2019 to Cheplapharm. Luye Pharma holds rights to *Seroquel* and *Seroquel XR* in the UK, China and other international markets. The rights to *Seroquel* and *Seroquel XR* in Japan are partnered with Astellas.
Vimovo (naproxen and esomeprazole)	Osteoarthritic pain	↑ $37m, up 1% (down 1% at CER)	Licensed from Pozen and divested worldwide rights (ex-US) to Grünenthal in October 2018. Divested US rights to Horizon Pharma Inc. since November 2013.
Movantik/ *Moventig* (naloxegol)	Opioid-induced constipation	↓ $33m, down 68% (68% at CER)	Licensed from Nektar Therapeutics. Kyowa Kirin has held rights in the EU since March 2016. Knight Therapeutics Inc. has held rights in Canada and Israel since December 2016. Co-commercialisation in the US with Daiichi Sankyo. In April 2020, AstraZeneca signed an agreement to sublicense its global rights to *Movantik* (naloxegol), excluding Europe, Canada and Israel, to RedHill Biopharma (RedHill).
Gastroenterology			
Nexium (esomeprazole)	Proton pump inhibitor to treat acid-related diseases	↑ $1,492m, up 1% (2% at CER)	Divested European rights to Grünenthal in October 2018.
Losec/ *Prilosec* (omeprazole)	Proton pump inhibitor to treat acid-related diseases	↓ $183m, down 30% (30% at CER)	In October 2019, divested global commercial rights, excluding China, Japan, the US and Mexico to Cheplapharm.
COVID-19			
COVID-19 Vaccine AstraZeneca	COVID-19	↑ $2m	From the first quarter of 2021, AstraZeneca intends to report the *COVID-19 Vaccine AstraZeneca* sales performance separately.

2020 pipeline highlights

Full details of our pipeline are given in the Development Pipeline from page 245 and highlights from the progress of our Other Medicines and COVID-19 pipeline made in 2020 against our KPIs are shown below.

Life-cycle phases – R&D

New molecular entity (NME) Phase II starts/progressions

Product	Disease
AZD7442	Prevention and treatment of COVID-19
COVID-19 Vaccine AstraZeneca	COVID-19

NME and major life-cycle management (LCM) positive Phase III investment decisions

Product	Disease
AZD7442	Prevention and treatment of COVID-19
COVID-19 Vaccine AstraZeneca	COVID-19

Discontinued projects

Product	Disease	Reason
MEDI3902	Prevention of nosocomial Pseudomonas aeruginosa pneumonia	Safety/efficacy

For more information on the life-cycle of a medicine, see page 9.

Our strategy for Other Medicines

Our approach to other disease areas looks to maximise revenue of on market medicines, divest medicines, where this enhances shareholder value, and advance the novel medicine pipeline with collaborations where appropriate, whilst preserving a financial stake in the most promising assets.

2020 review – strategy in action

Infection

Seasonal influenza is a serious public health problem that causes severe illness and death in high-risk populations. *FluMist* Quadrivalent/ *Fluenz* Tetra continues to be licensed in multiple markets, including the US, Canada, EU, Israel and Hong Kong, and it remains a central part of the UK and Finnish paediatric national influenza vaccination programmes.

For the 2020-21 flu season, AstraZeneca will deliver its highest volume of flu vaccine supply to date, reflecting our ongoing, longstanding commitment to global public health and flu prevention. Specifically, we have increased the volume of available vaccine doses globally by more than 150 percent over the previous year due to higher demand and statements from global health authorities urging increased flu vaccination for the 2020-21 season due to the ongoing COVID-19 pandemic. This includes more than eight million doses delivered to support the childhood vaccinations through the UK's national immunisation programme during the 2019–20 season. In addition, we participate in both the US Centers for Disease Control and Prevention Vaccine for Children programme and Vaccine for Adult programme, which are federally funded programmes that ensure under or uninsured children and adults have access to vaccines at little or no cost. We also have an ongoing agreement with the WHO to donate and supply stock at reduced prices in the event of an influenza pandemic.

In June 2020, Public Health England published provisional end of season vaccine effectiveness (VE) data for the 2019–20 season in the UK. In children two to 17 years old, adjusted VE with *Fluenz* was 45.4% against all circulating strains and 30.5% against circulating A/H3N2 strains. VE data against the A/H1N1pdm09 strain was not available due to low strain circulation during the season. These latest data support the real-world effectiveness demonstrated by *Fluenz* Tetra and reinforce the public health importance of influenza vaccination as the most effective way to prevent influenza disease.

Respiratory syncytial virus (RSV) is a common seasonal virus and the most prevalent cause of LRTI among infants and young children. Since its initial approval in 1998, *Synagis* has become the global standard of care for RSV prevention and helps protect at-risk babies against RSV. Measures to combat COVID-19, including national and local lockdowns and stay at home orders, have likely led to significantly lower rates of RSV transmission, creating decreased demand and impacting sales for preventative options like *Synagis*. These COVID-19 impacts varied across markets.

The commercial rights to the sale and distribution of *Synagis* in more than 80 countries outside the US, held by AbbVie since 1997, will revert to AstraZeneca upon the expiry of the current agreement on 30 June 2021. In general, the Group will solely distribute and promote the medicine outside the US from 1 July 2021. The agreement with Swedish Orphan Biovitrum AB, for the rights to *Synagis* in the US, was unaffected by this decision.

Neuroscience

We are progressing MEDI7352, a bispecific molecule which targets both nerve growth factor and tumour necrosis factor alpha, in both painful diabetic neuropathy in Phase II and osteoarthritis pain in Phase IIb. Also in Phase I is MEDI0618, an anti-PAR2 (protease-activated receptor 2) antibody which we are also developing for osteoarthritis pain and migraine and AZD4041, a selective orexin 1 receptor antagonist, which is being developed for substance use disorder in a collaborative effort between AstraZeneca, Eolas Therapeutics and NIH.

We continue our collaboration with Takeda on MEDI1341 for Parkinson's disease, which is in Phase I.

We have a collaboration with Lilly on MEDI1814, an antibody selective for amyloid-beta 1-42 that is currently in Phase I as a potential disease-modifying treatment for Alzheimer's disease.

50

COVID-19 Vaccine AstraZeneca has been granted a conditional marketing authorisation or emergency use approval in more than 50 countries

180

Built supply capacity for billions of doses with agreements spanning more than 180 countries

170m

Advance Purchase Agreement with Gavi, the Vaccines Alliance, to supply 170 million doses of *COVID-19 Vaccine AstraZeneca* to the COVAX Facility for countries around the world.

COVID-19

We are working to defeat the pandemic by advancing and accelerating the development of potential medicines to prevent or treat COVID-19.

COVID-19 Vaccine AstraZeneca

In April, we announced an agreement with the University of Oxford to develop, manufacture and supply a potential vaccine to prevent COVID-19. Both parties shared a commitment to delivering it in a broad, equitable and timely way, and at no profit during the pandemic.

Technology

The vaccine was co-invented by the University of Oxford and its spin-out company, Vaccitech, and is a nonreplicating, recombinant adenoviral vector vaccine containing the genetic material of the SARS-CoV-2 virus spike protein. After vaccination, the surface spike protein is produced, priming the immune system to attack the virus if it later infects the body. The adenoviral vector vaccine is infected into 'producer' cells derived from a human cell line created more than 50 years ago, which rapidly divides, making copies of the potential vaccine and producing large amounts of the viral vector vaccine. After cell manufacture, the vaccine product is filtered and purified and undergoes a number of quality checks before the 'fill and finish' stage where the vaccine is packaged into multi-dose vials.

Clinical development programme

The programme of global clinical development for *COVID-19 Vaccine AstraZeneca* (AZD1222) is under way to measure efficacy, safety and immune response in up to 60,000 participants across a broad age range and diverse racial, ethnic and geographic groups.

Phase II/III trials are ongoing in the UK, US and Brazil, and Phase I/II trials are underway in South Africa, Japan and Kenya.

Regulators have clear and stringent efficacy and safety standards for the approval of any new medicine, including any potential COVID-19 vaccine. To progress the assessment of promising vaccines such as AZD1222 more flexibly, rolling reviews of data were implemented by many regulatory authorities such the European Medicines Agency, Health Canada, and Anvisa in Brazil. We are also seeking Emergency Use Listing from the World Health Organization (WHO) for an accelerated pathway to vaccine availability in low-income countries.

Published clinical data

The primary analysis of the Phase III clinical trials led by the University of Oxford with AZD1222 in the UK, Brazil and South Africa was announced on 3 February 2021. It confirmed that *COVID-19 Vaccine AstraZeneca* is safe and effective at preventing COVID-19 and that it protects against severe disease, hospitalisation and death.

The primary analysis for efficacy was based on 17,177 participants. Results demonstrated vaccine efficacy of 76% three weeks after the first dose, with protection maintained to the second dose. With an inter-dose interval of 12 weeks or more, vaccine efficacy increased to 82%.

Data continues to accumulate, including the upcoming final analysis and further follow-up, refining the efficacy reading and characterising vaccine efficacy over a longer period of time.

Authorisation and supply

The first authorisation for the vaccine occurred on 30 December 2020, when the UK Medicines and Healthcare products Regulatory Agency (MHRA) authorised *COVID-19 Vaccine AstraZeneca* for emergency supply in the UK for the active immunisation of individuals 18 years or older. The vaccine received conditional marketing authorisation (CMA) in the European Union on 29 January, 2021. By February 2021, the vaccine had been granted a CMA or emergency use approval in more than 50 countries spanning four continents, including Brazil, India, and South Africa, for the active immunisation of adults.

We are continuing to work with governments and regulatory bodies to bring the vaccine to more people across the world as quickly as possible.

In February 2021, WHO's Strategic Advisory Group of Experts on Immunization (SAGE) recommended *COVID-19 Vaccine AstraZeneca* for use in individuals 18 years of age and older, with a preferred dosing interval of eight to 12 weeks.

We are committed to supplying the vaccine at no profit during the pandemic and we will make it available to low-income countries at no profit in perpetuity. So far, we have built supply capacity for billions doses with agreements spanning more than 180 countries and multiple parallel supply chains across the world. Global manufacturing capacity is in place to begin mass supply on regulatory approval.

The pace and complexity of development has brought some challenges, including initially lower-than-expected yields at some manufacturing sites. We continue to work urgently with our supply partners to optimise this process to ensure the vaccine is produced at the scale and pace required while retaining the highest quality standards.

As part of our equitable access strategy, AstraZeneca concluded an Advance Purchase Agreement with Gavi, the Vaccines Alliance, to supply 170 million doses of *COVID-19 Vaccine AstraZeneca* to the COVAX Facility for countries around the world. Combined with committed supply of the vaccine from our licensing partner, the Serum Institute of India, this represents hundreds of millions of doses to COVAX.

Supply of the vaccine is facilitated by the fact that it can be stored at 2-8°C, enabling easy use within existing healthcare settings such as care homes and pharmacies, and in low-income countries.

AZD7442 (potential LAAB combination)

In addition to our work on a potential vaccine, we are researching potential preventative and treatment options. This includes the development of a combination of two novel coronavirus-neutralising long-acting antibodies (LAABs), AZD7442, which is being studied as a potential preventative option for people exposed to SARS-CoV-2, as well as to treat and prevent disease progression in patients already infected with the virus.

The two LAABs in AZD7442 were derived from convalescent patients after SARS-CoV-2 infection. Discovered by Vanderbilt University Medical Center and licensed to AstraZeneca in June 2020, AstraZeneca optimised the antibodies with half-life extension and reduced Fc receptor binding. The half-life extended LAABs should afford six to 12 months of protection from COVID-19 and the reduced Fc receptor binding aims to minimise the risk of antibody-dependent enhancement of disease – a phenomenon in which virus-specific antibodies promote, rather than inhibit, infection and/or disease.

In a *Nature* publication, the LAABs were shown in pre-clinical experiments to block the binding of the SARS-CoV-2 virus to host cells and protect against infection in cell and animal models of disease.

Several Phase III clinical trials of AZD7442 in more than 6,000 participants at sites in and outside the US are under way and additional trials are planned. PROVENT began in November and is evaluating the safety and efficacy of AZD7442 to prevent infection for up to six months in approximately 5,000 participants. STORM CHASER started in December to evaluate postexposure prophylaxis in approximately 1,100 participants. We are also evaluating AZD7442 in a late-stage trials for the treatment of COVID-19, including the Phase III TACKLE trial in non-hospitalised patients with mild to moderate COVID-19 and the National Institutes of Health-sponsored ACTIV-3 trial in hospitalised patients.

We have received support of around $486 million from the US Government for the development and supply of AZD7442 under an agreement with the Biomedical Advanced Research and Development Authority (BARDA).

Other new and existing medicines

As well as developing preventative approaches against the SARS-CoV-2 virus, in 2020 we initiated clinical trials to investigate AstraZeneca's new and existing medicines to treat the infection by suppressing the body's overactive immune response or protecting from serious complications, such as organ failure.

For example, we assessed *Calquence* (acalabrutinib), approved in a number of countries for the treatment of chronic lymphocytic leukaemia, in the suppression of the cytokine storm that inflames the lungs and other organs of some COVID-19 patients. The CALAVI Phase II trials for *Calquence* in patients hospitalised with respiratory symptoms of COVID-19 did not meet the primary efficacy endpoint of increasing the proportion of patients who remained alive and free of respiratory failure.

In the DARE-19 Phase III trial, we are assessing whether *Farxiga* could potentially reduce organ failure. *Farxiga* is being evaluated in combination with ambrisentan in the Cambridge University Hospitals NHS Trust's TACTIC-E Phase II trial.

We also joined the UK Government's ACCORD proof-of-concept clinical-trial platform, to speed the development of medicines for patients with COVID-19, evaluating the use of IL-33 mAb MEDI3506 in suppressing the overactive immune response that can characterise COVID-19. We are also supplying *Pulmicort* and *Symbicort* to externally sponsored research programmes.

In the longer term

From the first quarter 2021, AstraZeneca intends to report the performance of *COVID-19 Vaccine AstraZeneca* separately.

Our products

While this Therapy Area Review concentrates on our key marketed products, many of our other products are crucial to our business in certain countries in Emerging Markets.

For more information on our potential new products and product life-cycle developments, see the Therapy Area pipeline tables on pages 32, 38, 44 and 48 and the Development Pipeline table from page 245. For information on Patent Expiries of our Key Marketed Products, see from page 251.

Indications for each product described in this Therapy Area Review may vary among countries. See local prescribing information for country-specific indications for any particular product.

For those of our products subject to litigation, information about material legal proceedings can be found in Note 29 to the Financial Statements from page 228.

Details of relevant risks are set out in Risk from page 254.

Business Review

Our business is organised to deliver our strategic priorities sustainably, supporting continued scientific innovation and commercial success.

Pancreatic beta cells at different stages of regeneration.

Our way of working in 2020 benefited from the organisational changes we implemented in 2019 that were designed to support continued scientific innovation and commercial success. They did so by integrating R&D, and accelerating decision making and the launches of new medicines. We also enhanced our commercial functions to increase collaboration with our R&D organisation, enabling greater commitment to our main therapy areas.

We are committed to operating in a way that recognises the interconnection between business growth, the needs of society and the limitations of our planet.

Since 2007, we have made significant efforts to restructure and reshape our business to control costs and improve long-term competitiveness.

Full details are provided in the Financial Review from page 82.

Research & Development (R&D)

We have therapy area-focused R&D organisations that are responsible for discovery through to late-stage development – one for Oncology and one for BioPharmaceuticals (CVRM and Respiratory & Immunology). These are designed to enable us to follow the science by accelerating promising early-stage assets and life-cycle management programmes, as well as providing new opportunities for combinations.

Our R&D activities focus on three strategic R&D centres: Gaithersburg, MD, US; Gothenburg, Sweden; and Cambridge, UK.

Commercial

Our sales and marketing functions are grouped into regions. Two commercial units, one for Oncology and one for BioPharmaceuticals, align product strategy and commercial delivery across our US and Europe-Canada regions and focus on our main therapy areas. In addition, our International region comprises Emerging Markets, including China, Australia and New Zealand. Japan reports separately.

Our **Operations** function plays a key role in development, manufacturing, testing and delivery of our medicines to our customers. We also have **Business development, Intellectual Property** as well as **Information technology and information services resources**.

People

We aim to recruit, retain and develop talented people which we do by being a great place to work.

Sustainability

We want to be valued and trusted by our stakeholders as a sustainable source of great medicines over the long term. We deliver our business strategy sustainably and in a way that broadens access to our medicines, minimises the environmental footprint of our products and processes, and ensures that ethics and transparency underpin everything we do.

Research & Development

We are using our distinctive scientific capabilities to deliver a pipeline of life-changing medicines.

Overview

- Accelerated innovation in response to pandemic to ensure more than 80% of our clinical trials continued.
- Published 123 manuscripts in 'high-impact' journals.
- Using genomics to better predict the right target for our therapy areas.
- At the end of 2020, 30% of our early pipeline comprised new drug modalities.
- Trialling identification of patients at high risk of recurrence of lung cancer.
- Digital transformation helping quicker launch of clinical trials, such as CALAVI.
- Bioethics Advisory Group met eight times in 2020 and extended scope to include, for example, guidance on employee testing for COVID-19.

Transforming our science

Throughout 2020 we responded to the challenges posed by the COVID-19 pandemic by working to ensure the continuity of our research projects. By accelerating key elements of our clinical and digital innovation programmes, more than 80% of our clinical trials continued. Maintaining and improving the experience of patients was a particular priority.

Our unified approach across our R&D organisations in 2020 was guided by our 5R (right target, right patient, right tissue, right safety, right commercial potential) framework which champions quality over quantity. This focus on quality is exemplified by our research publications in 'high-quality' and 'high-impact' journals, a critical aspect for accelerating innovative science, and recruiting and retaining the best people. In 2020, our scientists published 123 manuscripts in 'high-impact' peer-reviewed journals, each with an impact factor exceeding 15 (Thomson Reuters 5yr IF score). The increase from the (revised) number of 111 in 2019, continues to reflect the drive to share our science, which also resulted in 890 publications in total, increasing from 870 in 2019.

In order to advance our scientific knowledge we are committed to investing in and embedding four key areas, which will help us in our aspiration to create the greatest and swiftest impact on disease. More information on these areas is provided below and in the case studies in this Annual Report, see pages 11, 23, 56 and 67.

Enhancing our understanding of disease

We are determined to advance our understanding of disease biology to uncover novel drivers for the diseases we aim to treat, prevent and, in the future, even cure. Selecting the right target remains the most important decision we make in the drug discovery process and we are investing in multiple approaches to improve this.

Our Centre for Genomics Research (CGR) is aligning genetic variants with clinical, biomarker and other disease-associated characteristics or phenotypes to provide new disease insights. One recent study using a cloud-based platform analysed more than three billion datasets within 24 hours and identified more than 8,700 disease associations within 330 distinct genes. This type of analysis has provided new disease understanding and resulted in the selection of new targets into our Respiratory & Immunology (R&I) discovery portfolio for idiopathic pulmonary fibrosis (IPF).

To support the validation of novel targets, we continue to build complex models of disease. For example, we are working to improve CRISPR gene editing accuracy and specificity, and develop an inducible CRISPR system for rapid and sustainable creation of cellular and animal disease models. We are pairing these approaches with bioinformatics and artificial intelligence to analyse the data generated from screening to help improve target identification.

We are also progressing our understanding of epigenomics and the potential of modulating epigenetic processes to deliver the next generation of cancer therapies. Many haematological and paediatric cancers are driven through epigenetic aberrations and we are focused on a next generation of epigenetic cancer therapeutics.

Designing the next generation of therapeutics

In our quest to transform disease, we are continuing to design new ways to target the drivers of disease and create the next generation of therapeutics. At the end of 2020, 30% of our early pipeline consisted of new drug modalities including oligonucleotide, antibody drug conjugate (ADC), and cell therapy approaches.

Following our 2019 collaboration with Daiichi Sankyo to develop and commercialise the ADC, now known as *Enhertu*, our commitment to these next-generation therapeutics continued with our 2020 collaboration with Daiichi Sankyo to develop and commercialise DS-1062, a potential best-in-class, second generation TROP2-targeted ADC. For more information, see Business development on page 63.

Our growing oligonucleotide platforms offer a range of new opportunities through the specific inhibition of protein expression. Antisense oligonucleotide approaches include AZD2373, developed in collaboration with Ionis Pharmaceuticals, which aims to reduce podocyte injury, decrease proteinuria and slow renal function decline in patients with APOL1 nephropathy. The oligonucleotide platform was supplemented in 2020 with a collaboration with Silence Therapeutics, which aims to discover, develop and commercialise small interfering RNA (siRNA) therapeutics.

We formed cross-functional Cell Therapy departments in 2020 to harness and maximise the therapeutic potential of existing and emerging technology platforms, including stem cell technologies and new modalities. In Oncology R&D, we are rapidly building a new CAR-T portfolio, focused on the potential of lymphocytes as powerful, living drugs. The most advanced of our BioPharmaceuticals R&D stem cell programmes is in collaboration with Procella Therapeutics AB and aims to treat heart failure patients using human ventricular progenitor (HVP) cells which have demonstrated therapeutic potential by forming heart muscle de novo in preclinical models.

Better predicting clinical success

In our efforts to improve our ability to predict the clinical success of our candidate drug molecules, we are adopting a range of cutting-edge technologies. We are developing advanced cellular models of disease, such as a bone marrow 'organ-chip' that replicates clinically-observed toxicities, as well as a renal micro-organoid model which allows high-throughput drug screening and, potentially, regenerative medicine.

Mass spectrometry imaging (MSI) is now embedded as an advanced imaging technology to help interrogate complex disease profiles, such as the first mechanistic description of how metabolites generated by the gut microbiome can play a role in neurological conditions like Parkinson's or new insights into the mechanism of nutrient sensing and utilisation in lung metastasis and colorectal cancer.

Breaking new ground in circulating tumour DNA (ctDNA) monitoring, in 2020 we initiated a trial to evaluate treatment outcomes in patients with lung cancer through detection of minimal residual disease (MRD) following surgery. The trial, in collaboration with ArcherDX, Inc., is designed to identify patients with high risk of recurrence and enable early interventions to improve long-term survival/curative intent. It is anticipated that two-year DNA (ctDNA) monitoring will identify nearly 80% of patients prior to clinical relapse.

Pioneering new approaches to engagement in the clinic

We continue to design and conduct our clinical trials to support better experiences for patients and increase efficiencies in clinical practice. Our digital transformations include new tools to improve the way we work, such as Control Tower which provides real-time access to trial information at a site level, Merlin to enable rapid and effective decisions for clinical trial recruitment, and Clinical Supply Chain to monitor global stocks of clinical-grade material. The expedited launch of eConsent in 2020 enabled remote sharing and review capabilities of informed consent with patients and is further helping to get new trials under way safely and quickly. We have also ensured continuity for clinical trial patients by facilitating the shipments of study drugs direct to patient homes, replacing some site visits with home visits to maintain patient safety, and accelerating remote data collection and home-based measurements wherever possible during the pandemic.

These advances have led to the launch of some of the fastest clinical trials in our history. For example, first patients in the Phase II CALAVI trial to assess the potential of the BTK inhibitor, acalabrutinib, in COVID-19 disease were dosed in under three months, representing a new standard for engagement in the clinic.

During the year, we also initiated our first fully virtual trial in patients with mild-to-moderate asthma, decentralising both study recruitment and support. Working closely with regulatory authorities, we designed and initiated a trial that integrated high-quality patient data from routine clinical care and registries, with the requirements of a rigorous clinical trial. This approach has the potential to deliver robust safety and efficacy data, while reducing patient burden and streamlining trial delivery.

For more information, see Therapy Area Review from page 30.

Bioethics BV

'Bioethics' refers to the range of ethical issues that arise from the study and practice of biological and medical science. We are committed to working in a transparent and ethical manner across all our bioethics subject matter areas. Our Global Standard on Bioethics sets out our principles which apply to all our scientific activities, whether conducted by us or by third parties acting on our behalf. The following sections summarise our activities in the main areas, and our Global Standard on Bioethics is available on our website, www.astrazeneca.com/sustainability.

Our Bioethics Advisory Group (BAG) is sponsored by the Chief Medical Officer and oversees the operation of the Global Standard on Bioethics. BAG met eight times in 2020. BAG continued to be involved with ethical discussions on traditional topics, for example, animal research and human biological samples as well as emerging topics, for example, Artificial Intelligence. In 2020, BAG expanded its scope to include guidance on employee testing for SARS-CoV-2, potential employee screening for early cancer detection, employee participation in AstraZeneca clinical trials and governance decisions in the exception process for payments to participants for involvement in AstraZeneca research.

Clinical trials

We believe that transparency enhances the understanding of how our medicines work and benefit patients. We publish information about our clinical research, as well as the registration and results of our clinical trials – regardless of whether or not they are favourable – for all products and all phases, including marketed medicines, drugs in development and drugs where development has been discontinued. In February 2020, AstraZeneca was recognised as a leader by *The Lancet* as having 100% compliance to registration and results, posting laws on clinicaltrials.gov for a cohort of studies analysed (March 2018 to September 2019).

In 2020, we conducted a range of clinical trials across regions as shown in the charts on the right. This broad span helps to ensure that study participants reflect the diversity of patients for whom our medicines are intended and identifies the patients for whom the medicine may be most beneficial. Our global governance process provides the framework for ensuring a consistent, high-quality approach worldwide. Protecting participants throughout the trial process is a priority and we have strict procedures to help ensure that participants are not exposed to unnecessary risks.

All our clinical trials are designed and finally interpreted in-house. Some are conducted by contract research organisations (CROs) on our behalf and we require these organisations to comply with our global standards.

As of 31 December 2020, we shared anonymised individual patient-level data from 160 studies with 59 unique research teams and responded to 199 requests from external researchers using our portal, www.vivli.org to request our clinical data and reports to support additional research. We publish Anonymized Clinical Data Packages for products in compliance with regulations in Canada and the EU, as well as share them with approved qualified researchers where they contribute to successful data-sharing needs. In 2020, we continued to participate in the industry-wide portal, www.trialsummaries.com where we publish Trial Result Summaries in easy-to-understand language and translate these to the local language for all sites where a study is conducted. As of 31 December 2020, we published Trial Result Summaries for 173 AstraZeneca trials.

For more information, see our website, www.astrazeneca.com, or our clinical trials website, www.astrazenecaclinicaltrials.com.

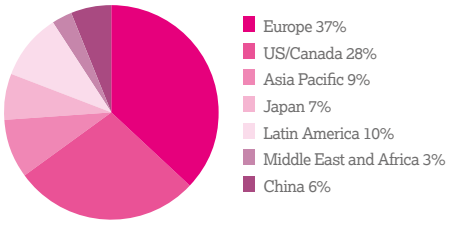
Clinical trial diversity

Our belief is that increasing the diversity of principal investigators and site staff will foster trust between healthcare providers and their communities, and that this will help to increase patient diversity within our clinical trials. In support of this belief, in 2020 we launched an educational programme globally to train staff at clinical research sites with limited experience of clinical trials.

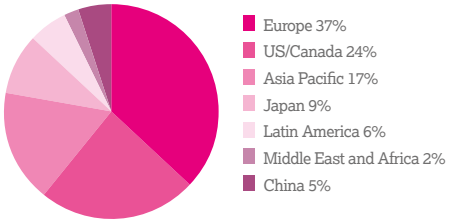
BV Denotes sustainability information independently assured by Bureau Veritas

Clinical trial active sites by region*

BioPharmaceuticals



Oncology



* Percentages have been rounded to the nearest whole number.

Research use of human biological samples

The use of human biological samples, such as solid tissue, biofluids and their derivatives, plays a vital role in developing a deeper understanding of human diseases.

We are committed to minimising the use of fetal tissue by exploring technological alternatives. Fetal tissue is used to provide invaluable data to advance novel treatments for serious diseases of unmet medical need and only when no other scientifically reasonable alternative is available. In 2020, two additional new research proposals that include use of human fetal tissue (hFT), or cells derived from hFT, were approved; one was required to meet regulatory requirements. Four projects using hFT had progressed as at 31 December 2020 and three projects are ongoing. An additional three projects using human embryonic stem cells (hESC) were approved in 2020, resulting in 13 projects using 24 different hESC lines or derived cells having been approved as at 31 December 2020. Seven projects are ongoing.

Animal research

Technology has not yet advanced to the stage where all animal use can be eliminated from research and development. In addition, some animal studies are required by international regulators before medicines progress to human trials. Animal studies therefore remain a small, but necessary, part of the process of developing new drugs.

Animal research use varies depending on many interrelated factors, including our amount of pre-clinical research, the nature and complexity of the diseases under investigation and regulatory requirements. We believe that without our active and ongoing commitment to the 3Rs (Replacement, Reduction and Refinement of animals in research), our animal use would be much greater. In 2020, animals were used for in-house studies 74,684 times (2019: 108,674). In addition, animals were used on our behalf for CRO studies 51,625 times (2019: 35,210). In total, over 94% were rodents or fish.

For more information, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

R&D resources

We have approximately 10,500 employees in our R&D organisation, working in various sites around the world. We currently have three strategic R&D centres: Cambridge, UK; Gaithersburg, MD, US; and Gothenburg, Sweden. Other R&D centres are located in the UK (Alderley Park and Macclesfield), the US (Waltham, MA and South San Francisco, CA), Japan (Osaka) and China (Shanghai). We also have a site in Poland (Warsaw) that focuses on late-stage development.

During 2020, we opened a new office in New York, NY, US with a specific focus on delivery of our Oncology pipeline, particularly in the clinical and medical space. The addition of this new Manhattan-based site ensures that we have an R&D footprint in all four of the nationally recognised top areas for biopharmaceutical innovation in the US.

Cambridge

Cambridge, UK is one of the most exciting bioscience hotspots in the world and it is where we are creating an open and vibrant R&D Centre on the Cambridge Biomedical Campus.

We believe that the best way to meet today's science challenges is to work openly and collaboratively with the world's best scientists. Being in Cambridge enables us to continue building on the great tradition of innovative thinking to contribute to the advancement of a world-class ecosystem of great science and delivering our Company's science-led strategy.

The vision for the R&D Centre has been an incredible catalyst for delivering our strategy. It has brought more than 3,500 of our people together in one geographical location and the opening of our R&D Centre this year will enable us to take the next step towards fulfilling our Cambridge vision – to bring our research together under one roof.

As part of our commitment to encourage innovation and entrepreneurship in life sciences, we support a number of initiatives that help biotech entrepreneurs advance their business ideas. Our support is wide-ranging, from connecting entrepreneurs with dedicated business mentors and organising guest lectures to offering internships. We have more than 60 business mentors in Cambridge. To date around 75 start-ups have benefited from their experience so far.

The cost projection for the R&D Centre remains in the region of $1.3 billion (c.£1.0 billion); the programme is well advanced, although the full and potential impact of COVID-19 is yet to be determined. The project continues to be funded out of operational cash flows.

Investment

In 2020, R&D expenditure was $5,991 million (2019: $6,059 million; 2018: $5,932 million), including Core R&D costs of $5,872 million (2019: $5,320 million; 2018: $5,266 million). In addition, we spent $1,454 million on acquiring product rights (such as in-licensing) (2019: $1,835 million; 2018: $476 million). We also invested $35 million on the implementation of our R&D restructuring strategy (2019: $10 million; 2018: $94 million). The allocations of spend by early-stage and late-stage development are presented in the R&D spend analysis table below.

R&D spend analysis

	2020	2019	2018
Discovery and early-stage development	**36%**	36%	37%
Late-stage development	**64%**	64%	63%

Enhancing our understanding of disease biology

Investing in multiple approaches

We are determined to advance our understanding of disease biology to uncover novel drivers for the diseases we aim to treat, prevent and, in the future, cure.

Selecting the right target remains the most important decision we make in the drug discovery process. We are investing in multiple approaches to improve this:

- Through our Genomics Initiative, we aim to analyse two million genomes by 2026 to identify rare genetic variants to uncover new targets and disease insights.
- We are investing in broader multi-omic technologies, such as transcriptomics, proteomics and metabolomics, to probe the more complex and transient molecular changes that underpin the course of disease and responses to drug treatment.
- Our use of precise gene and base editing technologies continues to help us create more relevant cell lines and animal models in a matter of weeks, as opposed to months or longer still.
- At our AstraZeneca-Cancer Research UK Functional Genomics Centre at the Milner Therapeutics Institute in Cambridge, UK, we aim to discover new targets by using CRISPR libraries to delete or upregulate every gene in the cell to understand the role of that gene in disease biology.
- We are combining these rich datasets with external data sources and applying AI and machine learning, to develop biomedical knowledge graphs to contextualise scientific data and the relationships between them, in collaboration with companies such as BenevolentAI.

For more information, see Research & Development from page 53.

>2m
We aim to analyse two million genomes by 2026

Our growing experience with CRISPR-based tools has allowed us to expand its use across R&D, helping us create new gene-edited disease models to advance drug discovery.

Business Review
Commercial

Commercial

We plan to meet our growth and profitability goals by driving growth through successful innovation and commercial excellence, and creating sustainable profitability. We are doing so with a shift from a focus on treatment to improving the whole patient experience and developing new payer models that improve access to our medicines.

Overview

- Total Revenue, comprising Product Sales and Collaboration Revenue, increased by 9% (10% at CER) to $26,617 million.
- Total Revenue from New Medicines improved by 33% (33% at CER) in the year to $13,950 million.
- In the US, Total Revenue increased by 13% to $8,833 million and in Europe by 10% (9% at CER) to $5,540 million.
- Total Revenue in Emerging Markets increased by 7% (10% at CER) to $8,711 million, with China growth of 10% (11% at CER) to $5,375 million.
- Continuing to make our medicines affordable to more people on a commercially and socially sustainable basis.
- Entered into more than 100 innovative value-based agreements across our three main therapy areas.
- Committed to high ethical standards: 108 people removed from roles for breaches of external sales and marketing regulations or codes.
- 91 on-time launches during the year and 14 external inspections of our operations facilities with zero critical observations.
- More than 800 collaborations around the world.
- Embarking on digital transformation to develop solutions to enhance the delivery of our medicines, reduce inefficiencies and support patients.

Sales and marketing

Our Commercial teams, which comprised around 43,400 employees at the end of 2020, are active in more than 100 countries. In most countries, we sell our medicines through wholly owned local marketing companies. We also sell through distributors and local representative offices. We market our products largely to primary care and specialty care physicians.

Total Revenue, comprising Product Sales and Collaboration Revenue, increased by 9% in 2020 (10% at CER) to $26,617 million. Product Sales grew by 10% (11% at CER) to $25,890 million, driven primarily by the performances of the new medicines across Oncology and BioPharmaceuticals, including *Tagrisso* and *Farxiga*.

Total Revenue included $2m of *COVID-19 Vaccine AstraZeneca* Product Sales within Other Medicines; from the first quarter of 2021 AstraZeneca intends to report the *COVID-19 Vaccine AstraZeneca* performance separately.

The ongoing COVID-19 pandemic had a significant impact on every aspect of life in 2020, AstraZeneca. The largest direct impacts of COVID-19 on the our portfolio of medicines included reduced sales of *Pulmicort* in China on fewer nebulisation-centre visits and reduced elective surgery, and less use globally of infused and injectable medicines, such as *Imfinzi* and *Fasenra*.

There was also a decline in the number of hospital admissions around the world for the treatment of heart attacks and lower levels of elective percutaneous coronary intervention, adversely impacting sales of *Brilinta*.

Some medicines, however, may benefit from shifts in patient care and behaviours, including oral medicines such as *Calquence*, which saw an element of benefit from the substitution from infused-chemotherapy regimens.

Additional investment in new medicines continued to fuel our growing Oncology and BioPharmaceuticals therapy areas. *Tagrisso's* future was enhanced with its first regulatory approval in early, potentially-curable lung cancer and further national reimbursement in China in advanced disease. *Farxiga* expanded its potential beyond diabetes, while tezepelumab promised hope for patients suffering from severe asthma.

Regional Product Sales

1. Emerging Markets
6%
6% growth in the year (10% at CER) to $8,679m

2. US
12%
12% growth in the year to $8,638m

3. Europe
16%
16% growth in the year (15% growth at CER) to $5,059m

4. Established Rest of World
6%
6% growth in the year (6% at CER) to $3,514m

All numbers as at 31 December 2020.

Pricing and delivering value

Our medicines help address unmet medical need, improve health and create economic benefits. Treatments that are targeted and effective as well as innovative and personalised, can lower healthcare costs by reducing the need for more expensive care, preventing more serious and costly diseases and increasing productivity. We are committed to a pricing policy for our medicines based on four principles:

> We determine the price of our medicines while considering their full **value** for patients, payers and society. The agreement on price involves many national, regional and local stakeholders, reflecting factors such as clinical benefit, cost-effectiveness, improvement to life expectancy and quality of life.

> We aim to ensure the **sustainability** of both the healthcare system and our research-led business model. We believe we share a collective responsibility with healthcare providers and other stakeholders to work together to enable an efficient healthcare system for patients today and support a pipeline of new medicines for patients tomorrow.

> We seek to ensure appropriate patient **access** to our medicines. We work closely with payers and providers to understand their priorities and requirements, and play a leading role in projects to better align the specifications of regulatory and health technology assessment (HTA) agencies or other organisations that provide value assessment of medicines.

> We pursue a **flexible** pricing approach that reflects the wide variation in global healthcare systems. We have developed patient access programmes that are aligned with a patient's ability to pay and a healthcare system's ability to respond. We are committed to the appropriate use of managed entry schemes and the development of real-world evidence and we are investigating innovative approaches to the pricing of medicines, such as payment for outcomes received by the patient and healthcare system.

We have outlined our commitment to optimising affordability and accessibility in our Affordability Statement that can be found on our website, www.astrazeneca.com/sustainability.

By way of example of our approach, we apply Tiered Pricing Principles globally. This defines price levels commensurate with affordability based on a country's ability to pay. We believe that this approach to pricing is sustainable and fair, and that it will increase access and improve patient outcomes in Emerging Markets.

More generally, we remain committed to working with payers to explore novel and flexible ways to assess and pay for medicines towards our shared goal of delivering the outcomes that matter for patients through innovative and personalised treatments. We are collaborating with payers to conclude outcomes- and value-based reimbursement that improves patient outcomes. By the end of 2020, we had entered into more than 100 such innovative value-based agreements across our three main therapy areas.

We understand that our medicines will not benefit patients if they are unable to afford them which is why we offer a number of patient assistance programmes that can help increase patients' access to medicines and reduce their out-of-pocket costs. Through these programmes, we support qualifying patients in a variety of ways, including through discounts and/or product donations. Outside the US, we generally provide these programmes in markets with limited or no public reimbursement system, no coverage beyond the most basic therapies, or where the possibility of public reimbursement is unlikely, or only after an extended period.

US

As the sixteenth largest prescription-based pharmaceutical company in the US, we have a 2.7% market share of US pharmaceuticals by sales value. In 2020, Product Sales in the US increased by 12% to $8,638 million (2019: $7,747 million).

The US healthcare system is complex with multiple payers and intermediaries exerting pressure on patient access to branded medicines through regulatory rebates in government programmes and voluntary rebates paid to managed care organisations and pharmacy benefit managers for commercially insured patients, including Medicare Part D patients. In the Medicare Part D programme, branded pharmaceutical manufacturers are also statutorily required to pay a percentage of the patient's out-of-pocket costs during the 'coverage gap' portion of their benefit design.

In 2020, the overall measurable reduction in our profit before tax for the year due to discounts on branded pharmaceuticals in the Medicare Part D Coverage Gap and an industry-wide HealthCare Reform Fee was $590 million (2019: $547 million; 2018: $432 million; 2017: $119 million).

In the US, there is significant pricing pressure driven by payer consolidation, restrictive reimbursement policies and cost control tools, such as exclusionary formularies and price protection clauses. Many formularies, employ 'generic first' strategies and/or require physicians to obtain prior approval for the use of a branded medicine where a generic alternative exists. These mechanisms can be used to limit use of branded products and pressure manufacturers to reduce net prices. In 2020, 85.3% of prescriptions dispensed in the US were generic (2019: 84.8%). In addition, patients continue to see changes in the design of their health plan benefits and may experience increases, in both premiums and out-of-pocket payments for branded medications. There is a growing trend towards high-deductible health plans which may require patients to pay the full list price until they meet certain out-of-pocket thresholds.

Ongoing scrutiny of the US pharmaceutical industry, focused largely on affordability, has been the basis of multiple policy proposals in the US. Over the course of 2020, Congress and the Trump Administration issued several proposals designed to increase generic competition, reform coverage and reimbursement of drug therapies, reduce list prices and out-of-pocket costs, limit price increases, and increase regulatory rebate liability, among other topics. While the attention of Congress necessarily shifted in order to respond to the COVID-19 public health emergency, we expect a focus on drug pricing proposals to continue into 2021. AstraZeneca is actively supporting solutions that provide access and affordability while continuing to support scientific innovation.

In addition, lawmakers at both the federal and state levels have sought increased drug pricing transparency and have proposed and implemented policies that include measures relating to the submission of proprietary manufacturer data, establishment of price parameters that are indexed to certain federal programmes, and reporting of changes in pricing beyond certain thresholds.

Though widespread adoption of a broad national price control scheme in the near future is unlikely, we continue to comply with new state-level regulations in this area. We recognise the sustained potential for substantial changes to laws and regulations regarding drug pricing that could have a significant impact on the pharmaceutical industry.

We offer a number of resources and programmes in the US that can help increase patients' access to medication and reduce their out-of-pocket costs.

For more information, see Community investment on page 76.

Europe

The total European pharmaceutical market was worth $211 billion in 2020. We are the thirteenth largest prescription-based pharmaceutical company in Europe (see Market definitions on page 280) with a 2.0% market share of pharmaceutical sales by value.

In 2020, Product Sales in Europe increased by 16% at actual rate of exchange (15% at CER) to $5,059 million (2019: $4,350 million). We continued to launch and saw sustained performance of innovative medicines, in particular with *Tagrisso*, *Imfinzi*, *Lynparza*, *Forxiga* and *Fasenra*. Oncology sales in Europe grew by 36% (35% at CER), driven by increased use of *Tagrisso* for the treatment of patients in the 1st-line EGFR7-mutated (EGFRm) non-small cell lung cancer (NSCLC) setting, as well as continued strong levels of demand in the 2nd-line setting. *Imfinzi* sales reflect a growing number of reimbursements. *Lynparza* sales benefited from the increasing levels of reimbursement and BRCA-testing rates. *Forxiga* sales growth of 36% (35% at CER) was accompanied by *Fasenra* sales increase of 72% (70% at CER). With the increased focus on flu vaccination programmes, *FluMist* sales saw a significant increase of 135% (126% at CER).

Despite the overall growth, we experienced a decline in *Iressa* sales due to the uptake of *Tagrisso*, coupled with the ongoing impact of divestments, mainly *Losec* and *Seroquel XR*.

Established Rest of World (ROW)*

Japan

Japan remains an attractive market for innovative pharmaceutical companies, positioned as the third largest pharmaceutical market for R&D-driven companies. In 2020, there was continued pressure on healthcare spend and, being an even year, the biennial government-induced price control measurements were in place.

Total Revenue in Japan was $2,620 million, positioning AstraZeneca as the sixth largest prescription-based pharmaceutical company with a 3.5% value market share of pharmaceutical sales by value.

Revenue has been kept flat versus 2019 ($2,591 million) outperforming the negative market growth despite challenges linked to COVID-19, regular biennial price cut in April, repricing for *Imfinzi* and *Faslodex*, and generic entry for *Symbicort* (December 2019) and *Pulmicort* (January 2020).

Results have been driven by strong performance from Oncology brands *Tagrisso*, *Imfinzi* and *Lynparza* as well as *Fasenra*, *Breztri* and *Forxiga*.

We successfully launched *Lokelma* in May and *Imfinzi* for SCLC in August. *Forxiga* was approved for heart failure treatment in November and *Lynparza* was approved in three new indications in December (advanced ovarian, prostate and pancreatic cancers).

Canada

Product Sales in Canada increased by 29% at actual rate of exchange (31% at CER) in 2020. This was primarily driven by strong sustained growth of our New Medicines, particularly *Imfinzi*, *Tagrisso*, *Lynparza* and *Fasenra* coupled with *Symbicort* sales benefiting from the regulatory approval to use the product as an anti-inflammatory reliever as-needed in mild asthma coupled with improved adherence related to COVID-19.

Decline of *Onglyza* was accompanied by the impact of divestments, particularly *Losec*. There continues to be pricing pressure from both public and private payers. We remain committed to exploring innovative value-based pricing solutions that benefit patient outcomes.

Australia and New Zealand

Our sales in Australia and New Zealand increased by 8% at actual rate of exchange (10% at CER) in 2020. This was primarily due to growth in key brands such as *Symbicort* (which benefited from a strong LABA/ICS class growth from the impact of the bushfires earlier in the year and then COVID-19), *Tagrisso*, *Lynparza* and *Forxiga*. These were supplemented by strong growth in *Fasenra* in its first full year after reimbursement and an earlier than expected Pharmaceutical Benefits Scheme (PBS) listing of *Imfinzi*. The decline in older, non-patent protected brands such as *Crestor* and *Nexium* continued but were more than offset by the growth brands. Australia remains a predominantly HTA-reimbursed market with products aiming to be reimbursed needing to show a clear level of cost effectiveness and benefit to patients versus existing standard of care. Within this context, the Group's pipeline of new assets and indications provide good opportunities for continued future growth.

* Established ROW comprises Australia and New Zealand, Canada and Japan.

12%

12% increase in Product Sales in the US in 2020 to $8,638 million

10%

10% increase in Product Sales in China in 2020 (10% at CER) to $5,345 million

"AstraZeneca was the second fastest-growing top 10 multinational pharmaceutical company in Emerging Markets in 2020."

Emerging Markets

Emerging Markets, as defined in Market definitions on page 280, comprise various countries with dynamic, growing economies. As outlined in Healthcare in a changing world from page 12, these countries represent a major growth opportunity for the pharmaceutical industry due to high unmet medical need and sound economic fundamentals. Emerging Markets are not immune, however, to economic downturn. Market volatility is higher than in Established Markets, and various political and economic challenges exist. These include regulatory and government interventions. In selected markets, governments are encouraging local manufacturing and investment by offering more favourable market access conditions and pricing is increasingly controlled by payers through price referencing regulations in addition to cost effectiveness and cost minimisation approaches.

Growth drivers for Emerging Markets include new medicines across our Oncology, CVRM and Respiratory & Immunology portfolios. To educate physicians about our broad portfolio, we are selectively investing in sales capabilities where opportunities from unmet medical need exist. We are also expanding our reach through multi-channel marketing and external partnerships.

With revenues of $8,711 million (2019: $8,171 million), AstraZeneca was the fourth largest multinational pharmaceutical company, as measured by prescription sales, and the second fastest-growing top 10 multinational pharmaceutical company in Emerging Markets in 2020. Despite the impact of COVID-19 across all geographies we saw growth across all major areas including Latin America at 0% (18% at CER), Russia & Eurasia at 26% (39% at CER), Middle East & Africa down 4% (up 1% at CER) and Asia Area at 5% (7% at CER).

China

In China, AstraZeneca is the largest pharmaceutical company by value in the hospital sector, as measured by sales. Sales in China in 2020 increased by 10% at actual rate of exchange (11% at CER) to $5,345 million (2019: $4,880 million). Despite the significant impact of COVID-19 in the first half of the year especially, we delivered sales growth above the growth rate of the hospital market sector through strategic brand investment, systematic organisational capability improvements and long-term channel expansion programmes in our main therapy areas.

Tagrisso, Breztri, Bevespi, Lynparza, Zoladex and *Linzess* were listed or renewed in the National Reimbursement Drug List (NRDL). Pricing practices remain a priority for regulators, and new national regulations, in addition to provincial and hospital tenders, continue to put increasing pricing pressures on pharmaceutical companies in China. The introduction of the Generics Quality Consistency Evaluation (GQCE) in 2018 has had an impact on pharmaceutical company budgets and pricing through setting new standards for bioequivalence that generic products must adhere to as part of participation in a process called value-based procurement (VBP) that covers up to 70% of anticipated hospital volumes in all areas. This evaluation is being applied retrospectively, so several existing generic products may fail and be withdrawn which could lead to a consolidation in the sector. This would leave fewer, higher-quality generics in the market thereby putting pressure on any originator brand price premiums and driving a reduction in overall medical costs.

In 2018, the first round of VBP, which involved *Crestor* and *Iressa*, was announced with implementation from early 2019. In 2020, *Losec*, *Brilinta* and *Arimidex* were included within the latest VBP cycle with none of the AstraZeneca brands successfully winning any of the tendered volumes. Consequently the growth of these brands was significantly impacted in the latter part of the year. As the implementation of VBP accelerates it is expected that more AstraZeneca brands will be impacted in 2021.

COVID-19 has had a major effect on growth rates in all channels across China and for AstraZeneca in the Respiratory & Immunology therapy area. In particular, the nebulised brands such as *Pulmicort*, *Fluimucil* and *Bricanyl* were most heavily impacted as nebulisation centres were initially closed; when opened, demand was slow to return to pre-pandemic levels.

The industry-wide growth rate is expected to be 4.4% over the next five years, following the updates of the NRDL and expanding health insurance coverage. Nevertheless, the healthcare environment in China remains dynamic. Opportunities are arising from incremental healthcare investment, in-licensing, strong underlying demand for our more established medicines and the emergence of innovative medicines such as *Lynparza*, *Breztri* and roxadustat.

Several initiatives announced in the latter part of 2019 to support transformation of healthcare in China were further progressed in 2020. These included the creation of a global R&D centre in Shanghai. A new AI Innovation Centre, also in Shanghai, will be established to capitalise on the latest digital technology in R&D, manufacturing, operations and commercialisation to help accelerate the delivery of medicines to patients in China and globally. A healthcare investment fund jointly set up with CICC, one of China's leading investment banks, has executed funding agreements with other investors and the initial

deployment of capital is expected to be made in the early part of 2021 following regulatory approval of the fund. An internet hospital venture with Hillhouse Capital which also includes an in-house pharmacy distribution was executed in 2020 and expected to close in early 2021.

Emerging market healthcare BV

We continue to make our medicines affordable to more people on a commercially and socially sustainable basis. As, on average, almost half of healthcare expenditure in emerging markets is paid for by the patient or their families, we base our approach in these markets on an understanding of their economic circumstances and the burden placed on them by healthcare costs.

We enable our Emerging Markets to deliver better and broader patient access through innovative and targeted equitable pricing strategies and practices which include patient assistance programmes, such as FazBem in Brazil which offer products at a discounted cost.

For information on our access to healthcare programmes in Emerging Markets and as one of our sustainability priorities, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

Responsible sales and marketing BV

We are committed to employing high ethical standards of sales and marketing practice worldwide, in line with our Code of Ethics and supporting requirements (our policy framework). We maintain a robust compliance programme in our efforts to ensure compliance with all applicable laws, regulations and adopted industry codes. As outlined in Global Compliance and Internal Audit Services on page 118, our compliance programme is delivered by dedicated compliance professionals who advise on and monitor adherence to our policy framework.

These professionals also support our line managers locally in ensuring that their staff meet our ethical standards. A network of nominated signatories reviews our promotional materials and activities against applicable requirements to ensure we abide by the applicable regulations and codes of practice and share accurate, balanced and non-misleading information about our products. Our Internal Audit Services department, in partnership with external audit experts, also conducts compliance audits on selected marketing companies.

For more information about the assurance provided by Bureau Veritas, see page 72.

In 2020, we identified 14 confirmed breaches of external sales and marketing regulations or codes (2019: eight). There were 2,113 instances, most of them minor, of non-compliance with our policy framework in our Commercial Business Units, including instances by employees and third parties (2019: 2,597). We removed a total of 108 employees and third parties from their roles as a result of these breaches (a single breach may involve more than one person). We also formally warned 861 others and provided further guidance or coaching on our policies to 2,099 more. The Audit Committee is provided with the breach statistics on a quarterly basis. Further commentary on the more serious breaches and corresponding remediation is also provided to the Audit Committee.

The total number of incidents has increased since last year, driven by increasing numbers of low impact incidents. This may be attributable to many factors, including the growth in AstraZeneca's employee base, stronger first-line oversight, more targeted monitoring with data analytics, the strengthening of 'Speak Up' culture and evolving external regulations and enforcement priorities (e.g. data privacy globally and human genetic resources in China). Regardless of cause(s), we see increased reporting of low impact incidents (as opposed to medium or high impact), a positive trend that enables the enterprise to learn and intervene early before non-compliance escalates or leads to systemic issues.

Anti-bribery and anti-corruption BV

We do not tolerate bribery or any other form of corruption. We conveyed our commitment to ethical behaviour in the 2020 annual Code training, reinforced through anti-bribery/anti-corruption training materials delivered and made available to relevant employees and third parties, including mandatory, periodic training for selected business units and roles.

Bribery and corruption remains a business risk as we launch new medicines in markets across the globe and enter into collaborations, and the risk is a focus of our third-party risk management process, as well as our Business Development due diligence procedures. It is also a focus of our monitoring and audit programmes. The majority of marketing company audits include anti-bribery/anti-corruption work programmes.

Code of Ethics

We are committed to employing high ethical standards when carrying out all aspects of our business globally. Our Code of Ethics (the Code) is based on our Values, expected behaviours and key policy principles. It applies to all Executive and Non-Executive Directors, officers, employees and temporary staff, in all companies within our Group worldwide. It empowers employees to make decisions in the best interests of the Group and the people we serve, now and in the long term, by outlining our commitments in simple terms and focusing on why these commitments matter. The Code is at the core of our compliance programme. It has been translated into approximately 40 languages and guides employees on how to make the best day-to-day choices and how to act in a consistent, responsible way, worldwide. There are two mandatory training courses dedicated to the Code: one is for new starters; the second is the annual training for all employees, reminding them of the key commitments. In 2020, 100% of all active employees completed the annual training on the Code of Ethics.

The Code includes four high-level Global Policies covering Science, Interactions, Workplace and Sustainability. These Global Policies continue to be complemented by underlying Global Standards, which define the global requirements we follow to deliver our business consistent with the Values, behaviours, commitments and principles embodied in our Code and Global Policies. Our Code and Global Policies, together with relevant Global Standards and Position Statements, are published on our website, www.astrazeneca.com. Our policy framework also includes additional requirements at the global, local and business unit level to support employees in their daily work.

A Finance Code complements the Code and applies to the Chief Financial Officer, the Group's principal accounting officers (including key Finance staff in all overseas subsidiaries) and all managers in the Finance function. This reinforces the importance of the integrity of the Group's Financial Statements, the reliability of the accounting records on which they are based and the robustness of the relevant controls and processes.

Transparency reporting BV

AstraZeneca is committed to the highest standards of conduct in all our operations, including the disclosure of payments to healthcare practitioners (HCPs), healthcare organisations (HCOs) and patient organisations, with full transparency where recipients have provided consent and in accordance with all current local, state and global-level obligations covering the 46 markets with existing reporting requirements. For the 2020 disclosure period (of 2019 data), AstraZeneca disclosed 974,000 payments totalling $899 million in payments or transfers of value to 174,000 unique covered recipients.

We continue to monitor the external landscape to ensure that the Company is prepared to meet new obligations and are progressively heading towards increased disclosure in additional markets globally and, in all locations, we are committed to ensuring that payments are justified and reasonable.

For more information, see our transparency page, www.astrazeneca.com/sustainability/ethics-and-transparency.html.

Operations

Our manufacturing and supply function has continued to support our growth by delivering every new launch on time and in full, and sustaining strong customer service and product lead-time reductions.

2020 marks the completion of the delivery of our Operations 2020 plan designed to enhance supply capabilities to respond better to the expanding patient and market needs. In 2020, we delivered 91 successful market launches and 3 pre-registration launches. We will further evolve our manufacturing and supply capabilities through the launch of our new Operations 2025 plan, aligned to our Company strategy. Our Operations 2025 plan will focus on scaling our capabilities to support the continued growth of our portfolio, combined with leveraging the benefits of new manufacturing technology and digital innovation across our end-to-end supply chains.

Quality, regulation and compliance

We are committed to high product quality, which underpins the safety and efficacy of our medicines. We maintain a comprehensive quality management system to assure compliance and quality. Similarly, we set strict standards for safety, health and environment at each of our sites. During 2020, our site safety protocols were updated in response to the global outbreak of COVID-19 to reduce the risk of workplace transmission. Manufacturing facilities and processes are subject to rigorous and continuously evolving regulatory standards. They are subject to inspections by regulatory authorities, which are authorised to mandate improvements to facilities and processes, halt production and impose conditions for production to resume.

To ensure compliance with global Good Manufacturing Practice (GMP) regulations, the Operations Quality team continuously reviews and strengthens the Quality Systems at our manufacturing sites through internal audit programmes, external intelligence and sharing learnings between sites. In 2020, these measures helped us successfully achieve zero critical observations from 14 independent inspections. We review observations from these inspections together with the outcomes of internal audits and, where necessary, implement improvement actions.

We are committed to maintaining the highest ethical standards and compliance with internal policies, laws and regulations. We review and comment upon evolving national and international compliance regulations through our membership of industry associations, including IFPMA, EFPIA and PhRMA.

Supply chain management

We need an uninterrupted supply of high-quality materials along our end-to-end supply chains. This includes our active pharmaceutical ingredients (APIs) and, with most of our API manufacturing outsourced, we place great importance on our global external sourcing and procurement organisations and policies, as well as our integrated risk management processes. We purchase materials from a wide range of suppliers and work to mitigate supply risks, such as natural or man-made disasters that disrupt supply chains or the unavailability of raw materials. Contingency plans include using dual or multiple suppliers where appropriate, maintaining adequate stock levels and working to mitigate the effect of pricing fluctuations in raw materials. During 2020, we activated our business continuity plans to maintain supply of medicines to patients and mitigate against any risk of disruption caused by COVID-19.

As a consequence of the UK leaving the EU on 31 January 2020, we continued to work both internally and externally with our suppliers on our readiness for the impact of the transition period ending on 31 December 2020, with a view to mitigating the effect on our business.

We continue to maintain a range of mitigations, including revised logistics channels, additional warehousing, the potential to move clinical trial-related activities, stock building of final product and manufacturing-related goods, movement of stock locations, and assessment of the opportunity for supplier substitution. While we have continued to make progress in our preparations, it is possible that adverse events, such as border delays, will impact supplier activities. Issue management may therefore play a key element in our ability to maintain safe supply of our medicines and ongoing business operations more generally in 2021. In addition, we have continued to engage with regulators and governments to ensure that they have a clear view on the potential impact on pharmaceutical supply chains.

Supply chain finance

AstraZeneca has a supply chain finance programme to support the cash flow of its external supply base. This programme, supported by Taulia Inc. and Greensill Capital, provides suppliers with visibility of invoices and payment dates via a dedicated platform. Suppliers can access this platform free of charge and have flexibility to select individual invoices for early payment. On election of an early payment, a charge is incurred by the supplier based on the period of acceleration, central bank interest rate and the rate agreed between Taulia Inc. and each supplier. All early payments are processed by Greensill Capital and AstraZeneca settles the original invoice amount with Greensill Capital at maturity of the original invoice due date.

The programme is live in the US, UK, Sweden, Germany and Australia, with expansion into other countries under review. As of December 2020, the programme had 3,396 suppliers enrolled and a potential early payment balance of $248 million.

For more information on supply chain financing, see Note 20 on page 207.

Responsible supply chain BV

Every employee and contractor who sources goods and services on behalf of AstraZeneca is expected to follow responsible business processes, which are embedded into our Global Standard for the Procurement of Goods and Services. All our procurement professionals receive training on our Code of Ethics which contains our expectations on responsible procurement.

We monitor compliance through assessments and improvement programmes and we will not use suppliers who are unable to meet our standards. Our Global Standard Expectation of Third Parties is published on our website, www.astrazeneca.com/sustainability. We conducted a total of 16,197 assessments in 2020 (2019: 15,519).

In 2020, we conducted 48 audits on high-risk suppliers (external manufacturing partners), seeking to ensure that they employ appropriate practices and controls. 6% of these suppliers fully met our expectations, with a further 94% implementing improvement plans to address minor instances of non compliance. Through our due diligence process, no high-risk engagements were rejected.

For more information on our Responsible supply chain, see, www.astrazeneca.com/sustainability.

Manufacturing capabilities

Our principal tablet and capsule formulation sites are in the UK, Sweden, China, Puerto Rico and the US, with local/regional supply sites in Russia, Japan, Indonesia, Egypt, India, Germany, Mexico and Brazil. We also have major formulation sites for the global supply of parenteral and/or inhalation products in the US, Sweden, France, Australia and the UK. Most of the manufacture of APIs is delivered through the efficient use of external sourcing that is complemented by internal capability in Sweden.

In January 2020, AstraZeneca re-acquired the Reims packing and distribution centre from Avara Reims Pharmaceutical Services. This transaction saw the site and former Avara Reims employees transfer to AstraZeneca. The transition of the Reims site into the AstraZeneca network, including full IT systems integration, remains on schedule for completion in early 2021.

In September 2019, we announced our intention to exit our manufacturing facility at Wedel in Germany by late 2021, and we remain on track to exit the facility to plan.

For biologics, our principal commercial manufacturing facilities are in the US (Frederick, MD; Greater Philadelphia, PA), the UK (Speke) and the Netherlands (Nijmegen), with capabilities in process development, manufacturing and distribution of biologics, including global supply of mAbs and influenza vaccines. In Sweden, we have continued to complete extensive qualification of our new biologics drug product manufacturing facility. We have commenced GMP manufacturing activity ahead of seeking regulatory approval in 2021 in order to begin commercial supply. In 2020, we announced a long-term supply agreement with Samsung Biologics to provide large-scale commercial manufacturing for drug substance and drug product. This new collaboration enables us to expand our global biologics manufacturing capability into Asia Pacific.

At the end of 2020, approximately 14,300 people were employed at 26 Operations sites in 16 countries.

Business development

Business development, specifically partnering, is an important element of our business. It supplements and strengthens our pipeline and our efforts to achieve scientific leadership.

We work with others around the world, including academia, governments, industry, scientific organisations and patient groups, as well as other pharmaceutical companies, to access the best science to stimulate innovation and accelerate the delivery of new medicines to target unmet medical need. We currently have more than 800[1] collaborations around the world.

Our business development activity takes many forms and can be broadly grouped into:

> alliances, collaborations and acquisitions to enhance our portfolio and pipeline in our main therapy areas
> divestments of non-priority medicines.

Alliances, collaborations and acquisitions

We continue to assess opportunities to make strategic, value-enhancing additions to our portfolio and pipeline in our main therapy areas, including through in-licensing and acquisitions. No company acquisitions were completed in 2020, however, we acquired a preclinical oral PCSK9 inhibitor programme from Dogma Therapeutics. We aim to take the programme forward into clinical development for dyslipidaemia, or abnormal amount of lipids in the blood, and familial hypercholesterolemia, a common genetic condition that causes high cholesterol. PCSK9 is a protein that regulates the level of low-density lipoprotein (LDL), or 'bad' cholesterol in the blood. Increased activity of PCSK9 is associated with high LDL cholesterol. The acquired PCSK9 inhibitors are small molecules that bind directly to a novel part of PCSK9 and have shown to block its activity and lower LDL cholesterol in preclinical models. There are currently no oral PCSK9 inhibitors available to patients or in clinical development. We also acquired MSC-1, an anti-LIF antibody, from Northern Biologics. MSC-1 has completed Phase Ia clinical studies for the treatment of solid tumours.

Over the past three years, we have completed more than 123 major or strategically important business development transactions, including some 27 in 2020. Of these transactions, six were completed on behalf of Oncology R&D and six on behalf of BioPharmaceuticals R&D. Five related to preclinical assets or programmes and 12 to precision medicine, genomics or access to genetic data[2].

Collaboration activities that focus on the development and/or commercialisation of specific medicines are a component of our strategy. This activity can create additional value from our existing and potential medicines and falls broadly into two categories:

> collaborations that help us access therapy area expertise through AstraZeneca and non-AstraZeneca medicines
> collaborations that help us increase the number of patients and the reach of medicines in which we maintain an ongoing interest, but which typically sit outside our main therapy areas.

Of particular note, we announced a global development and commercialisation collaboration agreement with Daiichi Sankyo for DS-1062, Daiichi Sankyo's proprietary trophoblast cell-surface antigen 2 (TROP2)-directed ADC and potential new medicine for the treatment of multiple tumour types. DS-1062 is currently in development for the treatment of multiple tumours that commonly express the cell-surface glycoprotein TROP2. Among them, TROP2 is overexpressed in the majority of NSCLC and breast cancers tumour types that have long been a strategic focus for AstraZeneca. This collaboration reflects AstraZeneca's strategy to invest in ADCs as a class, the innovative nature of the technology and the successful existing collaboration with Daiichi Sankyo. AstraZeneca will pay Daiichi Sankyo an upfront payment of $1 billion in staged payments: $350 million was paid upon completion, with $325 million to be paid after 12 months and $325 million after 24 months from the effective date of the agreement. AstraZeneca will pay additional conditional amounts of up to $1 billion for the successful achievement of regulatory approvals and up to $4 billion for sales-related milestones.

In addition, we recovered the global rights to brazikumab (formerly MEDI2070), a mAb targeting IL23, from Allergan. Brazikumab is currently in a Phase IIb/III programme in Crohn's disease (CD) and a Phase IIb trial in ulcerative colitis (UC). AstraZeneca and Allergan terminated the existing license agreement and all rights to brazikumab reverted to AstraZeneca.

We also entered a strategic collaboration agreement with OM Pharma SA, through which the Company was granted the exclusive right to import, distribute and promote the immunological therapy Broncho-Vaxom (Bacterial Lysates/OM-85) in China (excluding Hong Kong, Macau and Taiwan). Broncho-Vaxom can prevent and treat recurrent or acute respiratory infections in patients by boosting host immunity. In China, recurrent respiratory tract infection is a particularly common disease in children, with an incidence rate of c.20%.

Divestments

We divest medicines that typically sit outside our main therapy areas and that can be deployed better by other companies, in order to redirect investment and resources in our main areas of focus, while ensuring continued or expanded patient access. For example, in 2020, we divested global commercial rights to *Inderal* (propranolol), *Tenormin* (atenolol), *Tenoretic* (atenolol, chlorthalidone fixed-dose combination), *Zestril* (lisinopril) and *Zestoretic* (lisinopril, hydrochlorothiazide fixed-dose combination) to Atnahs Pharma (Atnahs). The agreement excluded the rights in the US and India, which were previously divested, and in Japan, which were retained by AstraZeneca. The medicines, used primarily to treat hypertension, have lost their patent protection globally. Atnahs made an upfront payment of $350 million to AstraZeneca and AstraZeneca may also receive future sales-contingent payments of up to $40 million between 2020 and 2022. Japan rights to *Inderal* and *Tenormin* were subsequently divested to Taiyo Pharma Co. Ltd along with Japan rights to *Omepral*.

In 2020, we also sublicensed global rights to *Movantik* (naloxegol), excluding Europe, Canada and Israel, to RedHill Biopharma (RedHill). *Movantik* is a peripherally acting mu-opioid receptor antagonist (PAMORA) indicated for the treatment of opioid-induced constipation (OIC). RedHill made an upfront payment of $52.5 million to AstraZeneca on closing and will make a further non-contingent payment of $15 million in 2021.

In addition, we completed the divestment of commercial rights to *Atacand* (candesartan cilexetil) and *Atacand Plus* (a fixed-dose combination of candesartan cilexetil and hydrochlorothiazide) in around 70 countries globally to Cheplapharm. *Atacand* is a prescription medicine approved for the treatment of heart failure (HF) and hypertension. *Atacand Plus* is approved for the treatment of hypertension. Cheplapharm will pay AstraZeneca a total of $400 million in non-contingent consideration, $250 million of which was received in 2020 and the remainder is due in the first half of 2021.

Proceeds

The resulting revenue from these activities supports our R&D investments in our main therapy areas. Ten new transactions that contribute to Collaboration Revenue or generate income through divestment or out-licensing were completed in 2020.

More information on our partnering activity in 2020 can be found in the Financial Review from page 82 and Notes 1 and 2 to the Financial Statements from page 187.

[1] Following the full integration of MedImmune into AstraZeneca, the basis for this metric has changed and is not comparable to prior years.
[2] Following the restructuring of R&D and the associated realignment of Business Development teams across AstraZeneca, the basis for reporting transaction activity has changed. As a result, metrics for 2019 and 2020 are not directly comparable to those reported in previous years.

Intellectual property

Our industry's principal economic safeguard is a well-functioning system of patent and related protection that recognises our efforts and rewards innovation with appropriate protection – and allows time to generate the revenue we need to reinvest in pharmaceutical innovation. Patent rights are limited by territory and duration.

A significant portion of a patent's term can be spent during R&D, before it is possible to launch the protected medicine. Therefore, we commit significant resources to establishing and defending our patent and related IP protection for inventions.

Patent process

We file patent protection applications for our inventions through government patent offices around the world to safeguard the large investment required to obtain marketing approvals for potential new drugs. As we further develop a product and its uses, these new developments may necessitate new patent filings. Our competitors can challenge our patents in patent offices and/or courts, and we may face challenges early in the patent application process and throughout a patent's life – the grounds for these challenges could be the validity of a patent and/or its effective scope and are based on ever-evolving legal precedents. We are experiencing increased challenges around the world and there can be no guarantee of success for either party in patent proceedings.

For information about third-party challenges to patents protecting our products, see Note 29 to the Financial Statements from page 228. For more information on the risks relating to patent litigation and early loss and expiry of patents, see Risk from page 254.

The basic term of a patent is typically 20 years from the filing of the patent application with the relevant patent office. However, a product protected by a pharmaceutical patent may not be marketed for several years after filing due to the duration of clinical trials and regulatory approval processes. Patent Term Extensions (PTEs) are available in certain major markets, including the EU and the US, to compensate for these delays. The term of the PTE can vary from zero to five years, depending on the time taken to obtain any marketing approval. The maximum patent term, when including PTE, cannot exceed 15 years (EU) or 14 years (US) from the first marketing authorisation.

Patent expiries

The table on pages 251 to 253 sets out certain patent expiry dates and sales for our key marketed products.

Other exclusivities

Regulatory data protection (RDP or 'data exclusivity') is an important additional form of exclusivity which is separate from, but runs in parallel with, patent exclusivity. RDP arises in respect of data which is required to be submitted to regulatory authorities to obtain marketing approvals for our medicines. Significant investment is required to generate such data (for example, through conducting global clinical trials) and these proprietary data are protected from use by third parties (such as generic manufacturers) for a number of years in a limited number of countries. The period of such protection, and the extent to which it is respected, differs significantly among countries and varies depending on whether an approved drug is a small molecule or biologic compound. RDP is an important protection for our products and we strive to enforce our rights to it, particularly as patent rights are increasingly being challenged. The RDP period starts from the date of the first marketing approval from the relevant regulatory authority and runs parallel to any patent protection.

If a product takes an unusually long time to secure marketing approval, or if patent protection has not been secured, has expired or has been lost, then RDP may be the sole right protecting a product from being copied. Generic manufacturers, we believe, should not be allowed to rely on AstraZeneca's data to support the generic product's approval or marketing until the RDP right has expired.

In the US, new chemical entities (NCEs) are entitled to a period of five years of RDP under the Federal Food, Drug and Cosmetic Act. This period of RDP runs parallel to any pending or granted patent protection and starts at the approval of the new application. Further, under the Biologics License Application process, the FDA will grant 12 years' data RDP for a new biologic to an innovator manufacturer. In the EU, the RDP period is eight years followed by two years' market exclusivity.

Under Orphan Drug laws in the EU and US, market exclusivity is granted to an innovator who gains approval for a pharmaceutical product developed to treat a rare disease. What qualifies as a rare disease differs between the EU and US. Qualifying Orphan Drugs are granted 10 years' market exclusivity in the EU and seven years' market exclusivity in the US.

Compulsory licensing and access

Compulsory licensing (where a patent authority imposes a licence on the patentee) is on the increase in certain markets in which we operate. We recognise the right of developing countries to use the flexibilities in the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (including the Doha amendment) in certain circumstances, such as a public health emergency. We believe this should apply only when all other ways of meeting the emergency needs have been considered and where healthcare frameworks and safeguards exist to ensure the medicines reach those who need them.

More generally, we are committed to expanding access to healthcare through intellectual property and to providing transparency about where our patents are filed and enforced. See our Intellectual Property statement on our website, www.astrazeneca.com to learn more about our approach, and to view patent rights for medicines used to treat Index diseases.

Information technology and information services resources

We believe the future of healthcare is one of individualised healthcare solutions focused on improved patient outcomes, driven by science and data.

We are therefore embarking on a digital transformation, developing digital solutions to enhance the delivery of our medicines; reduce inefficiencies and support patients in engaging with their own health; redefine the clinical trial experience through the use of digital tools and technologies to improve patient safety and outcomes; harness data science and AI to transform the way we discover and develop new medicines; and transform our Group operations using digital technologies. Our drive towards integrated care is dependent on building interoperable and trusted health data frameworks to be able to unlock the full potential of scientific data for patients and healthcare systems.

With our IT foundation now firmly in place and operating at high levels of efficiency, we have a growing programme portfolio to support this business transformation and which takes advantage of data and analytics, artificial intelligence, digital and the Internet of Things. In order to deliver on these commitments, IT has actively been strengthening its capabilities through recruiting key external talent into the organisation, as the expertise to succeed in some of these technologies was not internally present at the levels needed. In addition to recruiting leaders in new technologies, the IT organisation continues to harness internal capabilities, enabling us to accelerate drug development, revenue growth and profitability.

During 2020, we leveraged our capabilities and technologies to ensure that a significant proportion of our workforce were able to work remotely in an effective way during the COVID-19 pandemic. For more information, see Harnessing data and technology to accelerate change on page 24.

Pioneering new approaches to engagement in the clinic and beyond

Focusing on better patient experiences and outcomes

Digital technologies are creating opportunities to improve patient experience and outcomes.

Digital technologies are creating never-seen-before opportunities to improve clinical practice and engagement both in the clinic and beyond, helping to increase efficiencies and effectiveness for clinicians and support better experiences for patients.

In a typical year, we conduct over 240 global clinical trials, involving more than 123,000 patients, in around 60 countries. Digital is enabling us to improve their design and reduce set-up time. Electronic health records will help improve delivery, and more accurately forecasting drug supplies will avoid waste and delays. Trials will be more patient-centric, the patient burden will be lightened, and the value of the information that trials give us will be increased, helping us to make faster and more effective decisions.

>240

More than 240 global clinical trials in around 60 countries annually

>123,000

More than 123,000 patients involved in clinical trials

For more information, see Research & Development from page 53.

Digital is helping patients optimise medication use, connect with medical staff and manage or prevent adverse events during trials. Invasive monitoring is being replaced with digital – finger-prick glucose monitoring, for example, is being replaced with patches giving continuous readings. It is also helping us improve disease understanding and patient outcomes.

As our digital capabilities grow, we are able to explore how we can help patients prevent, manage or treat their condition with evidence-based, digital therapeutic solutions. For instance, with Voluntis and the National Cancer Institute, we are developing a digital therapeutic for women being treated for recurrent platinum-sensitive high-grade ovarian cancer. Currently in clinical trials, this aims to support patients through tolerability and management of adverse effects – recently winning the Prix Galien award for best patient engagement technology.

People

We grow and prosper by recruiting, retaining and developing talented people. We do that by being a great place to work, encouraging and rewarding innovation, entrepreneurship and high performance.

Overview

In 2020, we made progress across the three pillars of our People Strategy. To ensure we continue to perform as an enterprise team:

- We removed performance ratings and shifted our focus to coaching, development and contribution.
- We saw a four percentage point increase in our employee survey question addressing effective collaboration between teams.
- We made a substantial investment in a global online learning platform providing on-demand access to a comprehensive library of educational resources.
- We have updated our Values to clearly reflect our commitment to Inclusion and Diversity.
- We have developed a comprehensive plan to ensure that the actions we take to address racial equity are meaningful, sustainable and impactful.
- We saw significant progress in the representation of women in senior roles.
- We were encouraged that, through the COVID-19 pandemic, 91% of employees stated that they were getting the support that they needed during this time.

Our People Strategy supports our strategic priorities and is built on three pillars: performing as an enterprise team; being committed to lifelong learning; and being champions of inclusion and diversity.

Performing as an enterprise team

We ensure that all our business areas have robust workforce plans to ensure that we can attract and develop the critical capabilities required to deliver our strategic priorities. These plans are underpinned by predictive analytics, meaning workforce decisions are data-driven. We also use workforce analytics to ensure that we manage our global workforce in an optimum way and continue to implement a significant number of automation and digital initiatives, to allow our workforce to spend a higher proportion of their time on higher-value activity. We have also developed a Digital & Data Hub to build capability and to support our ambition to accelerate the use of digital technology across our value chain.

Attracting key talent and critical capabilities

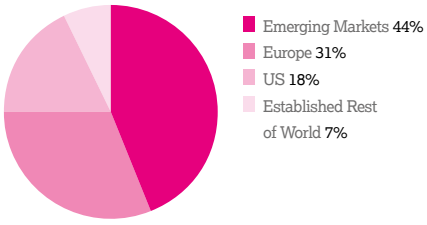
Our graduate and apprentice programmes are critical to attract early-career talent, and to ensure that we build the capabilities we will need in the future, as well as investing in internships and recruitment opportunities globally. We also offer an MBA Development programme in our US Commercial Business, providing business rotations to give our future leaders breadth of experience, as well as a 12-week internship opportunity for business school students to contribute to key initiatives in our Oncology therapy area.

The talent scout model continues to be successful in enhancing our ability to attract key talent and critical capabilities into senior roles. This has been supported by an enhanced employee referral scheme, which has become an increasingly important source of hiring.

During 2020, we hired 15,500 permanent employees, indicating that we are still able to attract key capabilities and talent throughout the COVID-19 pandemic. Hiring over recent

A global business

Employees by reporting region



76,100
employees

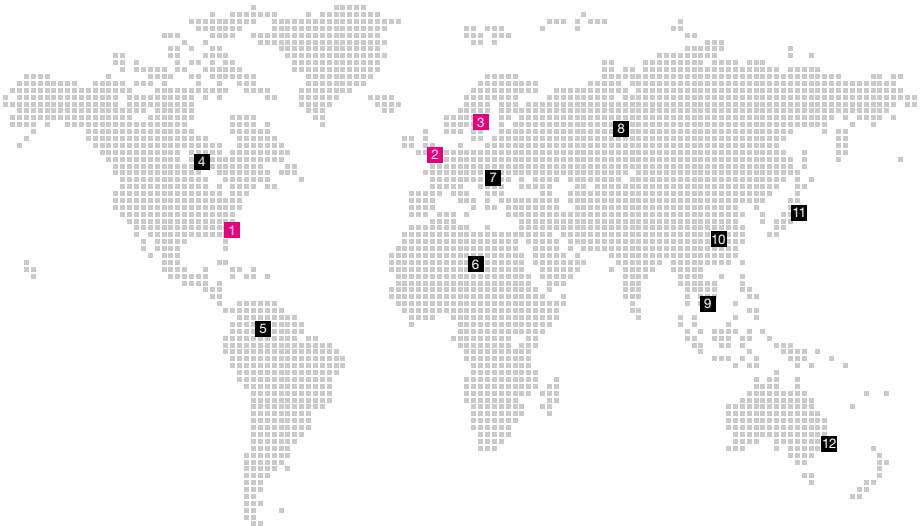
Co-located around three strategic R&D centres

1. Gaithersburg, MD, US
3,500

2. Cambridge, UK
3,300

3. Gothenburg, Sweden
2,400

By geographical area



1. US
13,400
18%

2. UK
8,000
11%

3. Sweden
6,800
9%

4. Canada
1,000
1%

5. Central and South America
3,200
4%

6. Middle East and Africa
1,700
2%

7. Other Europe
9,100
12%

8. Russia
1,400
2%

9. Other Asia Pacific
7,300
10%

10. China
20,000
26%

11. Japan
3,100
4%

12. Australia and New Zealand
1,100
1%

All numbers as at 31 December 2020.

years means that employees with less than two years' service now represent 35% of our global workforce (up from 20% in 2012). This provides a greater balance in terms of refreshing talent and retaining organisational experience. Most of this hiring has been focused in our Emerging Markets, in particular China, as we continue to reshape our workforce footprint to support our strategic objectives and to position us well for the future. Our data indicates that these recent recruits are performing strongly although, in some areas of the business, retention of this population is challenging.

Voluntary employee turnover decreased to 9.7% (2019: 10.5%). The voluntary employee turnover rate among our high performers increased in 2020 to 7.2% (2019: 7.0%), while the voluntary employee turnover of recent hires increased to 14.7% (2019: 14.4%). We seek to reduce regretted turnover through more effective hiring and onboarding, exit interviews, risk assessments and retention plans.

The uncertainty faced by individuals and their families following the UK's departure from the EU could have an impact on hiring and retaining staff in some business-critical areas. Consequently, we continue to provide extensive support and information to employees who might be impacted, monitor trends in recruitment and resignation closely, and guide new hires through our recruitment process.

A culture of high performance

A high-performing workforce underpins our success and, in 2020, our high performers were promoted at twice the rate of the wider employee population. We require every employee to have high-quality objectives, aligned to our strategy, which we monitor closely. To advance our high-performing organisation, in 2020 we took the decision to remove performance ratings and shift our focus to coaching, development and contribution to the organisation. Approximately 7,000 line managers have participated in development workshops to support this. Managers are accountable for working with their teams to develop individual and team performance targets, and for ensuring employees understand how they contribute to our overall business objectives.

To support our ambition to be a Great Place to Work, in May 2020 we introduced a global recognition platform, aligned to our Values, to drive engagement, collaboration and to ensure we celebrate our successes and achievements. The initiative has been successful, with 55,000 employees being recognised in 2020.

Our salary and bonus budgets are distributed in line with our principles, allowing us to differentiate reward according to performance clearly. We encourage participation in various employee share plans, some of which are described in the Directors' Remuneration Report from page 131 and in Note 28 to the Financial Statements from page 225.

Listening to our workforce

Employee opinion surveys help us measure employee sentiment and engagement, and progress in our aim of being a great place to work. Comparing our most recent survey (November 2020) to the previous year (November 2019), of the 20 questions common to both surveys, we improved in 18 questions and saw minor decreases for two, although the scores for these two questions were still above 90% favourable. We continue to score highly for questions related to our Purpose and company direction, patient centricity, and employee commitment to AstraZeneca's success. We saw significant increases in questions around senior leader communication, prioritisation, and being able to challenge decisions and actions not aligned to our Values. We also exceeded our scorecard target for 'I would recommend AstraZeneca as a great place to work'. Importantly, we continue to see positive scores for the proportion of employees who felt 'comfortable to speak up and express their opinion'.

We also track a set of questions related to the impact of the COVID-19 pandemic, to understand how well we are supporting our employees through this challenging time. The responses were positive and encouraging, with 91% of employees replying favourably that they are getting the support they need during this time. Our employees were also invited to participate in a crowdsourcing event – COVID-19: Now & Next. Almost half our employees participated and more than 12,000 people from across 47 countries contributed ideas, reactions and comments. For more detail, see from page 18.

Developing a culture of lifelong learning

We encourage employees to take ownership of their own development and expect leaders to spend time supporting their employees' development.

In early 2019, we took a decision to review how we support the learning and development of our people and this continued through 2020. This work involved a substantial investment to develop a culture of lifelong learning and support the up-skilling and re-skilling of our people. This included a new operating model and global team, and the implementation of a global online learning platform providing on-demand access to a comprehensive library of educational resources. Over 600,000 resources have been accessed since launch.

Developing our people

Through our 'Leading Enterprise' programme, we have invested heavily in supporting our top 150 senior leaders to develop their resilience, agility and adaptive leadership skills to be able to lead with purpose through increasingly ambiguous times. Our other differentiated development programmes, such as 'Leading Self', 'Leading People', and 'Leading Business' programmes, continue to impact engagement and retention measures positively. These are supported by 'Employee Essentials' and 'Manager Essentials', which provide a curated set of digital resources to support foundational business skills and manager capability.

Our 'Women as Leaders' programme aims to encourage more women into senior roles. Approximately 800 women had completed the programme by the end of 2020, with continuing feedback that it is providing positive career outcomes for the participants. In addition, we have developed women's networks in most countries, continued to hold empowerment summits in various locations around the world and to support mentoring relationships, for example, introducing mentoring by senior women for emerging talent in Operations.

We continue to offer our 'Rising Leaders Experience', a development programme aimed at emerging talent who demonstrate the potential to reach senior leadership roles, and in 2020 supplemented this with our 'Accelerate' programme, designed to develop our talent from Emerging Markets.

We continue to provide a global mentoring programme, with the aim of pairing mentors and mentees in order to encourage personal development and to support the implementation of a culture of lifelong learning. This has been successful, with over 1,700 mentors registered and almost 11,000 mentor-mentee relationships established.

In 2020, 60% of vacancies across the top three levels of our organisation were filled internally, reflecting our long-term commitment to develop high-quality leaders and the rigour of our leadership succession planning.

Champions of inclusion and diversity

To foster innovation, we seek to harness different perspectives, talents and ideas, as well as ensuring that our employees reflect the diversity of the communities in which we operate. We focus on inclusive leadership at all levels, creating a culture where people feel able to speak their mind, as well as building a diverse leadership and talent pipeline. Our Values are supported by a clear set of behavioural statements. In 2020, we updated these statements to reflect more clearly our commitment to inclusion and diversity.

We have implemented numerous initiatives across our global population, such as unconscious bias training, and have encouraged and supported the formation of various employee resource groups (such as a neurodiversity network) and updated

recruitment standards to ensure diverse candidate lists and selection panels. To help ensure that our people feel safe and empowered to speak their mind, we introduced 'Meeting of Minds', a framework for conducting meetings that enables constructive challenge and active listening.

Our Inclusion and Diversity (I&D) Council, chaired by the CEO, continues to inform our strategy. In 2020, we held our first global 'Power of Diversity' week, a series of events aimed at emphasising and celebrating the importance of inclusion, diversity and creating an environment where our differences are recognised and our uniqueness is valued, across our entire workforce.

Gender diversity

Our commitments include a goal to increase the number of women on our leadership teams. As shown in the gender diversity figure on this page, women comprise 50.5% of our global workforce. With the appointment of Diana Layfield in November 2020 there were five women on our Board (36% of the total) at the end of 2020. Below Board level, the representation of women in senior roles (i.e. roles at Career Level F or above which constitute the six highest bands of our employee population) increased to 46.9% in 2020 (2019: 45.4%), which exceeded our scorecard target of 46.2% for this measure and compares favourably to external benchmarks. Women are also currently promoted at a higher rate than men across all levels of seniority, positively impacting the gender balance.

Our improved representation of women on the Board (36%) and women on the SET and direct reports (43%) exceeds the Hampton-Alexander review target of 33% by 2020. The 2020 Hampton-Alexander review rankings will be published in February 2021. We also retained our position in the Bloomberg Gender Equality Index in 2020.

Racial and ethnic diversity

Diversity is integrated into our Code of Ethics and its associated Workforce Global Policy as described on page 61. In addition to the two diversity metrics tracked in the AstraZeneca scorecard (representation of women in senior roles and senior leadership country of origin that is an Emerging Market or Japan), on a bi-annual basis, the Senior Executive Team (SET) and Board are provided with a comprehensive overview of the AstraZeneca workforce, covering a wide range of metrics and measures (including trends around gender diversity, leadership ethnic diversity and age profile). The SET is also provided with a quarterly summary of key workforce metrics, including gender diversity and leadership ethnic diversity. Within the US, we track overall ethnic minority representation, ethnic minority representation in senior roles and ethnic minority representation in succession plans.

In support of our commitment to racial equity, our I&D Council has developed a comprehensive plan to ensure that the actions we take are meaningful and sustainable with long-term impact. Our commitments are aligned to our I&D strategy, and see us making contributions both to our company and society more broadly. They include ensuring that our workforce is representative of the communities in which we operate, taking action at each stage of our talent pipeline to increase representation, and driving change beyond our company by ensuring that we reflect the diversity of the communities we serve. Within the UK, AstraZeneca has signed up to the Race at Work Charter (working with the Business in the Community organisation) to address the recommendations of the McGregor-Smith Review and the UK Government's response to the review.

To ensure that our senior leadership reflects our diverse geographic footprint, we track the country of origin of senior leaders and reflect this in our diversity targets. In 2020, 18.4% of employees who are either members of the SET, or their direct reports, have a country of origin that is an Emerging Market or Japan (an increase from 5% in 2012, although slightly below our 2020 scorecard ambition of 20%).

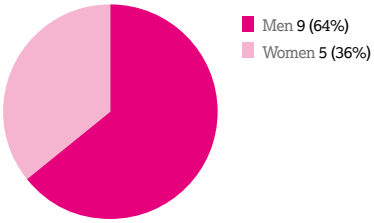
The Parker Review (which was set up by the UK Government in 2017 to focus on the ethnic diversity of FTSE 100 Boards) set a target to have at least one Board member from an ethnic minority background by 2021. AstraZeneca currently has two Board members who identify as belonging to an ethnic minority.

We are committed to hiring and promoting talent ethically and in compliance with applicable laws. Our Code of Ethics and its supporting Standards are designed to help protect against discrimination on any grounds (including disability) and cover recruitment and selection, performance management, career development and promotion, transfer, training, retraining (including retraining, if needed, for people who have become disabled), and reward. Our Global Standard for Inclusion and Diversity sets out how we foster an inclusive and diverse workforce where everyone feels valued and respected because of their individual ability and perspective. More information on our Standards and Global Policy framework can be found on our website, www.astrazeneca.com/sustainability.

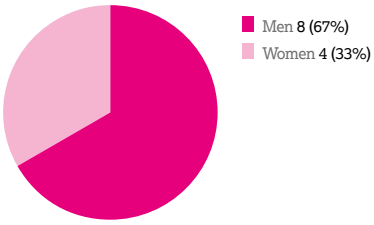
In addition to our Global Standard on Inclusion and Diversity, we recently launched two further Global Standards on sexual harassment, and harassment and bullying. Drawing on our commitment to respect each other and uphold equal opportunity, we aim to build a culture where everyone feels safe to speak up. These Standards are reinforced by training and education on the importance of speaking up (which includes challenging

Gender diversity

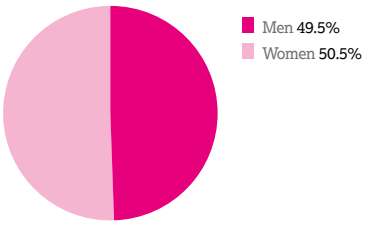
Board of Directors of the Company



Senior Executive Team



AstraZeneca employees



All numbers as at 31 December 2020.

behaviours that are inconsistent with our Values and Code of Ethics), demonstrating inclusive leadership and responding to allegations of misconduct. We have multiple channels available for reporting. Allegations are taken seriously and handled in a manner that is sensitive to the confidentiality and security of those making a report and is subject to global oversight.

AstraZeneca has been an ongoing contributor to the investor-led Workforce Disclosure Initiative (WDI) since its inception in 2017.

Human rights BV

Our Code of Ethics and Human Rights Statement commit us to respecting and promoting international human rights – not only in our own operations, but also in our wider spheres of influence, such as our third-party providers. To that end, we integrate human rights considerations into our processes and practices. We are also committed to ensuring that there is no modern slavery or human trafficking in our supply chains or any part of our business. We provide assurance annually to the Audit Committee and our full statement required under section 54 of the UK Modern Slavery Act 2015 and Section II (14) of the Australian Modern Slavery Act 2018 is available on our website, www.astrazeneca.com.

We support the principles set out in the United Nations Universal Declaration of Human Rights and the International Labour Organization's (ILO) standards on child labour and minimum wages. We have been members of the United Nations Global Compact on Human Rights since 2010.

We measure human rights by means of a labour review survey every two years in all countries where we have a presence. Where local gaps to ILO minimum standards are identified, we put in place local plans to close those gaps where allowed by relevant national legislation. Based on the last report, we have improved our practices to meet a number of standards, including the length of breaks during the working day in Hungary, which means 100% of countries now meet this minimum standard. 100% of countries also now meet the minimum standard for paid holiday. We have increased maternity paid leave up to the minimum standard of 14 paid weeks in Mexico, Malaysia, Thailand, Saudi Arabia and Egypt. In addition to these achievements, all countries now have a grievance policy in place and have implemented measures to prevent and deal with any kind of harassment or discrimination in the workplace. Our reporting in this area is assured by Bureau Veritas.

In 2017, we signed up to the 'Fair Wage' database. These independently produced data were used in our end of 2018 and 2020 surveys to measure against the real earnings of all our employees, and we performed well.

For more information about the assurance provided by Bureau Veritas, see page 275. For more information on our restructuring programme, see the Financial Review from page 82.

Managing change BV

In December 2020, we took the decision to transform our customer engagement model in our US business, in order to adapt to changing customer needs, and to deliver against our evolving portfolio of medicines. As a result of these changes, we will remove approximately 500 positions. We are committed to making outplacement services available to support our impacted employees through this period.

For more information on our restructuring programme, see the Financial Review from page 82.

Employee relations BV

We seek to follow a global approach to employee relations guided by global employment principles and standards, local laws and good practice. In July 2019, we established a new Global Function for Employee Relations.

The purpose of this function is to build and maintain a positive work environment where every employee can feel safe, with the right terms and conditions, productive, motivated and able to speak up. The Board of Directors, in collaboration with our Global Compliance and Employee Relations functions, supports our efforts to create a 'Speak Up' culture to encourage employees to express their opinions and prevent and detect any behaviour not in line with our Values, Code of Ethics and Global Standards. The Audit Committee also checks the sexual harassment and harassment and bullying process activities and cases periodically.

To achieve this objective, we also work to develop and maintain good relations with local workforces and work closely with our recognised national trade unions. We also regularly consult with employee representatives or, where applicable, trade unions, who share our aim of retaining key skills and mitigating job losses. According to our internal Human Rights survey carried out in 2020, 75% of our employees recognise and have a relationship with trade unions. Where trade unions do not exist in an area of operation, 100% of countries have established arrangements to engage similarly with their workforce.

Safety, health and wellbeing BV

We work to promote a safe, healthy and energising work environment for our workforce and partners. Our standards apply globally and are stated in our Code of Ethics as described on page 61 and are available on www.astrazeneca.com/sustainability. We have established and monitor a set of safety, health and wellbeing targets aimed at supporting our workforce and keeping AstraZeneca among the sector leaders in performance. Our performance in this area is in the Sustainability Report and Sustainability Data Summary available on www.astrazeneca.com/sustainability and is assured by Bureau Veritas.

For more information about the assurance provided by Bureau Veritas, see page 275.

Safety

Vehicle collisions

Year	Collisions per million km[1]	Target not to exceed
2020	**2.21**	**3.20**
2019	2.84	3.39
2018	3.69	3.58
2017	4.05	3.76
2016	4.66	4.00
2015 baseline	4.13	

[1] AZ overall collisions per million km for 2018 has been revised after amendments from the US Commercial Group.

Work-related injuries

Year	Reportable injury rate per million hours worked[2]	Target not to exceed
2020	**0.63**	**1.25**
2019	1.11	1.37
2018	1.32	1.50
2017	1.48	1.60
2016	1.57	1.69
2015 baseline	1.78	

[2] Reportable injury rate for 2019 revised due to late confirmation of injuries.

As shown above, we made further progress against our strategic targets in 2020, achieving a 46% reduction in vehicle collision rate and a 64% reduction in the work-related injury rate from the 2015 baseline. In addition, there were no work-related fatalities during 2020. Building on our previous success in establishing a culture of health and wellbeing, we continued to focus on active health promotion. We have programmes to address all four essential health activities – healthy eating and drinking, physical activity, tobacco cessation, and mental wellbeing – at 86%[3] of our sites.

[3] For sites that did not respond to the 2020 Healthy You Survey, the responses from earlier year(s) were used.

Sustainability BV

We are committed to operating in a way that recognises the interconnection between business growth, the needs of society and the limitations of our planet.

Overview

- Seventy Healthy Lung partnerships.
- Sixth anniversary of Healthy Heart Africa and country expansion to Uganda.
- The Young Health Programme partnership with UNICEF announced six accelerator countries to lead joint effort for youth health.
- Switched to 99.9% renewable imported electricity in 2020.
- Gave more than $76 million through our community investment activities.
- Employees volunteered more than 28,000 hours on community projects globally.
- Sustainability strategy focused on access to healthcare, environmental protection, and ethics and transparency.

Benchmarking and assurance

Recognition of our work in sustainability

DJSI

- Named in the Dow Jones Sustainability World and Europe Indices.
- Attained industry-best scores for: Environmental Reporting, Social Reporting, and Strategy to Improve Access to Drugs or Products.

FTSE4Good

- Named as a FTSE4Good Index Series constituent, which is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices.

CDP

- Water Security A List – in recognition of our commitment to transparency around environmental risks and demonstration of sustainable water management.
- Climate Change A List and Supplier Engagement Leader Board – in recognition of our strategy and actions to reduce emissions and manage the risks associated with climate change, in our direct operations and our wider value chain.

ATMI

- Retained a place among the top ten companies of the Index.
- Recognised for strong performance in governance and compliance, and health system strengthening.
- Ranked 3rd in Governance of Access, 6th in Research and Development, and 6th in Product Delivery.

ISAE3000 Assured

- Bureau Veritas has provided independent external assurance to a limited level in accordance with the International Standard on Assurance Engagements 3000 (ISAE3000), and in accordance with ISAE3410 Assurance Engagements on Greenhouse Gas Statements for the sustainability information contained within this Annual Report and Form 20-F

For more information, see Sustainability: Supplementary Information on page 275 and the letter of assurance available on www.astrazeneca.com/sustainability.

Our approach

We want to be valued and trusted by our stakeholders as a source of great medicines over the long term. We operate in a way that broadens access to healthcare and addresses health disparity, minimises the environmental footprint of our products and processes, and ensures that ethics and transparency underpin everything we do.

Our approach to sustainability is aligned with our Purpose, business strategy and stakeholder engagement, allowing us to maximise the benefit for our patients, our business, broader society and the planet. As outlined below, we have a global sustainability strategy that integrates sustainability practices throughout our operations and is based on a structured materiality assessment that engages external and internal stakeholders. We measure our progress through annual and long-term targets, and share periodic updates with analysts, institutional investors, and credit and sustainability rating agencies.

We recognise the connection between enterprise risk management and sustainability management. Enterprise risk management helps inform the sustainability materiality assessment and we have better aligned our risk and sustainability classifications. Sustainability is considered throughout our quarterly risk reviews.

We show performance in our Sustainability Data Summary. Expanded discussion about our sustainability journey is in our 2020 Sustainability Report.

Sustainability governance

Sustainability governance frames how we operate. During 2020, Geneviève Berger, Non-Executive Director, oversaw sustainability matters on behalf of the Board. Nazneen Rahman, Non-Executive Director, assumed these responsibilities from January 2021. Our ambition is to be a leader in sustainability by delivering the strategy from the materiality assessment carried out in 2018 and as outlined in our Sustainability Report. Katarina Ageborg, Executive Vice-President, Sustainability and Chief Compliance Officer, and President AstraZeneca AB, Sweden, is responsible for the global strategy, and performance measures are tracked by the SET on the quarterly Company Scorecard.

Our Sustainability Advisory Board comprises five SET members and four external sustainability experts. In 2020, it provided guidance on strategic direction, recommendations for opportunities, and insights and feedback. Throughout the year, we engaged with employees and external stakeholders, including investors, Ministries of Health, NGOs, patients and suppliers.

Learn more on our website, www.astrazeneca.com/sustainability.

Our sustainability strategy

At AstraZeneca, health is our business and our contribution to society. How we operate supports sustainable ecosystems for healthcare that benefit people and our planet through science-based innovation.

Our aspiration is for a sustainable, healthy future where we continue to be an active participant for a healthy society, planet and business. Our pioneering medicines touch the lives of millions of people so it is a business imperative that we are partners and activists for solutions to global health. At the heart of our sustainability approach is access to healthcare and its connection to environmental protection, and ethics and transparency.

Our pillars	1. Access to healthcare Health is key for thriving people, planet and business	2. Environmental protection The health of the planet impacts all life	3. Ethics and transparency Equality and prosperity for all fosters healthy societies
Our ambitions to 2025	Work towards a future where all people have access to sustainable healthcare solutions for life-changing treatment and disease prevention.	Demonstrate global leadership to proactively manage our environmental impact across all our activities and products.	Create positive societal impact and promote ethical behaviour in all markets across our value chain.
The connection to human health	Innovative healthcare solutions are essential to improving global health outcomes.	Supporting a healthy environment helps prevent the onset of certain diseases and improves health outcomes.	Fostering a culture of doing the right thing across our value chain promotes health and wellbeing.
Our material issues	Disease prevention and treatment, Responsible R&D, Investments in health systems, Environment's impact on health, and Affordability.	Product environmental stewardship, Greenhouse gas reduction, Pharmaceuticals in the environment, Water stewardship, and Waste management.	Ethical business culture, Inclusion and diversity, Talent and workforce evolution, Workforce wellbeing and safety, Responsible supply chain, and Human rights.
Why it matters	Access to healthcare at AstraZeneca goes beyond our medicines. We are working towards a future where all people have access to sustainable healthcare solutions. We are working towards transforming the future of healthcare along the continuum from prevention and awareness to diagnosis and treatment. We innovate across our therapy areas to address the challenges of diseases for patients, and their unmet medical need. We recognise that healthcare delivery systems may be complex and multi-layered and we collaborate with experts to foster patient-centred quality healthcare designed to improve the health outcomes of patients. Our internal initiatives place a strong emphasis on the role of health in workforce wellbeing and safety, our supply chain and environmental stewardship. Information in respect of our focus areas in broadening access to healthcare can be found in this Annual Report as follows: > Investments in health systems, see Access to healthcare on page 73. > Disease prevention and treatment, see Access to healthcare on page 73. > Affordability, see Pricing and delivering value on page 58. > The environment's impact on health, see our Sustainability Report available on our website. > Responsible R&D, see our Sustainability Report available on our website.	We are taking climate action now because we recognise the strong connection between a healthy planet and healthy people. With health at the heart of our business, we work to foster environments in which all life can thrive – seeking opportunities for environmental stewardship and mitigating climate impacts by managing natural resources and ensuring environmental safety of our products across our operations and value chain. Information in respect of our focus areas in protecting the environment can be found in this Annual Report as follows: > Greenhouse gas emissions reduction, see page 75 and page 275. > Waste management, see page 75. > Water stewardship, see page 75. > Product environmental stewardship, see page 75. > Pharmaceuticals in the environment, see page 76.	We want to be valued not only for our medicines, but also for the way we work. We believe integrity, respect and transparency comprise the foundation of a healthy business culture. We build trust by demonstrating ethical business practices and fair treatment in everything we do across our value chain and in society. Information in respect of our focus areas in ethics and transparency can be found in this Annual Report as follows: > Ethical business culture: our Values and norms, practices, standards and principles that guide the actions and behaviour of employees, including our Code of Ethics (see page 61), and acting in an ethical manner that goes beyond compliance with policies, laws and regulations. This applies across all our operations and our entire value chain and includes: – Bioethics (including animal welfare), see page 54. – Anti-bribery and anti-corruption, see page 61. – Intellectual property, see page 65. – Responsible sales and marketing, see page 61. – Transparency reporting, see page 62. > Inclusion and diversity, see page 69 and page 120. > Employee relations, see page 71. > Safety, health and wellbeing, see page 71. > Responsible supply chain, see page 63. > Human rights, see page 71.
Our global development impact			

For more information on our targets and performance, and contribution to the UN Sustainable Development Goals, see our 2020 Sustainability Report available on our website, www.astrazeneca.com/sustainability.

Access to healthcare BV

We are working towards our 2025 ambition by:

> Innovating – to deliver life-changing medicine.
> Partnering – to improve access and affordability.
> Transforming – for the future of healthcare.

In working to achieve this:

> We invest in health systems around the world to ensure that patients have access to healthcare.
> We make changes to address affordability, ensuring our medicines are accessible.
> We support disease prevention and treatment whenever possible, through screenings, awareness programmes and training healthcare professionals.

Below, we highlight some of our key access to healthcare programmes and initiatives. Further examples in this Annual Report include the Young Health Programme (see this page) and Emerging market healthcare (see page 61). More detail on our access programmes can be found in our 2020 Sustainability Report, available on our website, www.astrazeneca.com/sustainability.

Healthy Lung

The Healthy Lung initiative aims to support increased awareness and prevention; earlier diagnosis; improved treatment and disease management; and establishing standards of care in line with international best practice for asthma and COPD.

Since inception, Healthy Lung has:

> Supported the training of more than 103,000 healthcare professionals.
> Enabled diagnosis of more than 1.56 million cases of asthma and/or COPD.
> Activated more than 2,530 Respiratory Centres.
> Aligned 131 national care guidelines and care pathways to international best practice.

The programme is present in Asia, Latin America, and the Middle East and Africa.

Healthy Heart Africa (HHA) is AstraZeneca's innovative programme committed to tackling hypertension (high blood pressure) and the increasing burden of cardiovascular disease (CVD) in Africa. To achieve this, HHA supports local health systems by increasing awareness of the symptoms and risks of hypertension and by offering education, screening, treatment where appropriate, and control. The programme is currently active in both East and West Africa.

Since launching in Kenya six years ago and subsequently expanding to Ethiopia, Tanzania, Ghana and Uganda. HHA has:

> Conducted 16.7 million blood pressure screenings in the community and in healthcare facilities.
> Trained more than 7,360 healthcare workers, including doctors, nurses, pharmacists and community health volunteers.
> Activated more than 820 healthcare facilities in Africa to provide hypertension services.
> Identified more than three million elevated blood pressure readings.

Young Health Programme

The Young Health Programme (YHP) is a non-communicable disease (NCD) prevention programme focused on young people aged 10 to 24 and delivered in partnership with Plan International UK, Project Hope and more than 30 other not-for-profit organisations around the world. In 2020, UNICEF joined YHP as its newest partner, expanding advocacy activities in Angola, Belize, Brazil, Indonesia, Jamaica and South Africa. Together with UNICEF, YHP aims to reach five million young people, train 1,000 youth advocates and positively shape public policy around the world through 2025.

In 2020, we directly reached more than one million young people with health information on NCDs and risk behaviours and trained more than 54,000 peer educators and healthcare workers. We launched new programmes in Bulgaria, Colombia, Egypt, France, Slovenia and the UK and, in line with our goal to support the development of young leaders, we offered 20 scholarships in partnership with One Young World.

A number of YHP countries completed multi-year programme evaluations in 2020 to measure changes in young people's knowledge, attitude and behaviours towards NCDs and NCD risk behaviours. In Kenya, preliminary findings show substantive changes between baseline (n=470) and final evaluation (n=424), for example: current smokers decreased from 47.2% at baseline to 5.9% at final evaluation; young people not meeting the WHO recommendation of fruit and vegetable intake declined from 93.1% at baseline to 37.8 % at final evaluation; and young people not meeting the WHO recommendation for physical activity declined fivefold from 71.7% at baseline to 16.3% at final evaluation. It is our hope that this behaviour change will continue, positively influencing the future health outcomes of these young people.

The COVID-19 pandemic had a significant impact on young people around the world. We adapted our health education programming to reach more than 2 million young people digitally and, where appropriate, included COVID-19 information. We provided grants to support hygiene and education programmes to UNICEF, Plan International and Project Hope to support their humanitarian relief efforts. We also provided Johns Hopkins Bloomberg School of Public Health with a grant to support a new 18-month research project to understand the challenges and implications of the pandemic on young people living in urban poor communities in 11 cities around the world.

Further information on YHP can be found on its website, www.younghealthprogrammeyhp.com.

Environmental protection BV

We follow the science to protect the planet by managing our impact on the environment across our value chain, from R&D activities, our own operations, into our supply chain and customer use of products. Our 2020 targets (against a 2015 baseline) included:

> Reducing our Scope 1 and 2 greenhouse gas (GHG) footprint by 50% to 314 $ktCO_2e$.
> Limiting the increase in our energy consumption to no more than 6% to 1,938 GWh.
> Limiting the increase in our waste generation to less than 24% to 38,173 tonnes.
> Reducing water use by 10% to 3.89 million m^3.

In 2020, $19 million (2019: $15 million) was invested in natural resource efficiency projects at our manufacturing and R&D sites, and a further $28 million has been committed for 2021.

Scope 1 and 2 greenhouse gas footprint emissions (tonnes CO_2e)[1,2]

248,006 tonnes CO_2e

2015 Baseline

Energy consumption (MWh)[1,2]

1,595,330 MWh

% total site energy (heat and power) from renewables[1]
2020: 44%
2019: 31%
2018: 30%

2015 Baseline

Waste production (tonnes)[2,3,4]

30,262 tonnes

2015 Baseline

Water use (million m^3)[2,4]

3.44 million m^3

2015 Baseline

[1] Regular review of the data is carried out to ensure accuracy and consistency. This has led to changes in the data from previous years. Our primary GHG footprint KPI is emissions from all Scope 1 and 2 categories. Previously we included select Scope 3 sources, which are now calculated in our Scope 3 reporting. Numbers have been updated for all three years. The majority of adjustments made are not material individually, except for Scope 1 road fleet (Scope 1 reporting boundary adjusted to leased vehicles only, with personal vehicles accounted in Scope 3). The data quoted in this Annual Report are generated from the revised data.

[2] The data coverage includes 100% of sites that are both owned and controlled globally.

[3] Construction and Demolition data is excluded from waste data.

[4] Regular review of the data is carried out to ensure accuracy and consistency. This has led to changes in the data from previous years. Adjustments have also been made due to change in site ownership.

Greenhouse gas emissions reduction

We launched our Ambition Zero Carbon strategy in January 2020 to accelerate all of our decarbonisation plans. This strategy supersedes our previous Operational GHG footprint target that was a combination of Scope 1, 2 and selected Scope 3 sources. We are taking actions to eliminate Scope 1 and 2 GHG emissions from our sites and fleet by 2025, without carbon credits, and to become carbon negative across our entire Scope 3 value chain by 2030. To support achievement of these goals we joined The Climate Group's energy productivity campaign 'EP100' in 2020 and accelerated our existing commitments to renewable energy, RE100, and having a zero emission marketing fleet, EV100.

Our new GHG targets exceed the Science Based Targets initiative (SBTi) reductions required to keep warming to 1.5 degrees celsius, the most ambitious goal of the Paris Agreement. Our total Scope 1 and Scope 2 emissions have been reduced by 60% from our 2015 baseline. Although our Scope 3 emissions sources continue to fluctuate, we have made progress towards our 2025 science-based targets for these emission sources through strategic developments, including committing to changing the propellants used in our inhalers, improving our switching of freighting of goods from air to sea and rail, and engaging our key suppliers to set science-based targets and renewable energy goals.

For more information on our pressurised metered-dose inhaler (pMDI) therapies, see the Product environmental stewardship section below.

Energy use

We recognise that energy efficiency is the key to a sustainable and cost-effective GHG reduction plan. By 2025, we aim to reduce total energy consumption by 10% from our 2015 baseline, double our energy productivity relative to revenue, and substitute 100% of our energy demand with certified renewable sources for power and heat. Our resource efficiency capital fund invested $19 million in resource efficiency projects in 2020, such as LED lighting and utility efficiency at our Macclesfield, UK site. In 2020, our energy use was 1,595 GWh, a decrease of 13% from our 2015 baseline and we achieved 99.9% supply of certified renewable imported power across all our sites worldwide.

For more information on GHG emissions reporting, see Sustainability: Supplementary Information on page 275.

Waste management

Due to anticipated activity growth across our site network in 2020, we aimed to limit increases in our waste volumes to a 24% increase from our 2015 baseline. In 2020, our total waste was 30,262 metric tonnes, a 2% decrease on 2015. As waste generation is linked to production volumes, our waste reduction ambitions are going to be challenged as our business grows. However, we are focusing on processes to boost our operational efficiency and investing in waste reduction projects to help us reach our target to reduce waste generation by 10% by 2025. While waste prevention is an essential goal, we seek to maximise treatment by material recycling and avoiding landfill disposal when prevention is impractical.

Water stewardship

We recognise the need to use water responsibly and, where possible, to minimise water use in our facilities. In 2020, we targeted a 10% reduction from our 2015 water use. In 2020, our water footprint was 3.44 million m^3, a 20% reduction from our 2015 baseline. Water reduction and reuse projects throughout our site network have improved the efficiency of water use across our operations. In 2020, we collaborated with WWF to analyse the physical, reputational and regulatory water risks across our global operations to establish how we can strengthen our water stewardship programme.

Product environmental stewardship

We are committed to ensuring effective environmental management of our products from pre-launch through to product end-of-life. We work at all stages of a medicine's life-cycle from the design of API production and formulation processes, devices and packaging through to distribution, patient use and final disposal. We prioritise our efforts guided by our life-cycle assessment (LCA) programme that identifies where, in the product value chain, the most significant environmental impacts occur.

During 2020, we finalised a Product Sustainability Index scoring methodology covering significant categories of environmental impact. As we roll out this framework across the business, it will ensure that environmental impacts are understood and minimised throughout the development and commercialisation of a product. A key product-related element of our Ambition Zero Carbon strategy, which launched in January 2020, is our commitment to become carbon

negative across our entire value chain by 2030 and to develop the next-generation respiratory inhalers with near-zero Global Warming Potential (GWP) propellants. We expect the propellant used in our next-generation pMDI to have an environmental footprint, measured as GWP, that is 90-99% lower than propellants used in existing pMDIs. During 2020, we progressed a project spanning all key functions in the business to investigate alternative low-GWP propellant options from an environmental, technical, regulatory, medical, non-clinical and commercial viewpoint.

Pharmaceuticals in the environment

We aim to lead our industry in understanding and mitigating the effects of pharmaceuticals in the environment (PIE). An estimated 98% of pharmaceuticals get into the environment as a result of patient use (excretion or improper disposal). While API discharge from production is only a small proportion of the environmental burden, it is the part we as an industry can deal with directly. We manage the manufacturing discharge of our APIs in a responsible manner to ensure that we do not exceed the safe discharge standards from all of our own manufacturing sites and from at least 90% of key suppliers. We review compliance with these safe discharge standards annually.

As part of our progress towards our 2025 environmental targets, our 2020 targets included:

> Safe API discharges for AstraZeneca sites (100%) and globally managed first-tier suppliers (>90%). Target met.
> Management of PIE through our ecopharmacovigilance programme. Target met.

A thorough assessment of the environmental risks resulting from the patient use of all our APIs has indicated that all our medicines currently pose low or insignificant environmental risk and our ongoing ecopharmacovigilance of published data on our APIs has not highlighted any additional risks or changed our safe discharge concentrations.

Further information on our efforts in these areas, including environmental risk assessment data for our medicines, is available on our website, www.astrazeneca.com/sustainability/environmental-sustainability.

Contributing to society

We aim to make a significant financial and non-financial contribution to the communities in which we operate. This comprises our medicines for patients and our focus on sustainability for people and the environment. As a science-led, patient-focused pharmaceutical company, our innovative medicines impact millions of lives annually. But our contribution to society extends beyond this to include our wider efforts to benefit people and the planet. Additionally, wherever we work in the world, we aim to make a positive impact on our communities, making financial contributions, supporting healthcare and STEM education programmes, volunteering, and through product donations.

As a major investor, employer and taxpayer, we also make a significant contribution to the economies of all the countries in which we operate. We pay corporate income taxes, customs duties, excise taxes, stamp duties, employment and many other business taxes where applicable in the jurisdictions in which we operate. In addition, we collect and pay employee taxes and indirect taxes such as value-added tax.

Community investment BV

Our Global Standard on External Funding encompasses community investment and provides guidance to ensure a consistent, transparent and ethical approach around the world, based on local need. Our activities are focused on healthcare in the community and supporting science education. They include financial and non-financial contributions. In 2020, we gave more than $76 million (2019: $72 million) through our community investment activities to more than 1,300 non-profit organisations in 88 countries. The amount includes more than $20 million (2019: $27.4 million) for product donations that were given in support of public health needs and disaster relief. In addition to these community investments, we also donated more than $1.6 billion (2019: $801 million) of medicines in connection with patient assistance programmes around the world, the largest of which is our AZ&Me programme in the US. The increase reflects a larger number of patients enrolled in our programme and the mix of products donated.

25m

Our access to healthcare programmes, including Healthy Heart Africa, Healthy Lung, Phakamisa, and Young Health Programme (YHP), have reached 25 million people (2019: 20.5 million).

>$76m

In 2020, we gave more than $76 million (2019: $72 million) through our community investment activities to more than 1,300 non-profit organisations in 88 countries

In 2020, our Step Up! Young Health Global Grants Programme provided a total of $198,000 to help 20 small, youth-focused non-profit organisations deliver innovative health promotion programmes in 15 countries around the world. In 2020, we reached over 1.25 million students and educators with engaging and accessible STEM education, including our Ask a Scientist video series which generated more than 375,000 views, and our virtual STEM festivals achieved registration of over 150,000 STEM enthusiasts around the world. Our signature initiative Generation Health: How Science Powers Us reached more than one million students and has become a steadfast resource for teachers and parents in the US and around the world, as they look for resources to support at-home learning.

We continue to support *Connections for Cardiovascular Health*℠ (CCH), a programme of the AstraZeneca HealthCare Foundation launched in 2010 to address heart health in the US. In 2020, CCH marked its tenth anniversary and launched CCH Next Generation by providing $1.02 million in grants to nine non-profit organisations for programmes that aim to help prevent, better manage and reduce cardiovascular disease.

Making a positive impact on our communities is also about volunteering. We encourage our employees to volunteer and support their efforts with one day's leave for community service. In 2020, our employees volunteered more than 28,000 hours on community projects in countries around the world.

For more information on the Step Up! Young Health Global Grants Programme, visit www.younghealthprogrammeyhp.com.
For more information on Generation Health, visit www.howsciencepowersus.com.
For more information on the AstraZeneca HealthCare Foundation's *Connections for Cardiovascular Health*℠ programme, visit www.astrazeneca-us.com/foundation.
For more information on the AstraZeneca HealthCare Foundation, see the Glossary from page 280.

Product donation programmes BV

Our global product donation partners are Americares, Direct Relief and Health Partners International of Canada. In 2020, we continued to support humanitarian efforts to provide healthcare to people with urgent medical needs in countries around the world, including Haiti, El Salvador and Myanmar.

As noted above, in some countries, our patient assistance programmes offer medicine for free to patients who cannot afford to pay. These programmes vary by country with the largest being AZ&Me in the US. AZ&Me is governed as a 501(c) (4) organisation, which categorises the activity for the purpose of social welfare and establishes specific governance requirements, which keeps it separate from our commercial business.

In 2020, we celebrated the twelfth year of our collaboration with Americares and the Sihanouk Hospital Center of Hope (SHCH) for the Cambodia Breast Cancer Initiative. During the year, the programme administered more than 18,500 units of free AstraZeneca medicines to post-menopausal breast cancer patients in the SHCH's treatment cohort.

For more information, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

Non-Financial Information Statement

Under sections 414CA and 414CB of the Companies Act 2006, as introduced by the Companies, Partnerships and Groups (Accounts and Non-Financial Reporting) Regulations 2016, AstraZeneca is required to include, in its Strategic Report, a non-financial statement containing certain information. As required by the Regulations, the Strategic Report contains information on the following matters, which include references to our relevant policies, due diligence processes and information on how we are performing against various measures in these areas:

> Code of Ethics, see page 61.
> Environmental protection, see pages 73 to 76.
> People, see pages 68 to 71.
> Contributing to society, see pages 76 to 77.
> Respect for human rights, see page 71.
> Anti-bribery and anti-corruption, see page 61.

Information on the Group's Principal Risks is included in Risk Overview (see from page 78) and information on the non-financial key performance indicators relevant to our business is included in Key Performance Indicators (see from page 18). A description of our business model is contained in Business Model and Life-cycle of a Medicine (see from page 8).

Risk Overview

We face a diverse range of risks and uncertainties. Those risks that have the potential to have a material impact on our business or results of operations are our Principal Risks.

The Board has carried out a robust assessment of the Principal and Emerging risks facing the Group. The table overleaf provides insight into the ongoing Principal Risks, outlining why effective management of these risks is important and relevant to the business, how we are managing them and which risks are rising, falling or have remained static during the past 12 months. The procedures in place to identify emerging risks are explained below.

Managing risk

Our approach to risk management is designed to encourage clear decision making on which risks we take and how we manage these risks. Fundamental to this process is a sound understanding of every risk's potential strategic, commercial, financial, compliance, legal and reputational implications.

We work to ensure that we have effective risk management processes in place to support the delivery of our strategic priorities. This enables us to meet the expectations of our stakeholders and upholds our Values. The Board believes that existing processes provide it with adequate information on the risks and uncertainties we face. Further information can be found in Risk from page 254, which includes a description of circumstances under which Principal and other risks and uncertainties might arise in the course of our business and their potential impact.

Emerging risks

Emerging risks are 'new' risks which may challenge us in the future. They have the potential to crystallise at some point in the future but are unlikely to impact the business during the next year. The outcome of such risks is often more uncertain. They may begin to evolve rapidly or simply not materialise.

We monitor our business activities and external and internal environments for new, emerging and changing risks to ensure that these are managed appropriately. Annually, we combine input from each SET function and external insight to scan the horizon for emerging risks. A summary of emerging risks is presented for assessment to the Audit Committee and the Board. Emerging risks continue to be monitored as part of our ongoing risk management processes.

Climate risk

The identification and assessment of climate risk form part of our existing risk management processes as described below. 'Failure to meet regulatory and ethical expectations on environmental impact, including climate change' has been added to the Group's risk landscape as a standalone enduring risk during 2020, having been included as a sub-risk within the broader Health, Safety and Environment risk previously. The Taskforce on Climate-related Financial Disclosures (TCFD) section, (see from page 276), summarises work undertaken to date to understand the potential impact of climate change on our business and outlines future areas of management focus.

Risk management embedded in business processes

We strive to embed sound risk management in our strategy, planning, budgeting and performance management processes.

The Board defines the Group's risk appetite, enabling the Group, in both quantitative and qualitative terms, to judge the level of risk it is prepared to take in achieving its overall objectives. The Board expresses the acceptable levels of risk for the Group using three key dimensions. These are: (i) earnings and cash flow; (ii) return on investment; and (iii) ethics and reputation. Annually, the Group develops a detailed three-year bottom-up business plan and 10-year long-range projection to support the delivery of its strategy. The Board considers these in the context of the Group's risk appetite. Adjustments are made to the plan or risk appetite to ensure that they remain aligned. Our risk management approach is aligned to our strategy and business planning processes. We cross-check financial risks and opportunities identified through the business planning process and integrate our findings into the overall risk management reporting. Line managers are accountable for identifying and managing risks and for delivering business objectives in accordance with the Group's risk appetite.

The SET is required by the Board to oversee and monitor the effectiveness of the risk management processes implemented by management. Within each SET function, leadership teams discuss the risks the business faces. This process provides a Group-wide assessment for the Board, Audit Committee and SET. Quarterly, each SET function assesses changes to these risks, new and emerging risks, and mitigation plans. These are assimilated into a Group Risk Report for the Board, Audit Committee and SET. Supporting tools are in place to assist risk leaders and managers in managing, monitoring and planning for risk. We continue to work on developing our risk management standards and guidelines. Global Compliance, Finance and Internal Audit Services support SET by advising on policy and standard setting, monitoring and auditing, and communication and training, as well as reporting on the adequacy of line management processes as they apply to risk management.

We have a business resilience framework which governs our ability to prevent or quickly adapt to situations while maintaining continuous business operations and safeguarding our people, processes and reputation. Within this we have business continuity plans to address situations in which specific risks have the potential to severely impact our business. These plans include training and crisis simulation activities for business managers.

More information about our Global Compliance function and the Code of Ethics can be found in the Corporate Governance Report, see page 118, and the Business Review, see page 61.

Viability statement

In accordance with provision 31 of the 2018 UK Corporate Governance Code, the Board has determined that a three-year period to 31 December 2023 constitutes an appropriate period over which to provide its viability statement.

The Board considers annually and on a rolling basis, a three-year bottom-up detailed business plan. The Board also assesses the company's prospects using a 10-year long-range projection but, given the inherent uncertainty involved, believes that the three-year statement presents readers of this Annual Report with a reasonable degree of assurance while still providing a longer-term perspective.

The three-year detailed business plan captures risks to the sales and cost forecasts at a market and SET function level. The plan is used to perform central net debt and headroom profile analysis. The following scenarios have been applied to this analysis to create a severe but plausible downside combining some of the Principal Risks, see from page 80:

- **Scenario 1** Principal Risks: pricing, affordability, access and competitive pressures; failures or delays in the quality or execution of the Group's commercial strategies. Government action on pricing and the impact of the COVID-19 pandemic results in higher than expected pressure on pricing and lower than anticipated growth rates for our medicines.
- **Scenario 2** Principal Risk: failure or delay in the delivery of our pipeline or launch of new medicines. Assumes no launches of new products.
- **Scenario 3** Principal Risk: failure to maintain supply of compliant, quality medicines. Major equipment failure or significant regulatory observation at one of our major manufacturing sites results in a 12-month supply interruption for one of our key oncology products.

- **Scenario 4** Principal Risks: pricing, affordability, access and competitive pressures; failures or delays in the quality or execution of the Group's commercial strategies. A significant incident leads to reputational damage in a key market resulting in an ongoing reduction in market share.
- **Scenario 5** Principal Risks: failure in information technology or cybersecurity; failure to meet regulatory and ethical expectations on commercial practices, including anti-bribery and corruption, and scientific exchanges. Legal or regulatory non-compliance results in the levy of a significant fine.

In addition, the Board has considered more stressed scenarios including restrictions on debt factoring. In each scenario or combination of scenarios above, the Group is able to rely on its existing cash, cash equivalents and short-term fixed income investments, committed credit facilities, leverage its cost base, reduce capital expenditure and take other cash management measures to mitigate the impacts and still have residual capacity to absorb further shocks.

Based on the results of this analysis, the Directors have a reasonable expectation that the Company will be able to continue in operation and meet its liabilities as they fall due over the three-year period of their assessment.

On 12 December 2020, the Group signed a definitive agreement to acquire Alexion subject to regulatory clearance and approval by shareholders of both companies. The deal is anticipated to close in the third quarter of 2021. The Directors have considered the funding requirements together with the forecast proforma financial performance of the combined entity and have concluded that this transaction does not change the assessment of Viability as outlined above.

Brexit

On 23 June 2016, the UK held a referendum on the UK's continuing membership of the EU, the outcome of which was a decision for the UK to leave the EU (Brexit). Following Royal Assent of the European Union (Withdrawal Agreement) Act on 23 January 2020 and ratification of the Withdrawal Agreement by the European Parliament on 24 January 2020, the UK left the EU on 31 January 2020 and became a third country with a transition period which ran to 31 December 2020.

On 24 December 2020, the UK Government and European Commission agreed the terms of a Trade and Cooperation Agreement which sets out the relationship between the UK and the EU following the end of the transition period. Entering into this agreement was provisionally approved by the European Council on 29 December 2020 and the associated UK legislation received Royal Assent on 30 December 2020. The European Parliament is due to scrutinise the agreement formally in the coming months prior to providing its consent to it. The agreement comprises a Free Trade Agreement, rules on governance and dispute resolution and, security cooperation. The Free Trade Agreement provides for zero tariffs and zero quotas on all goods that comply with the appropriate rules of origin; maintains a level playing field in areas such as environmental protection, social and labour rights, tax transparency and state aid, with enforcement and a binding dispute settlement mechanism; and maintains air, road, rail and maritime connectivity but with new customs and passport checks and limitations on haulage operations.

Until the European Parliament has consented to the European Commission entering into the agreement, there is no clarity on how the new agreement will operate in practice. It is therefore difficult to anticipate the potential impact on AstraZeneca's market share, sales, profitability and results of operations.

The Group operates from a global footprint and retains flexibility to adapt to changing circumstances. The continuing uncertainty on the impact of the practical implementation of the Trade and Cooperation agreement is expected to increase volatility and may have an economic impact, particularly in the UK and Eurozone.

Since the time of the referendum in 2016, the Group has responded to the evolving situation by engaging proactively with key external stakeholders and establishing a cross-functional internal steering and implementation committee to understand, assess, plan and implement operational actions that may be required to mitigate risks associated with a no deal Brexit.

These actions have already been implemented based on an assumption that the UK would have left the EU without a deal or extension to the transition period under the Withdrawal Agreement on 31 December 2020 such that the Group has been able to mitigate the risks arising from variable external outcomes to the negotiation. Actions undertaken in this regard include, but are not limited to: engagement with governments and regulators; duplication of release testing and procedures for products for the EU27 in the EU; transfer of regulatory licences; redesign of packaging and labelling; additional inventory builds; changes to logistics plans and shipping routes; customs and duties set up for introduction of or amendment to tariffs or processes; associated IT systems reconfigurations; and banking arrangement changes.

The Board reviews the potential impact of Brexit regularly as an integral part of its Principal Risks (as outlined overleaf) rather than as a standalone risk. The Board most recently reviewed an update on the Group's Brexit readiness plans at its meeting in December 2020 and continues to assess its impact.

COVID-19 pandemic

The risk 'failure of critical processes' (see page 262) incorporates the risk of disruption as a result of a pandemic. The Board does not consider this to be a Principal Risk in its own right. However, the impact of the COVID-19 pandemic on the Group operations is highly uncertain and cannot be predicted with confidence and the extent of any adverse impact on Group operations will depend on the global duration, extent and severity of the pandemic. To the extent that the pandemic adversely impacts Group operations and/or performance, the Company expects it to have the effect of heightening certain risks, including Principal Risks, such as those relating to the delivery of the pipeline or launch of new medicines, the execution of the Group's commercial strategy, the manufacturing and supply of new medicines, and reliance on third-party goods and services.

On 4 May 2020, the Group announced a collaboration with the University of Oxford for the development and distribution of the University's potential recombinant adenovirus vaccine aimed at preventing COVID-19 infection from the SARS-CoV-2 virus. Though there are significant funding flows associated with this collaboration, financial risks for the Group are balanced by matching cash outflows incurred during the development and manufacture of this vaccine with funding to secure supply received from government agencies and other international organisations. Any potential financial exposure for the Group is limited. The Group has built capacity (which includes both internal and third-party capacity) for the manufacture of approximately 3 billion vaccine doses as a result of this collaboration and has entered into a number of supply agreements around the world. 'Failure to maintain supply of compliant, quality medicines' is one of the Group's Principal Risks disclosed on page 80. A failure to supply the vaccine as expected may lead to a negative reputational impact for the Group.

Risk Overview
continued

Principal Risks

Strategy key

- Deliver Growth and Therapy Area Leadership
- Accelerate Innovative Science
- Be a Great Place to Work
- Achieve Group Financial Targets

Trend key

- Increasing risk
- Decreasing risk
- Unchanged

Risk category and Principal Risks	Context/potential impact	Management actions	Trend versus prior year
Product pipeline and intellectual property			
Failure or delay in the delivery of our pipeline or launch of new medicines	The development of any pharmaceutical product candidate is a complex, risky and lengthy process involving significant financial, R&D and other resources. A project may fail or be delayed at any stage of the process due to a number of factors, which could reduce our long-term growth, revenue and profit.	> Prioritise and accelerate our pipeline. Strengthen pipeline through acquisitions, licensing and collaborations. > Focus on innovative science in three main therapy areas.	Changing patient behaviour as a result of the ongoing COVID-19 pandemic may result in unexpected delays to clinical programmes.
Failure to meet regulatory or ethical requirements for medicine development or approval	Our pharmaceutical products and commercialisation processes are subject to extensive regulation. Delays in regulatory reviews and approvals impact patients and market access, and can materially affect our business or financial results.	> Quality management systems incorporating monitoring, training and assurance activities. > Collaborating with regulatory bodies and advocacy groups to monitor and respond to changes in the regulatory environment, including revised process, timelines and guidance.	
Failure to obtain, defend and enforce effective IP protection or IP challenges by third parties	Discovering and developing medicines requires a significant investment of resources. For this to be a viable investment, new medicines must be safeguarded from being copied for a reasonable amount of time. If we are not successful in obtaining, maintaining, defending or enforcing our IP rights, and face competition from generic or biosimilar products, our revenues could be materially adversely affected. Third parties may allege infringement of their IP, and may seek injunctions and/or damages, which, if ultimately awarded, could adversely impact our commercial and financial performance.	> Active management of IP rights and IP litigation.	
Commercialisation			
Pricing, affordability, access and competitive pressures	Operating in more than 100 countries, we are subject to political, socioeconomic and financial factors, both globally and in individual countries. There can be additional pressure from governments and other healthcare payers on medicine prices and sales in response to recessionary pressures, which may lead to a reduction in our revenue, profits and cash flow.	> Focus on sales platforms. > Demonstrating value of medicines/ health economics. > Global footprint. > Diversified portfolio.	Global economic and political conditions placing downward pressure on healthcare pricing and spending, and therefore on revenue.
Failure or delays in the quality or execution of the Group's commercial strategies	If commercialisation of a product does not succeed as anticipated, or its rate of sales growth is slower than anticipated, there is a risk that we may not be able to fully recoup related launch costs.	> Focus on sales platforms. > Accelerate execution of plans and risk share through business development and strategic collaborations and alliances.	Maximising the commercial potential of our new products underpins the success of our strategy and the delivery of our short and medium-term targets.
Supply chain and business execution			
Failure to maintain supply of compliant, quality medicines	Delays or interruptions in supply can lead to recalls, product shortages, regulatory action, reputational harm and lost sales revenue.	> Establishment of new manufacturing facilities, creating capacity and technical capability to support new product launches. > Contingency plans including dual sourcing, multiple suppliers, and close monitoring and maintenance of stock levels. > Business continuity and resilience initiatives, disaster and data recovery and emergency response plans. > Quality management systems.	External factors such as the COVID-19 pandemic and Brexit place increased pressure on supply chains and distribution networks.

Risk category and Principal Risks	Context/potential impact	Management actions	Trend versus prior year
Supply chain and business execution *continued*			
Failure in information technology or cybersecurity	Significant disruption to our IT systems or cybersecurity incidents, including breaches of data security, could harm our reputation and materially affect our financial condition or results of operations. This could lead to regulatory penalties or non-compliance with laws and regulations.	> Cybersecurity framework and dashboard. > Disaster and data recovery plans. > Strategies to secure critical systems and processes. > Regular cybersecurity and privacy training for employees.	↑ Growing multi-faceted cyber threat.
Failure to attract, develop, engage and retain a diverse, talented and capable workforce	Failure to attract and retain highly-skilled personnel may weaken our succession plans for critical positions in the medium term. Employee uncertainty as a result of, for example, Brexit or organisational change may result in a lower level of employee engagement which could impact productivity and turnover. Both could adversely affect the achievement of our strategic objectives.	> Targeted recruitment and retention strategies deployed. > Identification and active support of staff potentially impacted by Brexit. > Development of our employees. > Evolve our culture.	↔
Legal, regulatory and compliance			
Safety and efficacy of marketed medicines is questioned	Patient safety is very important to us and we strive to minimise the risks and maximise the benefits of our medicines. Failure to do this could adversely impact our reputation, our business and the results of operations, and could lead to product liability claims.	> Robust processes and systems in place to manage patient safety and efficacy trends as well as externally reported risks through regulatory agencies and other parties. This includes a comprehensive pharmacovigilance programme supplemented by close monitoring and review of adverse events.	↑ The number of new products in our portfolio continues to grow. Our ability to assess the safety and efficacy of new medicines accurately is inherently limited due to relatively short periods of testing and relatively small clinical study patient samples.
Adverse outcome of litigation and/or governmental investigations	Investigations or legal proceedings could be costly, divert management attention and/or damage our reputation and demand for our products. Unfavourable resolutions could subject us to criminal liability, fines, penalties or other monetary or non-monetary remedies, adversely affecting our financial results.	> Combined internal and external counsel management.	↔
Failure to meet regulatory and ethical expectations on commercial practices, including anti-bribery and anti-corruption, and scientific exchanges	Any failure to comply with applicable laws, rules and regulations, including anti-bribery and anti-corruption legislation, may result in civil and/or criminal legal proceedings and/or regulatory sanctions, fines or penalties, impacting financial results.	> Strong ethical and compliance culture. > Established compliance framework including annual Code of Ethics training for all employees. > Focus on due diligence and oversight of third-party engagements.	↑ Increasing government and regulatory scrutiny and evolving compliance challenges as complexity of business relationships increases.
Economic and financial			
Failure to achieve strategic plans or meet targets or expectations	Failure to implement successfully our business strategy may frustrate the achievement of our financial or other targets or expectations. This failure could, in turn, damage our reputation and materially affect our business, financial position or results of operations.	> Focus on sales platforms and innovative science in three main therapy areas. > Strengthen pipeline through acquisitions, licensing and collaborations. > Appropriate capital structure and balance sheet. > Portfolio-driven decision making process governed by senior executive-led committees.	↑ Global economic and political conditions placing downward pressure on healthcare pricing and spending, and therefore on revenue.

Financial Review

2020 delivered sustained, double-digit Total Revenue growth, steered by sales of New Medicines, driving increased profitability.

"2020 generated Total Revenue growth of 9% (CER: 10%) to $27 billion, including eight blockbusters and another outstanding performance by New Medicines with growth of 35% (CER: 36%) to $13 billion."

Sustained Total Revenue growth

Despite the COVID-19 pandemic, AstraZeneca achieved Total Revenue of $26.6 billion with growth of 9% (CER: 10%) in 2020.

Product Sales grew by 10% (CER: 11%) to $25.9 billion, including eight blockbuster medicines. Our continued investment in New Medicines was evidenced by the rapid growth of Product Sales in the Oncology and New CVRM therapy areas, which grew by 25% (CER: 26%) and 7% (CER: 8%) respectively. Globally, New Medicines sales, led by *Tagrisso* and *Lynparza* in Oncology and *Brilinta* and *Farxiga* in New CVRM delivered continued growth of 35% (CER: 36%) and represented 52% of total Product Sales. Within our sales platforms, we continue to see sales growth in Emerging Markets with sales increasing by 6% (CER: 10%), primarily driven by China, which comprised 62% of Product Sales within that region and generated growth of 10% (CER: 10%).

Collaboration Revenue declined by 11% (CER: 11%) to $727 million and included $460 million of milestone payments from the ongoing MSD arrangement on *Lynparza* and selumetinib and a $94 million share of gross profits arising from our alliance with Daiichi Sankyo for the development of *Enhertu*.

Investing in future growth

We continue to make focussed investments in the business to support our key objectives. Reported R&D expenses decreased by 1% (CER: 1%) to $5,991 million. Core R&D expenses increased by 10% (CER: 10%) to $5,872 million, reflecting our continued investment in the Oncology pipeline. Reported Selling, general and administrative (SG&A) expenses decreased by 3% (CER: 3%) with Core SG&A expenses increasing by 3% (CER: 4%). Within Core SG&A expenses, we saw investment in New Medicine launches and China expansion partially offset by COVID-19 pandemic-related savings.

Divestment activity

2020 Reported and Core Other operating income was $1.5 billion and included income from various disposal transactions, including the sale of the international and Canadian rights for *Atacand* to Cheplapharm and the sale of the global rights excluding US, India and Japan for Zestril, Inderal and Tenormin to Atnahs.

Increased profitability

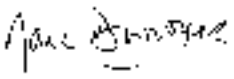
We are making good progress on delivering our operating leverage. In 2020, Reported Operating profit grew by 77% (CER: 81%) to $5.2 billion and Core Operating profit grew by 14% (CER: 17%) to $7.3 billion in the year, primarily driven by Product Sales growth. Reported Basic earnings per share (EPS) was $2.44 and Core EPS was $4.02.

Acquisition of Alexion

In December 2020, we were excited to announce that we had reached agreement with the board of Alexion to acquire 100% of the company. We are looking forward to building on our combined expertise, to enhance our presence in Immunology and drive the Group's strategic and financial development. To support the financing of the acquisition, AstraZeneca entered into committed bank facilities of $17.5 billion during December 2020.

COVID-19

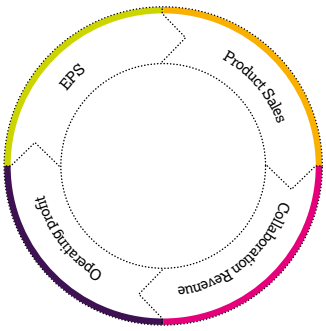
The COVID-19 pandemic presented new challenges for the business with reduced elective surgery and hospitalisations for non-COVID-19-related illnesses impacting sales of our medicines. Notably, we mobilised our research efforts to target the SARS-CoV-2 virus, and developed the *COVID-19 Vaccine AstraZeneca* in collaboration with the University of Oxford, as well as initiating clinical trials for AZD7442. We are delighted that the *COVID-19 Vaccine AstraZeneca* has been approved in the UK, Europe and other countries.



Marc Dunoyer
Chief Financial Officer

Highlights

Financial performance



Product Sales

$25.9bn
Reported and Core
(2019: $23.6bn)

Collaboration Revenue

$0.7bn
Reported and Core
(2019: $0.8bn)

Operating profit

$5.2bn
77% growth – Reported
(CER: 81%)

$7.3bn
14% growth – Core
(CER: 17%)

EPS

$2.44
137% growth – Reported
(CER: 142%)

$4.02
15% growth – Core
(CER: 18%)

Sales platforms

Oncology

25%
growth
(CER: 26%)

Emerging Markets

6%
growth
(CER: 10%)

Respiratory & Immunology

(1)%
decline
(CER: stable)

New CVRM

7%
growth
(CER: 8%)

Japan

2%
growth
(CER: 1%)

Summary performance in 2020

	Reported			CER			Core		
	2020 $m	2019 $m	% change	CER growth[1] $m	Growth due to exchange effects $m	% change	2020 $m	2019 $m	% change
Product Sales	**25,890**	23,565	**10**	2,550	(225)	11	**25,890**	23,565	**10**
Collaboration Revenue	**727**	819	**(11)**	(91)	(1)	(11)	**727**	819	**(11)**
Total Revenue	**26,617**	24,384	**9**	2,459	(226)	10	**26,617**	24,384	**9**
Cost of sales	**(5,299)**	(4,921)	**8**	(391)	13	8	**(5,175)**	(4,761)	**9**
Gross profit	**21,318**	19,463	**10**	2,068	(213)	11	**21,442**	19,623	**9**
Operating expenses	**(17,684)**	(18,080)	**(2)**	360	36	(2)	**(15,633)**	(14,748)	**6**
Other operating income and expense	**1,528**	1,541	**(1)**	(12)	(1)	(1)	**1,531**	1,561	**(2)**
Operating profit	**5,162**	2,924	**77**	2,416	(178)	81	**7,340**	6,436	**14**
Net finance expense	**(1,219)**	(1,260)	**(3)**	46	(5)	(4)	**(782)**	(765)	**2**
Share of after tax losses of joint ventures and associates	**(27)**	(116)	**(77)**	88	1	(76)	**(27)**	(116)	**(77)**
Profit before tax	**3,916**	1,548	**153**	2,550	(182)	157	**6,531**	5,555	**18**
Taxation	**(772)**	(321)	**140**	(486)	35	145	**(1,312)**	(1,109)	**18**
Profit after tax	**3,144**	1,227	**156**	2,064	(147)	160	**5,219**	4,446	**17**
Basic earnings per share ($)	**2.44**	1.03	**137**	1.52	(0.11)	142	**4.02**	3.50	**15**

[1] As detailed on page 85, CER growth is calculated using prior year actual results adjusted for certain exchange rate effects including hedging.

Business background and results overview

The business background is covered in the Healthcare in a changing world section from page 12, the Therapy Area Review from page 30 and the Performance in 2020 section from page 24, which describe in detail the business developments of our products.

As described earlier in this Annual Report, sales of our products are directly influenced by medical need and are generally paid for by health insurance schemes or national healthcare budgets. Our operating results can be affected by a number of factors other than the delivery of operating plans and normal competition, such as:

- The risk of competition from generics following loss of patent protection or patent expiry of one of our products, or an 'at risk' launch by a competitor, or the launch of a competitive product in the same class as one of our products, with potential adverse effects on sales volumes and prices. Details of patent expiries for our key marketed products are included in Patent Expiries of Key Marketed Products from page 249.
- The adverse impact on pharmaceutical prices as a result of the macroeconomic and regulatory environment. For instance, in the US, political leadership has continued to consider drug pricing controls and transparency measures at national and local levels. In other parts of the world, governments have continued to implement and expand price control measures, including reference pricing.
- The timings of new product launches, which can be influenced by national regulators, the speed to market relative to competitor products and the risk that such new products do not succeed as anticipated, together with the rate of sales growth and costs following new product launches.
- Currency fluctuations. Our functional and reporting currency is the US dollar, but we have substantial exposures to other currencies, in particular the Chinese renminbi, euro, Japanese yen, pound sterling and Swedish krona.
- Macro factors such as greater demand from an ageing population and increasing requirements of Emerging Markets.
- Supply chain risks including the failure of third parties to supply timely, quality products, such as raw materials, and the risk of catastrophic failure of critical internal processes leading to an inability to research, manufacture or supply products to patients.

Further details of the risks faced by the business are given in Risk Overview from page 78 and Risk from page 254.

Over the longer term, the success of our R&D is crucial and we devote substantial resources to this area. The benefits of this investment are expected to emerge over the long term and there is considerable inherent uncertainty as to the scale and timing of outcomes and their transition to saleable products.

Measuring performance

The following measures are referred to in this Financial Review when reporting on our performance in absolute terms, but more often in comparison to earlier years:

- **Reported performance**: Reported performance takes into account all the factors (including those which we cannot influence, such as currency exchange rates) that have affected the results of our business, as reflected in our Group Financial Statements prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and International Financial Reporting Standards (IFRSs) adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the EU. The Consolidated Financial Statements also comply fully with IFRSs as issued by the International Accounting Standards Board (IASB). On 31 December 2020, EU-adopted IFRS was brought into UK law and became UK-adopted international accounting standards, with future changes to IFRS being subject to endorsement by the UK Endorsement Board.
- **Core performance**: Core performance measures are adjusted to exclude certain significant items, using a set of established principles.

Readers should refer to our explanation of Core measures on page 85 for a detailed definition of this measure.

Use of non-GAAP performance measures

Non-GAAP performance measures: Core performance measures, EBITDA, Net debt, Ongoing Collaboration Revenue and Initial Collaboration Revenue are non-GAAP financial measures because they cannot be derived directly from the Financial Statements.

Management believes that these non-GAAP performance measures, when provided in combination with Reported results, will provide investors with helpful supplementary information to understand the financial performance and position of the Group better on a comparable basis from period to period. These non-GAAP performance measures are not a substitute for, or superior to, financial measures prepared in accordance with GAAP.

By disclosing non-GAAP performance and growth measures, in addition to our Reported financial information, we are enhancing investors' ability to evaluate and analyse the financial performance and trends of our ongoing business and the related key business drivers. The adjustments are made to our Reported financial information in order to show non-GAAP performance measures that illustrate clearly, on a year-on-year or period-by-period basis, the impact on our performance caused by factors such as changes in revenues and expenses driven by volume, prices and cost levels relative to such prior years or periods.

As shown in the 2020 Reconciliation of Reported results to Core results table on page 86, our reconciliation of Reported financial information to Core performance measures includes a breakdown of the items for which our Reported financial information is adjusted, and a further breakdown by specific line item as such items are reflected in our Reported income statement. This illustrates the significant items that are excluded from Core performance measures and their impact on our Reported financial information, both as a whole and in respect of specific line items.

Management presents these results externally to meet investors' requirements for transparency and clarity. Core financial measures are also used internally in the management of our business performance, in our budgeting process and when determining compensation. As a result, Core performance measures merely allow investors to differentiate between different kinds of costs and they should not be used in isolation.

Readers should also refer to our Reported financial information in the Summary performance in 2020 table on page 83, our reconciliation of Core performance measures to Reported financial information in the 2020 Reconciliation of Reported results to Core results table and the Excluded from Core results table on page 86 for our discussion of comparative Actual growth measures that reflect all factors that affect our business.

Our determination of non-GAAP measures, and our presentation of them within this financial information, may differ from similarly titled non-GAAP measures of other companies.

The SET retains strategic management of the costs excluded from Reported financial information in arriving at Core financial measures, tracking their impact on Reported Operating profit and EPS, with operational management being delegated on a case-by-case basis to ensure clear accountability and consistency for each cost category.

We strongly encourage readers of the Annual Report not to rely on any single financial measure but to review our Financial Statements, including the Notes thereto, and our other publicly filed reports, carefully and in their entirety.

Non-GAAP measures: definitions

Revenue

Constant exchange rate (CER) growth rates

Reconciliation, see page 86.

Definition: Retranslation of the current year's performance at the previous year's average exchange rates, adjusted for other exchange effects, including hedging.

Why we use them: CER measures allow us to focus on the changes in revenues and expenses driven by volume, prices and cost levels relative to the prior period. Revenues and cost growth expressed in CER allow management to understand the true local movement in revenues and costs, in order to compare recent trends and relative return on investment. CER growth rates can be used to analyse revenues in a number of ways but, most often, we consider CER growth by products and groups of products, and by countries and regions. CER revenue growth can be further analysed by revenue volumes and selling price. Similarly, CER cost growth helps us to focus on the real local change in costs so that we can manage the cost base effectively.

Ongoing Collaboration Revenue

Reconciliation, see page 88.

Definition: Ongoing Collaboration Revenue is defined as Collaboration Revenue excluding Initial Collaboration Revenue (which is defined as Collaboration Revenue that is recognised at the point in time control is transferred). Ongoing Collaboration Revenue comprises, among other items, milestone payments, profit sharing and royalties. The updated category of Collaboration Revenue includes all income previously included within Externalisation Revenue.

For more information, see Group Accounting Policies from page 180.

Why we use it: This measure provides us with an understanding of the ongoing value derived from our collaboration arrangements, removing any distortion driven by the upfront income.

Profitability

Core performance measures

Reconciliation, see page 86.

Core performance measures are adjusted to exclude certain significant items. In determining the adjustments to arrive at the Core result, we use a set of established principles relating to the nature and materiality of individual items or groups of items, excluding, for example, events which are (i) outside the normal course of business, (ii) incurred in a pattern that is unrelated to the trends in the underlying financial performance of our ongoing business, or (iii) related to major acquisitions, to ensure that investors' ability to evaluate and analyse the underlying financial performance of our ongoing business is enhanced.

See the 2020 Reconciliation of Reported results to Core results table on page 86 for a reconciliation of Reported to Core performance, as well as further details of the adjustments.

Core performance measures merely allow investors to differentiate between different kinds of cost and they should not be used in isolation.

Restructuring costs, include charges that relate to the impact of our global restructuring programmes on our capitalised manufacturing facilities and IT assets. These can take place over a significant period of time, given the long life-cycle of our business. We adjust for these charges and provisions because they primarily reflect the financial impact of change to legacy arrangements, rather than the underlying performance of our ongoing business. However, our Core results do reflect the benefits of such restructuring initiatives.

Intangible amortisation and impairments, include impairment reversals but excluding any charges relating to IT assets. These generally arise from business combinations and individual licence acquisitions. We adjust for these charges because their pattern of recognition is largely uncorrelated with the underlying performance of the business. However, a significant part of our revenues could not be generated without owning the associated acquired intangible assets.

Other items, principally comprise acquisition-related costs and credits, which include fair value adjustments and the imputed finance charge relating to contingent consideration on business combinations and legal settlements. It should be noted that other costs excluded from our Core results, such as finance charges related to contingent consideration, will recur in future years, and other excluded items such as impairments and legal settlements costs, along with other acquisition-related costs, may recur in the future.

Gross margin percentage

Reconciliation, see page 86.

Definition: Gross Profit margin, as a percentage, by which Product Sales exceeds the Cost of sales, calculated by dividing the difference between the two by the sales figure. The calculation of Reported and Core Gross Profit margin excludes the impact of Collaboration Revenue and any associated costs, thereby reflecting the underlying performance of Product Sales.

Why we use it: This measure sets out the progression of key performance margins and illustrates the overall quality of the business.

EBITDA

Reconciliation, see page 89.

Definition: Reported Profit before tax plus Net finance expense, Share of after-tax losses of joint ventures and associates, and charges for depreciation, amortisation and impairment.

Why we use it: EBITDA allows us to understand our baseline profitability, removing any 'non-operational' expenses that are not considered by management to be reflective of the underlying performance of the Group.

Cash flow and liquidity

Net debt

Reconciliation, see page 92.

Definition: Interest-bearing loans and borrowings net of Cash and cash equivalents, Other investments and Net derivative financial instruments.

Why we use it: Net debt is a measure that provides valuable additional information regarding the Group's net financial liabilities and is a measure commonly used by investors and rating agencies. It facilitates the tracking of one of our key financial priorities: deleveraging.

Summary statement of consolidated income

2020 Reconciliation of Reported results to Core results

	2020 Reported $m	Restructuring costs $m	Intangible amortisation and impairments $m	Diabetes Alliance[1] $m	Other[2] $m	2020 Core[3] $m	Core 2020 compared with Core 2019[3] Actual growth %	Core 2020 compared with Core 2019[3] CER growth %
Gross profit	**21,318**	**53**	**66**	**–**	**5**	**21,442**	**9**	**10**
Product Sales gross margin %[4]	***79.5***					***80.0***		
Distribution expenses	**(399)**	**–**	**–**	**–**	**–**	**(399)**	**18**	**19**
Research and development expenses	**(5,991)**	**35**	**84**	**–**	**–**	**(5,872)**	**10**	**10**
Selling, general and administrative expenses	**(11,294)**	**162**	**1,657**	**310**	**(197)**	**(9,362)**	**3**	**4**
Other operating income and expense	**1,528**	**1**	**2**	**–**	**–**	**1,531**	**(2)**	**(2)**
Operating profit	**5,162**	**251**	**1,809**	**310**	**(192)**	**7,340**	**14**	**17**
Operating margin as a % of Total Revenue	***19.4***					***27.6***		
Net finance expense	**(1,219)**	**–**	**–**	**228**	**209**	**(782)**		
Taxation	**(772)**	**(50)**	**(376)**	**(127)**	**13**	**(1,312)**		
Basic earnings per share ($)	**2.44**	**0.15**	**1.10**	**0.31**	**0.02**	**4.02**	**15**	**18**

2019 Reconciliation of Reported results to Core results

	2019 Reported $m	Restructuring costs $m	Intangible amortisation and impairments $m	Diabetes Alliance[1] $m	Other[2] $m	2019 Core[3] $m	Core 2019 compared with Core 2018[3] Actual growth %	Core 2019 compared with Core 2018[3] CER growth %
Gross profit	19,463	73	87	–	–	19,623	10	13
Product Sales gross margin %[4]	79.1					79.8		
Distribution expenses	(339)	–	–	–	–	(339)	2	7
Research and development expenses	(6,059)	101	638	–	–	(5,320)	1	4
Selling, general and administrative expenses	(11,682)	173	1,771	(126)	775	(9,089)	5	8
Other operating income and expense	1,541	–	1	–	19	1,561	(27)	(26)
Operating profit	2,924	347	2,497	(126)	794	6,436	13	13
Operating margin as a % of Total Revenue	12.0					26.4		
Net finance expense	(1,260)	–	–	287	208	(765)		
Taxation	(321)	(66)	(519)	(54)	(149)	(1,109)		
Basic earnings per share ($)	1.03	0.22	1.52	0.08	0.65	3.50	1	–

[1] Relating to the 2014 acquisition of BMS's share of Global Diabetes Alliance.
[2] See table below for further details of other adjustments.
[3] Each of the measures in the Core column is a non-GAAP measure.
[4] Gross margin as a percentage of Product Sales reflects Gross profit derived from Product Sales, divided by Product Sales.

Excluded from Core results

Restructuring costs

> Restructuring costs totalling $251 million (2019: $347 million) include those incurred on finance transformation ($73 million) and the Global Post Pandemic New Ways of Working Programme ($72 million).

Intangible amortisation and impairments

> Amortisation totalling $1,511 million (2019: $1,466 million) relating to intangible assets, except those related to IT, and to our acquisition of BMS's share of our Global Diabetes Alliance (which are separately detailed below). Further information on our intangible assets is contained in Note 10 to the Financial Statements from page 198.

> Intangible impairment charges of $240 million (2019: $1,031 million) excluding those related to IT, include the impact of the $147 million impairment reversal on *FluMist*. 2019 charges included $533 million relating to the write-down of the *Epanova* intangible asset. Further details relating to intangible asset impairments are included in Note 10 to the Financial Statements from page 198.

Diabetes Alliance

> Costs associated with our acquisition of BMS's share of our Global Diabetes Alliance in February 2014 amounting to $538 million (2019: $161 million), including a fair value credit of $51 million, amortisation charges of $361 million and discount unwind of $228 million.

Other

> Other adjustments amounted to $17 million (2019: $1,002 million charge).

> Other adjustments to Reported SG&A expenses include net legal provisions of $197 million (2019: $775 million charge). Further details of legal proceedings in which we are currently involved are contained within Note 29 to the Financial Statements from page 228.

> Also included in other adjustments are $209 million discount unwind charges (2019: $208 million) and $221 million (2019: $69 million charge) for net fair value adjustments relating to contingent consideration arising from business combinations as detailed in Note 20 to the Financial Statements from page 207.

Revenue

Total Revenue for the year was up 9% (CER: 10%) to $26,617 million, comprising Product Sales of $25,890 million up 10% (CER: 11%) and Collaboration Revenue of $727 million; a decrease of 11% (CER: 11%).

Product Sales

By Geography

Product Sales in Emerging Markets continued to increase with growth of 6% (CER: 10%) to $8,679 million in 2020. China Product Sales comprised 62% of Emerging Markets in the year, increasing by 10% (CER: 10%) to $5,345 million. New Medicines sales, primarily driven by *Tagrisso* and *Lynparza* in Oncology and *Brilinta* and *Farxiga* in New CVRM, delivered encouraging growth and represented 30% of China Product Sales. US Product Sales were up 12% to $8,638 million, reflecting the success of the Oncology medicines. In Europe, Product Sales grew by 16% (CER: 15%) to $5,059 million, reflecting a strong performance in Oncology, which increased by 36% (CER: 35%) in the year. Established Rest of World Product Sales increased by 6% (CER: 6%) to $3,514 million with sales in Japan up 2% (CER: 1%) to $2,600 million.

By Product

2020 succeeded in delivering eight blockbuster drugs, of which our largest selling products were *Tagrisso* ($4,328 million), *Symbicort* ($2,721 million), *Imfinzi* ($2,042 million), *Farxiga* ($1,959 million) and *Lynparza* ($1,776 million). *Tagrisso* sales grew by 36% (CER: 36%) reflecting a strong performance across all markets, with notable growth of 59% in Emerging Markets. Global sales of *Symbicort* grew by 9% (CER: 10%) with a return to growth in the US of 23%. *Imfinzi* Product Sales grew by 39% (CER: 39%), with recent regulatory approvals and launches in China and continued growth in other markets. *Farxiga* sales increased by 27% (CER: 30%), with growth across all markets including an increase of 46% in Emerging Markets (CER: 55%). *Lynparza* Product Sales delivered a strong performance in all markets, with launches continuing globally and generated total growth of 48% (CER: 49%) in the year.

Sales platforms

	2020 Product Sales $m	2019 Product Sales $m	Actual growth %	CER growth %
Total sales platform Product Sales	**24,288**	21,894	**11**	**12**
Individual sales platform Product Sales (certain Product Sales are included in more than one sales platform)				
Oncology (total Oncology Product Sales)	**10,850**	8,667	**25**	**26**
Emerging Markets	**8,679**	8,165	**6**	**10**
Respiratory & Immunology	**5,357**	5,391	**(1)**	**–**
New CVRM (incorporating *Brilinta* and Diabetes)	**4,662**	4,376	**7**	**8**
Japan	**2,600**	2,548	**2**	**1**
Reconciliation to Note 1 Revenue (page 187) as follows:				
Sum of individual sales platforms	**32,148**	29,147		
Add: Product Sales not included in sales platforms	**1,602**	1,672		
Less: Product Sales double-counted for Emerging Markets				
Oncology	**(2,906)**	(2,211)		
Respiratory & Immunology	**(1,599)**	(1,987)		
New CVRM	**(1,372)**	(1,133)		
Less: Product Sales double-counted for Japan				
Oncology	**(1,514)**	(1,436)		
Respiratory & Immunology	**(328)**	(377)		
New CVRM	**(141)**	(110)		
Total Product Sales	**25,890**	23,565		

Sales platforms

Our sales platforms include products in our three main therapy areas, and a focus on Emerging Markets and Japan. Sales platforms grew by 11% (CER: 12%), representing 91% of Total Revenue after removing the effect of certain Product Sales which are included in more than one sales platform.

Oncology

Product Sales of Oncology medicines grew by 25% (CER: 26%) to $10,850 million in 2020, $4,328 million of which came from *Tagrisso* (2019: $3,189 million), which continues to be our leading medicine for the treatment of lung cancer and had received regulatory approval in more than 87 countries by the end of 2020.

Emerging Markets

Product Sales in Emerging Markets grew by 6% (CER: 10%) to $8,679 million mainly driven by strong performances from New Medicines. Product Sales in China increased by 10% in 2020 (CER: 10%), representing 62% of Emerging Markets Product Sales in the year.

Respiratory & Immunology

Product Sales of Respiratory & Immunology medicines declined by 1% (CER: stable) to $5,357 million, with growth in *Fasenra* and *Symbicort* being more than offset by a significant decline in sales of *Pulmicort*, which decreased by 32% (CER: 32%) in the year to $996 million, mainly in China, as the effect of COVID-19 impacted the treatment of respiratory patients.

New CVRM

New CVRM grew by 7% (CER: 8%) with revenue of $4,662 million, mainly reflecting the strong performance of *Farxiga* with global sales of $1,959 million, representing growth of 27% (CER: 30%) as it continued to be our largest-selling CVRM medicine. Within New CVRM, sales of *Brilinta* in the year were $1,593 million, an increase of 1% (CER: 2%). *Brilinta* sales in the US were up 3% to $732 million, where an increase in the average duration of treatment was offset by an adverse COVID-19 impact, reflecting fewer procedures.

Japan

Japan Product Sales grew by 2% (CER: 1%) to $2,600 million with *Tagrisso* growing by 16% (CER: 14%) to $731 million being offset by declines in legacy products.

Collaboration Revenue

Details of our significant business development transactions which give rise to Collaboration Revenue are given below:

Daiichi Sankyo

> In March 2019, AstraZeneca announced it had entered into an alliance with Daiichi Sankyo to develop and commercialise *Enhertu* for multiple cancer types. In markets where Daiichi Sankyo is selling the product, AstraZeneca is entitled to receive a royalty (in Japan) or a profit share (in other territories). Royalty income and the AstraZeneca share of gross margin from sales made by Daiichi Sankyo are recognised as Collaboration Revenue. *Enhertu* launched in the US on 31 December 2019.

> Collaboration Revenue of $94 million was recognised in 2020, in relation to AstraZeneca's share of gross profits arising from sales made by Daiichi Sankyo.

FibroGen

> In July 2013, AstraZeneca entered into a strategic collaboration with FibroGen to develop and commercialise roxadustat, a first-in-class oral compound in late-stage development for the treatment of anaemia from chronic kidney disease and end-stage renal disease (ESRD). This broad collaboration focuses on the US, China and all major markets excluding Japan, Europe, the CIS, the Middle East and South Africa, which are covered by an existing agreement between FibroGen and Astellas. Under the arrangement, AstraZeneca agreed to pay FibroGen upfront and subsequent non-contingent payments totalling $350 million, as well as potential development-related milestone payments of up to $465 million, and potential future sales-related milestone payments, in addition to tiered royalty payments on future sales of roxadustat in the low 20% range. Additional development milestones will be payable for any subsequent indications which the companies choose to pursue. AstraZeneca is responsible for the US commercialisation of roxadustat, with FibroGen undertaking specified promotional activities in the ESRD segment in this market. The companies are also co-commercialising roxadustat in China where FibroGen is responsible for clinical trials, regulatory matters, manufacturing and medical affairs, and AstraZeneca oversee promotional activities and commercial distribution.

> Collaboration Revenue of $30 million was recognised in 2020, in relation to AstraZeneca's share of gross profits arising from sales made by FibroGen.

Collaboration Revenue[1]

	2020 $m	2019 $m
Initial Collaboration Revenue	**–**	–
Total Initial Collaboration Revenue	**–**	–
Ongoing Collaboration Revenue		
Lynparza/selumetinib (MSD) – option exercised	**–**	100
Lynparza/selumetinib (MSD) – milestone	**460**	510
Zoladex (TerSera) – milestone	**35**	–
Crestor (Almirall) – milestone	**–**	39
MEDI8897 (Sanofi) – milestone	**–**	34
Enhertu (Daiichi Sankyo) – share of gross profit margin	**94**	–
Roxadustat (FibroGen) – share of gross profit margin	**30**	–
Royalty income	**62**	62
Other	**46**	74
Total Ongoing Collaboration Revenue	**727**	819
Total Collaboration Revenue	**727**	819

[1] The updated category of Collaboration Revenue includes all income previously included within Externalisation Revenue. For more information, see Group Accounting Policies from page 181.

MEDI8897 (Sanofi)

> In March 2017, AstraZeneca announced an agreement to develop and commercialise MEDI8897 with Sanofi. Under the terms of the global agreement, Sanofi made an upfront payment of €120 million and will pay up to €495 million upon achievement of certain development and sales-related milestones. All costs and profits are shared equally. The US element of this collaboration is subject to a participation agreement with Sobi, effective January 2019.

> In July 2019, AstraZeneca received notification that the Phase III clinical milestone had been triggered, resulting in Collaboration Revenue of $34 million being recognised in 2019.

Zoladex (TerSera)

> In March 2017, AstraZeneca entered into an agreement with TerSera for the commercial rights to *Zoladex* in the US and Canada. TerSera paid $250 million upon completion of the transaction. The Group will also receive sales-related income through milestones totalling up to $70 million, as well as recurring quarterly sales-based payments at a mid-teen percent of Product Sales. AstraZeneca will also manufacture and supply *Zoladex* to TerSera, providing a further source of ongoing income from *Zoladex* in the US and Canada.

> In December 2018, TerSera paid a sales-related milestone of $35 million to AstraZeneca.

> In April 2020, TerSera paid a sales-related milestone of $35 million to AstraZeneca.

Lynparza/selumetinib (MSD)

> In July 2017, the Group announced a global strategic oncology collaboration with MSD to co-develop and co-commercialise AstraZeneca's *Lynparza* for multiple cancer types. Under the collaboration, the companies will develop and commercialise *Lynparza* jointly, both as monotherapy and in combination with other potential medicines. AstraZeneca and MSD will also jointly develop and commercialise AstraZeneca's selumetinib, currently being developed for multiple indications including thyroid cancer. Independently, AstraZeneca and MSD will develop and commercialise *Lynparza* in combination with their respective PD-L1 and PD-1 medicines, *Imfinzi* and *Keytruda*. Under the terms of the agreement, the two companies will share the development and commercialisation costs for *Lynparza* and selumetinib monotherapy and non-PD-L1/PD-1 combination therapy opportunities. Gross profits from *Lynparza* and selumetinib Product Sales generated through monotherapies or combination therapies will be shared equally. MSD will fund all development and commercialisation costs of *Keytruda* in combination with *Lynparza* or selumetinib. AstraZeneca will fund all development and commercialisation costs of *Imfinzi* in combination with *Lynparza* or selumetinib. AstraZeneca will continue to manufacture *Lynparza* and selumetinib. As part of the agreement, MSD will pay AstraZeneca up to $8.5 billion in total consideration, including $1.6 billion upfront, $750 million for certain licence options and up to $6.2 billion contingent upon successful achievement of future regulatory and sales milestones. Of the upfront payment of $1.6 billion, $1.0 billion was recognised as Collaboration Revenue on deal completion in 2017, with the remaining $0.6 billion deferred to the balance sheet.

- AstraZeneca books all Collaboration Revenue of *Lynparza* and selumetinib; gross profits due to MSD under the collaboration will be recorded under Cost of sales.
- In November 2017, MSD exercised the first licence option resulting in Collaboration Revenue of $250 million.
- In January 2018, the FDA expanded the approved use of *Lynparza* to include the treatment of patients with certain types of breast cancer. The approval triggered a $70 million milestone payment from MSD to AstraZeneca, which was recognised as Collaboration Revenue for 2018.
- In June 2018, net sales of *Lynparza* reached a $250 million cumulative sales threshold, triggering a sales-related milestone, resulting in Collaboration Revenue of $100 million for AstraZeneca in 2018.
- In November 2018, MSD exercised the second licence option resulting in Collaboration Revenue of $400 million. In addition to the exercise of this option, net sales of *Lynparza* reached the $500 million cumulative sales threshold, triggering a sales-related milestone, resulting in Collaboration Revenue of $150 million due to AstraZeneca.
- In December 2018, AstraZeneca was notified of an FDA approval of *Lynparza*, which triggered the SOLO-1 $70 million milestone payment, recognised as Collaboration Revenue in 2018 for AstraZeneca.
- In April 2019, AstraZeneca was notified that the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency had adopted a positive opinion recommending *Lynparza* as a 1st-line maintenance treatment of BRCA-mutated advanced ovarian cancer, which triggered an approval milestone, resulting in Collaboration Revenue of $30 million.
- In June 2019, AstraZeneca was notified that *Lynparza* had been approved in the EU as a maintenance treatment after 1st-line chemotherapy in patients with BRCA-mutated advanced ovarian cancer. This triggered an approval milestone, resulting in Collaboration Revenue of $30 million for AstraZeneca in 2019.
- In September 2019, AstraZeneca was notified that net sales of *Lynparza* had reached the $750 million cumulative sales threshold, triggering a sales-related milestone, resulting in Collaboration Revenue of $200 million for 2019.
- In October 2019, MSD notified AstraZeneca of its intention to exercise the third and final licence option of the agreement. The payment of $100 million was received in November 2019 and was recognised as Collaboration Revenue for 2019.
- In November 2019, AstraZeneca received notification that net sales of *Lynparza* had reached the $1 billion cumulative sales threshold triggering a sales-related payment of $250 million, which was recognised as Collaboration Revenue for 2019.

Reconciliation of Reported Profit before tax to EBITDA

	2020 $m	2019 $m	Actual growth %	CER growth %
Reported Profit before tax	**3,916**	1,548	**153**	**157**
Net finance expense	**1,219**	1,260	**(3)**	**(4)**
Share of after tax losses of joint ventures and associates	**27**	116	**(77)**	**(76)**
Depreciation, amortisation and impairment	**3,149**	3,762	**(16)**	**(16)**
EBITDA	**8,311**	6,686	**24**	**27**

- In May 2020, the FDA approved *Lynparza* as a 1st-line maintenance treatment for certain types of ovarian cancer, triggering a $100 million regulatory milestone payment from MSD, which was recognised as Collaboration Revenue for 2020.
- In May 2020, AstraZeneca received approval for *Lynparza* following the PROfound result, triggering a $35 million regulatory milestone from MSD, which has been recognised as Collaboration Revenue for 2020.
- In November 2020, AstraZeneca was notified that net sales of *Lynparza* had reached the $1.5 billion cumulative sales threshold, triggering a $300 million sales-related milestone, which has been recognised as Collaboration Revenue for 2020.
- In November 2020, AstraZeneca received EU approval for *Lynparza* following the PAOLA result, triggering a $25 million regulatory milestone from MSD, which has been recognised as Collaboration Revenue for 2020.

Gross profit

Reported Gross profit increased by 10% (CER: 11%) to $21,318 million. Core Gross profit increased by 9% (CER: 10%) to $21,442 million. These increases reflected the growth of Product Sales.

Operating expenses

Reported Total Operating expense declined by 2% (CER: 2%) in the year to $17,684 million and represented 66% of Total Revenue (2019: 74%). Core Total Operating expense increased by 6% (CER: 6%) to $15,633 million. Included in Operating expenses were additional costs and procedures related to COVID-19, such as personal protective equipment and employee testing.

Reported R&D expenses decreased by 1% (CER: 1%) to $5,991 million and Core R&D expenses increased by 10% (CER: 10%) to $5,872 million. The decline in Reported R&D expense was partly driven by the comparative effect of the $533 million impairment of *Epanova* in 2019. The growth in Core R&D expense included investment in the Oncology pipeline, such as the development of datopotomab deruxtecan and the ending in 2019 of the release of the upfront funding of the *Lynparza* development, as part of the aforementioned collaboration with MSD.

Reported SG&A expenses decreased by 3% (CER: 3%) to $11,294 million and Core SG&A expenses increased by 3% (CER: 4%) to $9,362 million. The difference in the movements of Reported and Core SG&A expenses partly reflected fair value adjustments arising on acquisition-related liabilities, as well as a decrease in legal provisions recognised in comparison to 2019. Within Reported and Core SG&A expenses, pandemic-related savings partly compensated for investment in the launches of new medicines and expansion in China.

Other operating income and expense

Reported Other operating income and expense in the year was down 1% (CER: 1%) to $1,528 million and included $400 million from the sale of the international and Canadian rights for *Atacand* to Cheplapharm, $350 million on the sales of the global rights excluding the US, India and Japan for Zestril, Inderal and Tenormin to Atnahs, $120 million on the sale of an FDA Priority Review Voucher and $107 million of payments from Allergan in respect of the development of brazikumab.

In accordance with our Collaboration Revenue definition in the Group Accounting Policies from page 181 and the requirements of IFRS 15 'Revenue from Contracts with Customers', proceeds from these divestments are recorded as Other operating income and expense and comprise the majority of Other operating income and expense for the year.

Operating profit

Reported Operating profit grew by 77% (CER: 81%) to $5,162 million in the year. The Reported Operating margin increased by seven percentage points (CER: eight percentage points) to 19% of Total Revenue. Core Operating profit grew 14% (CER: 17%) in the year to $7,340 million. The Core Operating profit margin increased by one percentage point (CER: two percentage points) to 28% of Total Revenue, as a result of revenue growth.

Net finance expense

Reported Net finance expense decreased by 3% (CER: 4%) in the year to $1,219 million (2019: $1,260 million). Core Net finance expense increased by 2% (CER: 2%) in the year to $782 million. The increase to Core Net finance expense partly reflected an adverse movement in securities and short-term deposits.

Profit before tax

Reported Profit before tax increased by 153% (CER: 157%) in 2020 to $3,916 million (2019: $1,548 million), reflecting the increase in Total Revenue. Pre-tax adjustments to arrive at Core Profit before tax amounted to $2,615 million in 2020 (2019: $4,007 million), comprising $2,178 million adjustments to Operating profit (2019: $3,512 million) and $437 million to Net finance expense (2019: $495 million). EBITDA increased by 24% (CER: 27%) to $8,311 million.

Taxation

Both the Reported and Core tax rates in the year were 20%. The income tax paid for the year was $1,562 million (40% of Reported Profit before tax). This was $790 million higher than the Reported tax charge for the year, which benefited from a net deferred tax credit of $199 million (2019: $988 million), relating to the elimination of unrealised profit on inventory, intangible amortisation and other deferred tax items, partially offset by a net $133 million deferred tax charge reflecting the change in Dutch and UK income tax rates, cash liabilities arising on gains in equity investments recorded through Other comprehensive income and other cash tax timing differences. Additional information on these items is contained in Note 4 from page 190 to the Financial Statements.

We pay corporate income taxes, customs duties, excise taxes, stamp duties, employment and many other business taxes in all jurisdictions where applicable. In addition, we collect and pay employee taxes and indirect taxes such as value added tax.

Total comprehensive income

Total comprehensive income increased by $4,136 million to $4,752 million in 2020. Other comprehensive income for the period, net of tax was $1,608 million, an increase of $2,219 million. The increase was primarily driven by the Net gains/(losses) on equity investments measured at fair value through Other comprehensive income of $938 million (2019: $28 million loss) and Foreign exchange arising on designated borrowings in net investment hedges gains of $573 million (2019: loss of $252 million). A significant proportion of the Net gains/(losses) on equity investments measured at fair value through Other comprehensive income relates to gains recognised during the year from the sale of part of AstraZeneca's equity portfolio in the year, a large proportion of which related to the disposal of its full holding in Moderna as detailed in Note 12 from page 202 of the Financial Statements.

EPS

Reported EPS of $2.44 in the year was an increase of 137% (CER: 142%), driven by Revenue growth. Core EPS increased by 15% (CER: 18%) to $4.02. Reported growth in 2020 was impacted by the absence of the 2019 increase in legal provisions and higher intangible impairment charges.

Restructuring

In 2016, we announced plans to advance the strategy through sharper focus by streamlining operations, primarily in Commercial and Manufacturing, to redeploy investment to key therapy areas, particularly Oncology. Restructuring costs associated with this programme were initially forecast to be $1.5 billion by the end of 2017 and generate net annualised benefits of $1.1 billion by 2018. The total cost estimate is now $1.3 billion to be incurred by the end of 2021, with benefits expected to be $1.1 billion in 2021. In addition to the 2016 plan, there are two further active programmes. The first is the continuation of the phase 3 restructuring that was announced in 2012, superseded by phase 4 in 2013 and subsequently expanded in 2014. This initiative consists of centralisation of our global R&D footprint into three strategic centres, transformation of the IT organisation, closure of a number of manufacturing facilities and other activities to simplify and streamline the organisation. At the time of the announcement, the phase 4 programme was estimated to incur $3.2 billion of costs and deliver $1.1 billion of annualised benefits by 2016. By the end of 2020, the phase 4 programme had incurred costs of $3.6 billion, creating headroom for investment in our pipeline and launch capability. The 2021 opening of our Cambridge R&D facility will enable us to successfully deliver on the vision of centralising AstraZeneca's leading research in strategic locations, while building upon the numerous pioneering projects and scientific collaborations already underway in Cambridge. The phase 4 programme is now expected to conclude in 2023, upon completion of the ongoing consolidation of our sites and occupation of the Cambridge R&D facility. Total phase 4 programme costs are estimated to be $3.8 billion with annualised benefits of $1.2 billion. Out of that total, an estimated $716 million of costs are associated with the R&D transition to the new Cambridge footprint.

The second step was initiated in 2016 and relates to multi-year transformation programmes within our SG&A functions (principally Finance and HR) with anticipated costs by the end of 2018 of $270 million. By the end of 2020, these programmes had incurred costs of $471 million with total expected costs rising to $551 million. An estimated $116 million of annualised benefits are expected to be delivered in 2021.

In 2020, we initiated the Global Post-Pandemic New Ways of Working programme in response to the changing business environment, accelerated by the current COVID-19 pandemic. This programme is expected to run until the end of 2022 and incorporates the increasing utilisation of digitisation and technology, as well as the new ways of working that reflect in the size, nature and footprint of commercial teams, enabling functions, R&D and operations. This programme is already underway in various regions including North America and Japan, with $72 million of costs incurred in 2020.

The aggregate restructuring charge incurred in 2020 across all our restructuring programmes was $251 million (2019: $347 million). Final estimates for programme costs, benefits and headcount impact in all functions are subject to completion of the requisite consultation in the various areas.

Our priority, as we undertake these restructuring initiatives, is to work with our affected employees on the proposed changes, acting in accordance with relevant local consultation requirements and employment law.

Brexit readiness preparations and planning

Following the UK referendum outcome in June 2016, the UK Government and European Commission negotiated the terms on which the UK would leave the EU and the framework for the future relationship. The UK left the EU on 31 January 2020 with a transition period running to 31 December 2020.

On 24 December 2020, the UK Government and European Commission agreed the terms of a Trade and Cooperation Agreement which sets out the relationship between the UK and the EU following the end of the transition period. The agreement comprises a Free Trade Agreement, rules on governance and dispute resolution, and security cooperation. The Free Trade Agreement: provides for zero tariffs and quotas on all goods that comply with the appropriate rules of origin; maintains a level playing field in areas such as environmental protection, social and labour rights, tax transparency and state aid, with enforcement and a binding dispute settlement mechanism; and maintains air, road, rail and maritime connectivity but with new customs and passport checks and limitations on haulage operations. It is still too early to judge the full impact of the Trade and Cooperation Agreement between the UK and EU on our market share, sales, profitability, cash flows and results of operations.

Summary cash flows

	2020 $m	2019 $m	2018 $m
Net debt brought forward at 1 January	**(11,904)**	(13,003)	(12,679)
Profit before tax	**3,916**	1,548	1,993
Sum of changes in interest, depreciation, amortisation, impairment and share of after tax losses on joint ventures and associates	**4,395**	5,138	5,147
Movement in working capital and short-term provisions	**361**	(346)	(639)
Tax paid	**(1,562)**	(1,118)	(537)
Interest paid	**(733)**	(774)	(676)
Gains on disposal of intangible assets	**(1,030)**	(1,243)	(1,885)
Fair value movements on contingent consideration arising from business combinations	**(272)**	(614)	(495)
Non-cash and other movements	**(276)**	378	(290)
Net cash available from operating activities	**4,799**	2,969	2,618
Disposal of intangibles (net of purchases)	**(694)**	595	2,010
Payment of contingent consideration from business combinations	**(822)**	(709)	(349)
Other capital expenditure (net)	**399**	(1,016)	(1,218)
Investments	**(1,117)**	(1,130)	443
Dividends	**(3,572)**	(3,592)	(3,484)
Share proceeds	**30**	3,525	34
Distributions	**(3,542)**	(67)	(3,450)
Lease liabilities: IFRS 16	**(207)**	(675)	–
Other movements	**(139)**	2	65
Net debt carried forward at 31 December	**(12,110)**	(11,904)	(13,003)

Bonds issued in 2020 and 2019

	Repayment dates	Face value of bond $m	Net book value of bond at 31 December 2020 $m
Bonds issued in 2020:			
0.7% USD bond	2026	1,200	**1,192**
1.375% USD bond	2030	1,300	**1,291**
2.125% USD bond	2050	500	**486**
Total 2020		3,000	**2,969**
Bonds issued in 2019:			
		–	**–**
Total 2019		–	**–**

In response to the UK referendum outcome, the Group decided to implement appropriate actions to mitigate where possible the potential risk of disruption to the supply of medicines (including potential new medicines currently undergoing clinical trials), including duplication of release testing and procedures for products based in the EU27, transfer of regulatory licences, new freight routes between the UK and European mainland avoiding the short straits, customs and duties set up for the introduction or amendment of existing tariffs or processes, and associated IT systems reconfiguration. In addition, the Group engaged with its major suppliers to assess their readiness and continues to work with them to mitigate the risk of disruption to supply chains due to new border processes and potential port congestion. The costs associated with this and other actions directly related to Brexit are charged as restructuring, with the majority of such costs being cash costs. The costs incurred since the referendum are approximately $47 million of which $7 million was incurred in the year (2019: $28 million).

Cash flow and liquidity – for the year ended 31 December 2020

Net cash generated from operating activities was $4,799 million for 2020 (2019: $2,969 million), reflecting an underlying improvement to business performance.

Net investment cash outflows were $1,117 million (2019: $1,130 million).

Investment cash outflows for 2020 include $822 million (2019: $709 million) of Payments of contingent consideration arising on business combinations and $1,645 million (2019: $1,481 million) for the purchase of other intangible assets, including $675 million to Daiichi Sankyo in respect of the second of two upfront payments made as part of the strategic collaboration on *Enhertu* and an upfront payment of $350 million to Daiichi Sankyo for the development and commercialisation of DS-1062.

Investment cash inflows include $951 million (2019: $2,076 million) from the sale of intangible assets, including $350 million on the sales of the global rights excluding US, India and Japan for Zestril, Inderal and Tenormin to Atnahs, $250 million from the sale of the international and Canadian rights for *Atacand* to Cheplapharm, and $120 million on the sale of an FDA Priority Review Voucher to Incyte Corporation and also include amounts recognised from the sale of part of AstraZeneca's equity portfolio in the year, a large proportion of which related to the disposal of its full holding in Moderna. The comparative period in 2019 included $821 million on the sale of the US rights to *Synagis* to Sobi, $243 million from the sale of the global rights to *Losec* excluding the US, Japan, China and Mexico to Cheplapharm, $181 million on the sale of the rights to *Arimidex* and *Casodex* to Juvisé and $178 million from the sale of the rights to *Seroquel* and *Seroquel XR* in Europe and Russia to Cheplapharm.

Net cash distributions to shareholders were $3,542 million (2019: $67 million), including the proceeds from the exercise of share options of $30 million (2019: $32 million) less dividends paid of $3,572 million (2019: $3,592 million). 2019 Share proceeds also included net proceeds from the issue of Share capital of $3,493 million.

Bonds

In August 2020, AstraZeneca issued $3.0 billion of bonds in the US dollar debt capital markets with maturities of five, 10 and 30 years. There were no bonds issued in 2019. In 2020, AstraZeneca repaid a $1.6 billion 2.375% bond, which matured in November 2020. In 2019, AstraZeneca repaid a $1.0 billion 1.95% bond, which matured in September 2019.

Net debt

At 31 December 2020, outstanding gross debt (interest-bearing loans and borrowings) was $20,380 million (2019: $18,227 million). Of the gross debt outstanding $2,386 million is due within one year (2019: $2,010 million). On 1 January 2019, the Group adopted IFRS 16, which eliminates the classification of leases as either operating or finance leases. The adoption of the new standard resulted in the initial recognition of Lease liabilities of $720 million at the start of 2020. Net debt at 31 December 2020 was $12,110 million, compared with $11,904 million at the beginning of the year, as a result of the net cash flows, foreign exchange movement and other non-cash movements.

At 31 December 2020, Cash and cash equivalents and liquid investments totalled $7,992 million (2019: $6,280 million) and undrawn committed bank facilities totalled $21,625 million (2019 $4,125 million). Of the committed facilities, $4,125 million is intended to manage liquidity. In preparation for the acquisition of Alexion, the Company entered into committed bank facilities totalling $17,500 million during December 2020. The facilities contain no financial covenants and were undrawn at 31 December 2020.

Net debt reconciliation

	2020 $m	2019 $m	2018 $m
Cash and cash equivalents	**7,832**	5,369	4,831
Other investments[1,2]	**160**	911	895
Cash and investments	**7,992**	6,280	5,726
Overdraft and short-term borrowings	**(658)**	(225)	(755)
Lease liabilities	**(681)**[4]	(675)	–
Current instalments of loans	**(1,536)**	(1,597)	(999)
Loans due after one year	**(17,505)**	(15,730)	(17,359)
Loans and borrowings	**(20,380)**	(18,227)	(19,113)
Net derivative financial instruments	**278**	43	384
Net debt[3]	**(12,110)**	(11,904)	(13,003)

1 Other investments in 2020 included $nil (2019: $62 million) of non-current Treasury investments.
2 Other investments include non-current investments, which are included within the balance of $1,108 million (2019: $1,401 million) in the Statement of Financial Position on page 177.
3 The equivalent GAAP measure to Net debt is 'liabilities arising from financing activities', which excludes the amounts for cash and overdrafts, other investments and non-financing derivatives shown above and includes the Acerta Pharma put option of $2,297 million (2019: $2,146 million) shown in non-current other payables.
4 Included in the Net debt reconciliation for 2020 are Lease liabilities of $681 million (2019: $675 million), which arose on the adoption of IFRS 16 on 1 January 2019. See Group Accounting Policies from page 183 and Note 8 from page 196 for more information.

Financial position – 31 December 2020

All data in this section are on a Reported basis.

Property, plant and equipment

In 2020, Property, plant and equipment increased by $563 million to $8,251 million with additions of $926 million (2019: $996 million), impairment charges of $13 million (2019: $53 million net reversal) and exchange adjustments of $360 million (2019: credit of $3 million) offset by depreciation of $689 million (2019: $647 million) and disposals and other movements of $21 million (2019: $138 million).

Right-of-use assets

Following the adoption of IFRS 16 on 1 January 2019, the Group recognised Lease liabilities and corresponding Right-of-use assets for arrangements that were previously classified as operating leases. Right-of-use assets at 31 December 2020 were $666 million (2019: $647 million).

Business combinations

No business acquisitions were made in 2020, 2019 or 2018.

On 12 December 2020, AstraZeneca announced that it had reached an agreement with the board of Alexion to acquire 100% of the company. Under the terms of the agreement, Alexion shareholders will receive $60 in cash and 2.1243 AstraZeneca American Depositary Shares per Alexion share. The transaction is subject to regulatory clearances and approval by the shareholders of both companies, and is expected to close in the third quarter of 2021.

Summary statement of financial position – 31 December

All data in this section are on a Reported basis

	2020 $m	Movement $m	2019 $m	Movement $m	2018 $m
Property, plant and equipment	**8,251**	**563**	7,688	267	7,421
Right-of-use assets	**666**	**19**	647	647	–
Goodwill and intangible assets	**32,792**	**291**	32,501	(1,165)	33,666
Assets held for sale	**–**	**(70)**	70	(912)	982
Inventories	**4,024**	**831**	3,193	303	2,890
Trade and other receivables	**7,742**	**1,241**	6,501	412	6,089
Net deferred tax assets/(liabilities)	**520**	**292**	228	1,135	(907)
Trade and other payables	**(21,869)**	**(1,591)**	(20,278)	(667)	(19,611)
Provisions	**(1,560)**	**4**	(1,564)	(673)	(891)
Net income tax payable	**(763)**	**313**	(1,076)	(119)	(957)
Retirement benefit obligations	**(3,202)**	**(395)**	(2,807)	(296)	(2,511)
Non-current other investments (excluding Treasury investments of $nil in 2020 (2019: $62 million))	**1,108**	**(231)**	1,339	552	787
Investments in associates and joint ventures	**39**	**(19)**	58	(31)	89
Net debt	**(12,110)**	**(206)**	(11,904)	1,099	(13,003)
Net assets	**15,638**	**1,042**	14,596	552	14,044

Goodwill and intangible assets

Our goodwill of $11,845 million (2019: $11,668 million) principally arose on the acquisition of MedImmune in 2007, the restructuring of our US joint venture with MSD in 1998 and the acquisition of BMS's share of the Global Diabetes Alliance. Intangible assets amounted to $20,947 million at 31 December 2020 (2019: $20,833 million) and included amortisation in the year of $1,992 million (2019: $1,928 million). Intangible asset additions were $1,592 million in 2020 (2019: $2,001 million), $996 million, of which arose from the collaborations with Daiichi Sankyo. Net impairment charges were $240 million (2019: $1,033 million) including impairments on *Duaklir* ($200 million) and *Bydureon* ($102 million), offset by an impairment reversal of $147 million on *FluMist*. Disposals of intangible assets totalled $71 million in the year (2019: $10 million).

Further details of additions to Intangible assets, and impairments recorded, are included in Note 10 to the Financial Statements from page 198.

Assets held for sale

In 2019, Assets held for sale of $70 million comprised tangible assets relating to the Boulder, Colorado manufacturing site. There were no Assets held for sale in 2020.

Receivables, payables and provisions

Total current and non-current Trade and other receivables increased by $1,241 million to $7,742 million in the year, driven by activities related to the *COVID-19 Vaccine AstraZeneca* and a reduction in debt factoring in the US.

Total current and non-current Trade and other payables increased by $1,591 million in 2020 to $21,869 million. The increase was driven by the recognition of vaccine-related deferred income.

Contingent consideration arising on business combinations

	2020			2019		
	Acquisition of BMS's share of Diabetes Alliance $m	Other business combinations $m	Total 2020 $m	Acquisition of BMS's share of Diabetes Alliance $m	Other business combinations $m	Total 2019 $m
At 1 January	**3,300**	**839**	**4,139**	3,983	1,123	5,106
Settlements	**(546)**	**(276)**	**(822)**	(454)	(255)	(709)
Fair value adjustments	**(51)**	**(221)**	**(272)**	(516)	(98)	(614)
Discount unwind	**229**	**49**	**278**	287	69	356
At 31 December	**2,932**	**391**	**3,323**	3,300	839	4,139

Payments due by period

	Less than 1 year $m	1-3 years $m	3-5 years $m	Over 5 years $m	Total 2020 $m	Total 2019 $m
Bank loans and other borrowings[1]	**2,803**	**3,940**	**4,119**	**16,921**	**27,783**	25,688
Lease liabilities[2]	**207**	**288**	**135**	**108**	**738**	737
Contracted capital expenditure	**–**	**–**	**–**	**689**	**689**	396
Total	**3,010**	**4,228**	**4,254**	**17,718**	**29,210**	26,821

[1] Bank loans and other borrowings include interest charges payable in the period, as detailed in Note 27 to the Financial Statements from page 219.
[2] Lease liabilities arose on the adoption of IFRS 16 on 1 January 2019. See Note 8 from page 196 for more information.

Dividends for 2020

	$	Pence	SEK	Payment date
First interim dividend	**0.90**	**69.6**	**7.87**	**14 September 2020**
Second interim dividend	**1.90**	**137.4**	**15.76**	**29 March 2021**
Total	**2.80**	**207.0**	**23.63**	

Provisions decreased by $4 million to $1,560 million in 2020. The Group revised its presentation of certain provisions ($258 million) in 2020, which cover Third party Liability and other risks (including incurred but not yet reported claims) to present this within current Other provisions. This balance has historically been presented within current Other payables. This is offset by legal payments as described in Note 21 from page 208.

Further details of the charges made against provisions are contained in Notes 21 and 29 to the Financial Statements from pages 208 and 228 respectively.

The divestment of the US rights to *Synagis*, which completed in 2019, included $150 million held as a financial liability. AstraZeneca will also receive $175 million following the submission of the Biologics Licence Application for MEDI8897, potential net payments of $110 million for other MEDI8897 profit-related milestone payments and $60 million in non-contingent payments for MEDI8897 during the period from 2019 to 2021.

Contingent consideration

The majority of our business acquisitions have included elements of consideration that are contingent on future development and/or sales milestones, with both the Diabetes and Respiratory acquisitions in 2014 also including royalty payments linked to future revenues. The acquisitions of ZS Pharma in 2015 and Acerta Pharma in 2016 had no contingent consideration element and there were no relevant acquisitions in 2020, 2019 and 2018.

Our agreement with BMS provides for various sales-related royalty payments up until 2025. Our transaction with Almirall includes further payments of up to $0.4 billion for future development, launch, and various other sales-related milestone payments, and sales-related royalty payments as detailed in Note 20 to the Financial Statements from page 207.

All these future payments are treated as contingent consideration liabilities, and are fair valued using decision-tree analyses, with key assumptions, including the probability of success, the potential for delays and the expected levels of future revenues. The fair value is updated at each reporting date to reflect our latest estimate of the probabilities of these key assumptions. Given the long-term nature of the liabilities, the fair value calculation includes the discounting of future potential payments to their present value using discount rates appropriate to the period over which payments are likely to be made. Over time, as the target date of a consideration payment approaches, the discount in absolute terms of such future potential payment to its present value

decreases. Therefore, in each period we take a corresponding charge reflecting the passage of time. We refer to this charge as 'discount unwind'. The calculation of the fair value is considered to be a key estimate.

Both the discount unwind and any movements on the fair value of the underlying future payments can result in significant income statement movements. As detailed in the Excluded from Core results section on page 86, these movements are treated as non-Core items in our Reconciliation of Reported results to Core results. In 2020, we recorded an interest charge of $278 million on the discount unwind on contingent consideration arising on our business combinations, and a net fair value decrease on contingent consideration of $272 million (which resulted in a credit to our income statement for the same amount) driven principally by revised forecasts for revenues and lower probabilities of achieving certain sales milestones. At 31 December 2020, our contingent consideration liability was $3,323 million (2019: $4,139 million) with the movements of the balance detailed in the table on page 93.

Tax payable and receivable

Net income tax payable has decreased by $313 million (2019: increased by $119 million) to $763 million, principally due to cash tax timing differences and the impact of foreign exchange movements. The tax receivable balance of $364 million (2019: $285 million) principally relates to cash tax timing differences.

Net deferred tax assets increased by $292 million (2019: $1,135 million) in the year, resulting in a Net deferred tax asset of $520 million, due to movements in deferred tax arising on the elimination of unrealised profit on inventory and associated with intangible amortisation, offset by a net $133 million deferred tax charge reflecting the change in Dutch and UK income tax rates.

Additional information on the movement in deferred tax balances is contained in Note 4 to the Financial Statements from page 190.

Defined benefit plan obligations

In terms of the Group's major defined benefit plans, approximately 90% of total defined benefit obligations (or around 77% of net obligations) are concentrated in the UK, the US and Sweden. The UK and US plans are largely legacy arrangements, as they have been closed to new entrants since 2000. In line with local regulations, the collectively bargained Swedish pension plan remains open to employees born before 1979.

Net defined benefit obligations increased by $395 million in 2020 (2019: increase of $296 million) to $3,202 million. The increase was driven by actuarial remeasurements of $168 million from lower discount rate assumptions in the UK, US and Sweden which increased liability valuations, partially offset by higher than expected investment performance. A further $278 million remeasurement was due to exchange rate movements, caused by a weakening USD against GBP, SEK and euro. These remeasurements were partially offset by Group contributions totalling $172 million and an actuarial gain relating to amendments to the US Post-Retirement Welfare Plans, as detailed below.

In the UK, an actuarial valuation of the AstraZeneca Pension Fund was carried out by a qualified actuary as at 31 March 2019. Following agreement between the Group and Trustee, an updated actuarial valuation, recovery plan and schedule of contributions was submitted to the Pensions Regulator in June 2020, ahead of the statutory deadline.

Over the past few years, the Group has undertaken several initiatives to reduce net defined benefit obligations and manage associated long-term financial risks. As a reminder, in the UK, a freeze on pensionable pay has been in effect from 30 June 2010 and in the US, both the qualified and non-qualified US pension plans were closed to future accruals in December 2017. Moreover, liability management exercises have also been carried out in the UK, including a Pension Increase Exchange exercise in 2016/2017. There has been further such activity in the US and Netherlands during 2020.

In the US, there was a change within the Group's Post Retirement Healthcare plans to the level of medical coverage provided for members aged 65 and over, effective from 1 January 2021. The changes resulted in a past service credit of approximately $64 million. In the Netherlands, a past service credit of approximately $7 million resulted from the freeze of the defined benefit pension plan from 1 January 2021. Both past service credits were recognised in the income statement for the year ended 31 December 2020.

Further details of our accounting for post-retirement benefit plans are included in Note 22 to the Financial Statements from page 209.

Commitments and contingencies

We have commitments and contingencies which are accounted for in accordance with the accounting policies described in the Financial Statements in the Group Accounting Policies section from page 180.

We also have taxation contingencies. These are described in the Taxation section in the Critical accounting policies and estimates section from page 97 and in Note 29 to the Financial Statements from page 228.

Off-balance sheet transactions and commitments

We have no off-balance sheet arrangements and our derivative activities are non-speculative. The table on page 93 sets out our minimum contractual obligations at the year end.

Research and development collaboration payments

Details of future potential R&D collaboration payments are also included in Note 29 to the Financial Statements on page 228. As detailed in Note 29, payments to our collaboration partners may not become payable due to the inherent uncertainty in achieving the development and revenue milestones linked to the future payments. We may enter into further collaboration projects in the future that may include milestone payments and as certain milestone payments fail to crystallise due to, for example, development not proceeding, they may be replaced by potential payments under new collaborations.

Investments, divestments and capital expenditure

We have completed over 123 major or strategically important business development transactions over the past three years.

In addition to the business development transactions detailed under Collaboration Revenue from page 88 of this Financial Review, the following significant collaborations remain in the development phase:

Daiichi Sankyo

> AstraZeneca has entered into a new global development and commercialisation agreement with Daiichi Sankyo for DS-1062, their proprietary trophoblast cell-surface antigen 2 (TROP2)-directed antibody drug conjugate and potential new medicine for the treatment of multiple tumour types. AstraZeneca will pay Daiichi Sankyo an upfront payment of $1 billion in staged payments: $350 million is due upon completion, with $325 million after 12 months and $325 million after 24 months from the effective date of the agreement. AstraZeneca will pay additional conditional amounts of up to $1 billion for the successful achievement of regulatory approvals and up to $4 billion for sales-related milestones. The transaction was accounted for as an intangible asset acquisition, recognised initially at the present value of non-contingent consideration, with any potential future milestone payments capitalised into the intangible asset as they are recognised. The companies will jointly develop and commercialise DS-1062 worldwide, except in Japan where Daiichi Sankyo will maintain exclusive rights. AstraZeneca and Daiichi Sankyo will share equally development and commercialisation expenses as well as profits relating to DS-1062 worldwide, except for Japan where Daiichi Sankyo will be responsible for such costs and will pay AstraZeneca mid-single-digit royalties. Daiichi Sankyo will record sales in the US, certain countries in Europe and certain other countries where Daiichi Sankyo has affiliates. Profits shared with AstraZeneca from those countries will be recorded as Collaboration Revenue by AstraZeneca. AstraZeneca will record Product Sales in other countries worldwide, for which profits shared with Daiichi Sankyo will be recorded within Cost of sales. Daiichi Sankyo will manufacture and supply DS-1062. The collaboration agreement became effective on 27 July 2020.

Innate Pharma

> In April 2015, we entered into two oncology agreements with Innate Pharma: first, a licence which provides us with exclusive global rights to co-develop and commercialise IPH2201 in combination with *Imfinzi*; and, second, an option to license exclusive global rights to co-develop and commercialise IPH2201 in monotherapy and other combinations in certain treatment areas. Under the terms of the combination licence, we assumed exclusive global rights to research, develop and commercialise IPH2201 in combination with *Imfinzi*. We jointly fund Phase II studies with Innate Pharma and we lead the execution of these studies. Under the terms of the agreements, we made an initial payment to Innate Pharma of $250 million, which included the consideration for exclusive global rights to co-develop and commercialise IPH2201 in combination with *Imfinzi*, as well as access to IPH2201 in monotherapy and other combinations in certain treatment areas. The agreement includes a Phase III initiation milestone of $100 million, as well as additional regulatory and sales-related milestones. We record all sales and will pay Innate Pharma double-digit royalties on net sales. The arrangement includes the right for Innate Pharma to co-promote in Europe for a 50% profit share in the territory.
> In October 2018, we exercised our option over IPH2201 and simultaneously entered into a further multi-element transaction with Innate Pharma. Under the agreement, we paid $50 million to collaborate on, and acquire an option to license, IPH5201, a first-in-class anti-CD39 mAb. Additionally, we paid $20 million to acquire options over four future programmes currently being developed by Innate Pharma, and paid €62.6 million to acquire a 9.8% stake in Innate Pharma. The $100 million option fee and $50 million premium paid over market price for the investment in Innate Pharma have been capitalised as intangible assets. The payment for future programmes will be expensed as research and development expenditure over four years. At the same time, we licensed the EU and US rights to *Lumoxiti* to Innate Pharma for $50 million upfront plus future milestone payments of up to $25 million.
> In December 2020, Innate Pharma announced its intention to transfer the rights of *Lumoxiti* back to AstraZeneca. AstraZeneca will not be required to refund the upfront payment but will no longer be entitled to receive milestones from Innate Pharma.

Moderna

> In March 2013, we signed an exclusive agreement with Moderna to discover, develop and commercialise pioneering medicines based on *messenger RNA Therapeutics* for the treatment of serious cardiovascular, metabolic and renal diseases, as well as cancer. Under the terms of the agreement, we made an upfront payment of $240 million. We will have exclusive access to select any target of our choice in cardiometabolic and renal diseases, as well as selected targets in oncology, over a period of up to five years for subsequent development of *messenger RNA Therapeutics*. In addition, Moderna is entitled to an additional $180 million for the achievement of three technical milestones. Through this agreement, we have the option to select up to 40 drug products for clinical development and Moderna will be entitled to development and commercial milestone payments as well as royalties on drug sales. AstraZeneca will lead the pre-clinical, clinical development and commercialisation of therapies resulting from the agreement and Moderna will be responsible for designing and manufacturing the *messenger RNA Therapeutics* against selected targets. We are currently progressing 19 projects across CVRM and Oncology. Utilising both companies' expertise, significant progress has also been made with the technology platform, with the focus on formulation, safety, and drug metabolism and pharmacokinetics.

We determine the above business development transactions to be significant using a range of factors. We look at the specific circumstances of the individual arrangement and apply several quantitative and qualitative criteria. Because we consider business development transactions to be an extension of our R&D strategy, the expected total value of development payments under the transaction and its proportion of our annual R&D spend, both of which are proxies for overall R&D effort and cost, are important elements of the determination of the significance. Other quantitative criteria we apply include, without limitation, expected levels of future sales, the possible value of milestone payments and the resources used for commercialisation activities (for example, the number of staff). Qualitative factors we consider include, without limitation, new market developments, new territories, new areas of research and strategic implications.

Capitalisation and shareholder return

Capitalisation

The total number of shares in issue at 31 December 2020 was 1,313 million (2019: 1,312 million). In April 2019, AstraZeneca completed an issuance of 44,386,214 new Ordinary Shares of $0.25 each at a price of £60.50 per share, resulting in an increase in share capital of $11 million and an increase in share premium of $3,479 million, net of transaction costs of $22 million. In addition, 0.5 million Ordinary Shares (2019: 0.7 million) were issued upon share option exercises for total proceeds of $30 million (2019: $32 million).

Shareholders' equity increased by $2,495 million to $15,622 million at the year end. Non-controlling interests were $16 million (2019: $1,469 million), with the decrease in the year as a result of the reclassification of the $1,401 million Non-controlling interests reserve into Retained earnings relating to the minority shareholders of Acerta Pharma.

Following the approval of *Calquence* in the EU in November 2020, the minority shareholders are now considered to have no further substantive variability in risk and reward related to their shares as it is considered highly likely that one of the options will be exercised, and the price of the options is now fixed. Therefore, no further amounts of the consolidated AstraZeneca results have been attributed to the minority shareholders of Acerta Pharma and the Non-controlling interests reserve relating to the minority shareholders of Acerta Pharma, totalling $1,401 million, has been reclassified into Retained earnings as detailed in Note 26 to the Financial Statements on page 218.

Dividend and share repurchases

The Board has recommended a second interim dividend of $1.90 (137.4 pence, 15.76 SEK) to be paid on 29 March 2021. This brings the full-year dividend to $2.80 (207.0 pence, 23.63 SEK). Against Reported Earnings per share, the Group had a dividend cover ratio of 0.9:1 in 2020 (2019: 0.4:1). Against Core Earnings per share, the Group had a dividend cover ratio of 1.44:1 in 2020 (2019: 1.25:1). This dividend is consistent with the progressive dividend policy, by which the Board intends to maintain or grow the dividend each year.

The Board regularly reviews its distribution policy and its overall financial strategy to continue to strike a balance between the interests of the business, our financial creditors and our shareholders. Having regard for business investment, funding the progressive dividend policy and meeting our debt service obligations, the Board currently believes it is appropriate to continue the suspension of the share repurchase programme which was announced in 2012.

The Board reviews the level of distributable reserves of the Parent Company annually and aims to maintain distributable reserves that provide adequate cover for dividend payments. At 31 December 2020, the Profit and loss account reserve of $10,304 million (2019: $11,998 million) was available for distribution, subject to filing these Financial Statements with Companies House. When making a distribution to shareholders, the Directors determine profits available for distribution by reference to guidance on realised and distributable profits under the Companies Act 2006 issued by the Institute of Chartered Accountants in England and Wales and the Institute of Chartered Accountants of Scotland in April 2017.

The profits of the company have been received in the form of receivables due from subsidiaries. The availability of distributable reserves in the Company is dependent on those receivables meeting the definition of qualifying consideration within the guidance, and in particular on the ability of subsidiaries to settle those receivables within a reasonable period of time. The Directors consider that, based on the nature of these receivables and the available cash resources of the Group and other accessible sources of funds, at 31 December 2020 all (2019: the overwhelming majority; 2018: all) of the Company's profit and loss reserves were available for distribution.

Future prospects

As outlined earlier in this Annual Report, our strategic priorities support delivery of growth through innovation and our Purpose: to push the boundaries of science to deliver life-changing medicines.

In support of this, we made certain choices around our three strategic priorities:

- Deliver Growth and Therapy Area Leadership
- Accelerate Innovative Science
- Be a Great Place to Work.

For more information, see Our Strategy and Key Performance Indicators from page 18.

Full year 2021: additional commentary

Total Revenue is expected to increase by a low-teens percentage, accompanied by a faster growth in Core EPS to $4.75 to $5.00. AstraZeneca continues its focus on improving operating leverage, while addressing its most important capital-allocation priority of reinvestment in the business; namely continued investment in R&D and the support of medicines and patient access in key markets A Core Tax Rate of 18-22% is expected.

This commentary represents management's current estimates and is subject to change. See the Cautionary statement regarding forward-looking statements on page 284.

Financial risk management

Financial risk management policies

Insurance

Our risk management processes are described in Risk Overview from page 78. These processes enable us to identify risks that can be partly or entirely mitigated through the use of insurance. We negotiate the best available premium rates with insurance providers on the basis of our extensive risk management procedures. We focus our insurance resources on the most critical areas, or where there is a legal requirement, and where we can get the best value for money. We purchase an external multi-line insurance programme to mitigate against significant financial loss arising from business risks, including liability, business interruption, property damage, and Directors' and officers' liability. In order to contain insurance costs, as of February 2006, we adjusted our product liability coverage profile, accepting uninsured exposure above $100 million.

Taxation

Our approach to managing tax risk is integrated with our broader business risk management and compliance framework. Our approach is to manage tax risks and tax costs in a manner consistent with applicable regulatory requirements and with shareholders' best long-term interests, taking into account operational, economic and reputational factors. We manage tax risks in the context of substantive business transactions.

Treasury

The principal financial risks to which we are exposed are those arising from liquidity, interest rates, foreign currency and credit. We have a centralised treasury function to manage these risks in accordance with Board-approved policies. Specifically, liquidity risk is managed through maintaining access to a number of sources of funding to meet anticipated funding requirements, including committed bank facilities, cash resources and use of debt factoring. We also use supply chain financing.

For further information on our supply chain financing arrangements, refer to the Business Review on page 52.

Interest rate risk is managed through maintaining a debt portfolio that is weighted towards fixed rates of interest. In 2020, our net interest charge was adversely affected by movements in floating rates of interest on the floating rate assets AstraZeneca held, offset by lower interest on floating rate debt. We monitor the impact of currency on a portfolio basis (to recognise correlation effect), and may hedge to protect against significant adverse impacts on cash flow over the short to medium term. We aim to hedge the currency exposure that arises between the booking and settlement dates on material non-local currency purchases and sales by subsidiaries and the external dividend. Significant intra-Group loans that give rise to foreign exchange movements are also hedged.

Key
KJ Key Judgement
SE Significant Estimate

Credit risk is managed through setting and monitoring credit limits appropriate for the assessed risk of the counterparty. The Group utilises factoring arrangements for selected trade receivables. These factoring arrangements qualify for full derecognition of the associated trade receivables under IFRS 9 'Financial Instruments'.

Our capital and risk management objectives and policies are described in further detail in Note 27 to the Financial Statements from page 219 and in Risk Overview from page 78. Sensitivity analysis of the Group's exposure to exchange rate and interest rate movements is also detailed in Note 27 to the Financial Statements from page 219.

Critical accounting policies and estimates

Our Financial Statements are prepared in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and International Financial Reporting Standards (IFRSs) adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the EU. The Consolidated Financial Statements also comply fully with IFRS as issued by the IASB. The accounting policies employed are set out in the Group Accounting Policies section in the Financial Statements from page 180. In applying these policies, we make estimates and assumptions that affect the Reported amounts of assets and liabilities and disclosure of contingent assets and liabilities. The actual outcome could differ from those estimates. Some of these policies require a high level of judgement because the areas are especially subjective or complex. We believe that the most critical accounting policies and significant areas of judgement and estimation are in the following areas and align with the accounting policies containing our key accounting judgements and significant accounting estimates as disclosed in the Financial Statements from page 180:

- revenue recognition – see Revenue Accounting Policy from page 181 KJ and Note 1 on page 187 SE
- expensing of internal development expenses – see Research and Development Policy from page 182 KJ
- impairment review of Intangible assets – see Note 10 from page 198 SE
- useful economic life of Intangible assets – see Research and Development Policy from page 182 KJ and Note 10 from page 198 SE
- business combinations and Goodwill (and Contingent consideration arising from business combinations) – see Business Combinations and Goodwill Policy on page 184 KJ, Note 10 from page 198 KJ and Note 20 from page 207 SE
- litigation liabilities – see Litigation and Environmental liabilities within Note 29 from page 228 KJ

Gross to Net Product Sales
US pharmaceuticals

	2020 $m	2019 $m	2018 $m
Gross Product Sales	**19,255**	18,354	16,538
Chargebacks	**(2,464)**	(2,429)	(2,224)
Regulatory – Medicaid and state programmes	**(1,088)**	(1,380)	(1,304)
Contractual – Managed care and Medicare	**(5,690)**	(5,467)	(4,600)
Cash and other discounts	**(281)**	(303)	(286)
Customer returns	**(198)**	(44)	(119)
US Branded Pharmaceutical Fee	**(47)**	(105)	(140)
Other	**(849)**	(879)	(989)
Net Product Sales	**8,638**	7,747	6,876

Movements in accruals
US pharmaceuticals

	Brought forward at 1 January 2020 $m	Provision for current year $m	Adjustment in respect of prior years $m	Returns and payments $m	Carried forward at 31 December 2020 $m
Chargebacks	**245**	**2,572**	**(28)**	**(2,611)**	**178**
Regulatory – Medicaid and state programmes	**731**	**1,269**	**(93)**	**(1,412)**	**495**
Contractual – Managed care and Medicare	**1,939**	**5,796**	**(127)**	**(5,671)**	**1,937**
Cash and other discounts	**19**	**289**	**–**	**(288)**	**20**
Customer returns	**180**	**225**	**–**	**(152)**	**253**
US Branded Pharmaceutical Fee	**126**	**92**	**(51)**	**(52)**	**115**
Other	**145**	**851**	**(2)**	**(866)**	**128**
Total	**3,385**	**11,094**	**(301)**	**(11,052)**	**3,126**

	Brought forward at 1 January 2019 $m	Provision for current year $m	Adjustment in respect of prior years $m	Returns and payments $m	Carried forward at 31 December 2019 $m
Chargebacks	271	2,458	(29)	(2,455)	245
Regulatory – Medicaid and state programmes	892	1,477	(97)	(1,541)	731
Contractual – Managed care and Medicare	1,542	5,613	(146)	(5,070)	1,939
Cash and other discounts	4	303	–	(288)	19
Customer returns	361	44	–	(225)	180
US Branded Pharmaceutical Fee	52	111	(6)	(31)	126
Other	144	879	–	(878)	145
Total	3,266	10,885	(278)	(10,488)	3,385

	Brought forward at 1 January 2018 $m	Provision for current year $m	Adjustment in respect of prior years $m	Returns and payments $m	Carried forward at 31 December 2018 $m
Chargebacks	206	2,220	4	(2,159)	271
Regulatory – Medicaid and state programmes	749	1,482	(178)	(1,161)	892
Contractual – Managed care and Medicare	1,267	4,685	(85)	(4,325)	1,542
Cash and other discounts	4	286	–	(286)	4
Customer returns	386	119	–	(144)	361
US Branded Pharmaceutical Fee	63	99	41	(151)	52
Other	151	989	–	(996)	144
Total	2,826	9,880	(218)	(9,222)	3,266

- operating segments – see Note 6 from page 193 KJ
- employee benefits – see Note 22 from page 209 SE
- taxation – see Taxation Accounting Policies on page 183 and Note 29 on page 232 KJ SE.

Revenue recognition
Product Sales are recorded at the invoiced amount (excluding inter-company sales and value added taxes), less movements in estimated accruals for rebates and chargebacks given to managed care and other customers, which are a particular feature in the US and are considered to be key estimates. It is the Group's policy to offer a credit note for all returns and to destroy all returned stock in all markets. Cash discounts for prompt payments are also discounted from sales. Sales are recognised when the control of the goods has been transferred to a third party, which is usually when title passes to the customer, either on shipment or on the receipt of goods by the customer, depending on local trading terms.

Rebates, chargebacks and returns in the US
When invoicing Product Sales in the US, we estimate the rebates and chargebacks that we expect to pay, which are considered to be estimates. These rebates typically arise from sales contracts with third-party managed care organisations, hospitals, long-term care facilities, group purchasing organisations and various federal or state programmes (Medicaid contracts, supplemental rebates, etc.). They can be classified as follows:

- Chargebacks, where we enter into arrangements under which certain parties, typically hospitals, long-term care facilities, group purchasing organisations, the Department of Veterans Affairs, Public Health Service Covered Entities and the Department of Defense, are able to buy products from wholesalers at the lower prices we have contracted with them. The chargeback is the difference between the price we invoice to the wholesaler and the contracted price charged by the wholesaler to the other party. Chargebacks are credited directly to the wholesalers.
- Regulatory, including Medicaid and other federal and state programmes, where we pay rebates based on the specific terms of agreements with the US Department of Health and Human Services and with individual states, which include product usage and information on best prices and average market prices benchmarks.
- Contractual, under which entities such as third-party managed care organisations are entitled to rebates depending on specified performance provisions, which vary from contract to contract.

The effects of these deductions on our US pharmaceuticals revenue and the movements on US pharmaceuticals revenue provisions are set out on page 97.

Accrual assumptions are built up on a product-by-product and customer-by-customer basis, taking into account specific contract provisions coupled with expected performance, and are then aggregated into a weighted average rebate accrual rate for each of our products. Accrual rates are reviewed and adjusted on an as needed basis. There may be further adjustments when actual rebates are invoiced based on utilisation information submitted to us (in the case of contractual rebates) and claims/invoices are received (in the case of regulatory rebates and chargebacks). We believe that we have made reasonable estimates for future rebates using a similar methodology to that of previous years. Inevitably, however, these estimates involve assumptions in respect of aggregate future sales levels, segment mix and customers' contractual performance.

Overall adjustments between gross and net US Product Sales amounted to $10,617 million in 2020 (2019: $10,607 million) with the increase driven by an overall increase in our US Product Sales and changes in product mix.

Cash discounts are offered to customers to encourage prompt payment. Accruals are calculated based on historical experience and are adjusted to reflect actual experience. Our revenue recognition policy is described within Group Accounting Policies from page 181.

Industry practice in the US allows wholesalers and pharmacies to return unused stocks within six months of, and up to 12 months after, shelf-life expiry. The customer is credited for the returned product by the issuance of a credit note. Returned products are not exchanged for products from inventory and once a return claim has been determined to be valid and a credit note has been issued to the customer, the returned products are destroyed. At the point of sale in the US, we estimate the quantity and value of products which may ultimately be returned. Our returns accruals in the US are based on actual experience. Our estimate is based on the historical sales and returns information for established products together with market-related information, such as estimated shelf life, product recall, and estimated stock levels at wholesalers, which we receive via third-party information services. For newly launched products, we use rates based on our experience with similar products or a pre-determined percentage.

Business combinations and goodwill (and contingent consideration arising from business combinations)
Our business model includes investment in targeted business developments to strengthen our portfolio, pipeline and capabilities. These business development transactions include collaborations, asset in-licences and business acquisitions.

Each transaction is considered to establish whether it qualifies as a business combination by applying the criteria assessment detailed in IFRS 3 'Business Combinations', after applying the optional concentration test on an elective basis. The determination of a transaction being a business combination or asset acquisition is considered to be a key judgement as detailed in the accounting policy on page 184.

On the acquisition of a business, fair values are attributed to the identifiable assets and liabilities and contingent liabilities unless the fair value cannot be measured reliably, in which case the value is subsumed into goodwill.

Attributing fair values is a key judgement. Goodwill is the difference between the fair value of the consideration and the fair value of net assets acquired. Fair value is the price that would be received to sell an asset or pay for a liability in an orderly transaction at the date of acquisition. The price may be directly observable but, in most cases, is estimated using valuation techniques which normally involve predicting future cash flows and applying a market participant discount rate. No business combinations were made in 2020, 2019 and 2018.

Future contingent elements of consideration, which may include development and launch milestones, revenue threshold milestones and revenue-based royalties, are fair valued at the date of acquisition using decision-tree analysis with key inputs including probability of success, consideration of potential delays and revenue projections based on the Group's internal forecasts. Unsettled amounts of consideration are held at fair value within payables with changes in fair value recognised immediately in the Consolidated Statement of Comprehensive Income. Several of our business combinations have included significant amounts of contingent consideration. Details of the movements in the fair value of the contingent consideration in the year and the range of possible contingent consideration amounts that may eventually become payable, are contained in Note 10 to the Financial Statements from page 198.

Where not all the equity of a subsidiary is acquired, the non-controlling interest is recognised either at fair value or at the non-controlling interest's proportionate share of the net assets of the subsidiary, on a case-by-case basis. Put options over non-controlling interests are recognised as a financial liability measured at amortised cost, with a corresponding entry in either retained earnings or against non-controlling interest reserves on a case-by-case basis.

As detailed on page 98, we have significant investments in goodwill and intangible assets as a result of acquisitions of businesses and purchases of assets, such as product development and marketing rights.

Details of the estimates and assumptions we make in our annual impairment testing of goodwill are included in Note 9 to the Financial Statements on page 197. The Group, including acquisitions, is considered a single operating segment for impairment purposes. No impairment of goodwill was identified. A significant portion of our investments in intangible assets and goodwill arose from the restructuring of the joint venture with MSD which commenced in 1998, the acquisition of MedImmune in 2007 and our 2014 acquisition of BMS's interest in the Group's Diabetes Alliance. We are satisfied that the carrying values of our intangible assets as at 31 December 2020 are fully justified by estimated future cash flows. The accounting for our Intangible assets is fully explained in Note 10 to the Financial Statements from page 198, including details of the estimates and assumptions we make in impairment testing of intangible assets.

Litigation and environmental liabilities

In the normal course of business, contingent liabilities may arise from product-specific and general legal proceedings, from guarantees or from environmental liabilities connected with our current or former sites. Where we believe that potential liabilities have a less than 50% probability of crystallising, or where we are unable to make a reasonable estimate of the liability, we treat them as contingent liabilities. These are not provided for, but are disclosed in Note 29 to the Financial Statements from page 228.

In cases that have been settled or adjudicated, or where quantifiable fines and penalties have been assessed and which are not subject to appeal (or other similar forms of relief), or where a loss is probable and we are able to make a reasonable estimate of the loss, we generally indicate the loss absorbed or make a provision for our best estimate of the expected loss.

Where it is considered that the Group is more likely than not to prevail, or in the rare circumstances where the amount of the legal liability cannot be estimated reliably, legal costs involved in defending the claim are charged to profit as they are incurred. Where it is considered that we have a valid contract which provides the right to reimbursement (from insurance or otherwise) of legal costs and/or all or part of any loss incurred or for which a provision has been established and we consider recovery to be virtually certain, then the best estimate of the amount expected to be received is recognised as an asset.

Assessments as to whether or not to recognise provisions or assets and of the amounts concerned usually involve a series of complex judgements about future events and can rely heavily on estimates and assumptions. We believe that the provisions recorded are adequate based on currently available information and that any insurance recoveries recorded will be received.

However, given the inherent uncertainties involved in assessing the outcomes of these cases and in estimating the amount of the potential losses and the associated insurance recoveries, we could in future periods incur judgments or insurance settlements that could have a material adverse effect on our results in any particular period.

The position could change over time and there can, therefore, be no assurance that any losses that result from the outcome of any legal proceedings will not exceed the amount of the provisions that have been booked in the accounts.

Although there can be no assurance regarding the outcome of legal proceedings, we do not currently expect them to have a material adverse effect on our financial position, but they could significantly affect our financial results in any particular period.

Sarbanes-Oxley Act section 404

As a consequence of our Nasdaq listing, we are required to comply with those provisions of the Sarbanes-Oxley Act applicable to foreign issuers. Section 404 of the Sarbanes-Oxley Act requires companies annually to assess and make public statements about the quality and effectiveness of their internal control over financial reporting. As regards Sarbanes-Oxley Act section 404, our approach is based on the Committee of Sponsoring Organizations (COSO) 2013 framework.

Our approach to the assessment has been to select key transaction and financial reporting processes in our largest operating units and a number of specialist areas (e.g. financial consolidation and reporting, treasury operations and taxation etc.), so that, in aggregate, we have covered a significant proportion of the key lines in our Financial Statements. Each of these operating units and specialist areas has ensured that its relevant processes and controls are documented to appropriate standards, taking into account, in particular, the guidance provided by the SEC. We have also reviewed the structure and operation of our 'entity level' control environment. This refers to the overarching control environment, including structure of reviews, checks and balances that are essential to the management of a well-controlled business.

Financial Review
continued

Section 172(1) statement

When making decisions, the Directors of AstraZeneca PLC must act in the way they consider, in good faith, is most likely to promote the success of the Company for the benefit of its members as a whole, while also considering the broad range of stakeholders who interact with and are impacted by our business. Throughout the year, while discharging their duties, section 172(1) requires a director to have regard, amongst other matters, to the:

- likely consequences of any decisions in the long term
- interests of the company's employees
- need to foster the company's business relationships with suppliers, customers and others
- impact of the company's operations on the community and environment
- desirability of the company maintaining a reputation for high standards of business conduct and
- need to act fairly as between members of the company.

In discharging their section 172(1) duties the Directors have had regard to the factors set out above, as well as other factors relevant to the decision being made. The Board acknowledges that every decision made will not necessarily result in a positive outcome for all stakeholders. By considering our Purpose and Values, together with our strategic priorities, the Board aims to ensure that the decisions made are consistent and intended to promote the Company's long-term success.

The Group engaged with key stakeholders throughout the year to understand the issues and factors that are significant for these stakeholders, and a number of actions were taken as a result of this engagement. The interaction with stakeholders, and the impact of these interactions, is set out in the Connecting with our stakeholders section on pages 110 - 112 and throughout the Strategic Report. We are committed to being a great place to work for the global workforce, encouraging and rewarding innovation, entrepreneurship and high performance. Details on engagement with employees can be found on pages 68-71 of the Business Review, page 123 of the Audit Committee Report and page 151 of the Remuneration Committee Report.

We are committed to employing high ethical standards when carrying out all aspects of our business globally. Our Code of Ethics (the Code) is based on our Values, expected behaviours and key policy principles. More information on the Code can be found in the Business Review on page 61 and page 118 of the Corporate Governance Report.

AstraZeneca recognises patients as people first and puts them at the heart of what we do. Information on the importance of Patients to the business can be found on pages 26 and 112, with further information throughout the Business Review.

Information on interactions with suppliers are set on pages 62 and 63, and on page 110. The consideration and impact of the Group's operations on the environment can be found on pages 72 to 77 and Ambition Zero Carbon on page 27. Information on how the Group has considered other factors, such as communities, is also set out in Contributing to society, from page 76 and Connecting with our stakeholders on page 110.

Details of how the Board operates and matters considered by the Board are set out in the Corporate Governance Report from page 108. Examples of how Directors discharged their section 172(1) duties when making Principal Decisions during 2020 are set out on page 112. Principal Decisions are decisions and discussions which are material or strategic to the Group, but also those that are significant to any of our stakeholder groups.

Strategic Report

The following sections make up the Strategic Report, which has been prepared in accordance with the requirements of the Companies Act 2006:

- AstraZeneca at a Glance
- Chairman's Statement
- Chief Executive Officer's Review
- Business Model and Life-cycle of a Medicine
- Healthcare in a Changing World
- Our Strategy and Key Performance Indicators
- Case study: Creating the next generation of therapeutics
- Performance in 2020
- Therapy Area Review
- Business Review
- Risk Overview
- Financial Review

and has been approved and signed on behalf of the Board.

A C N Kemp
Company Secretary

11 February 2021

Corporate Governance

Chairman's Introduction

Good corporate governance is a prerequisite for a well-run company and this Corporate Governance Report reflects the new regulations which encourage transparency in governance reporting and enhance understanding of how AstraZeneca is managed.

"It became apparent early in the year that we could work well together in a virtual way, maintaining continuity of governance."

2020 proved to be a test of AstraZeneca's solid governance foundations

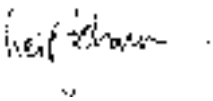
2020 proved to be a test of AstraZeneca's solid governance foundations as the Board, SET and colleagues around the world had to adapt quickly to new ways of working due to the COVID-19 pandemic. It became apparent early in the year that we could work well together in a virtual way, with good IT support, continuing to collaborate and maintain the continuity of the various governance processes and activities, including our usual financial and other controls, and quarterly results announcements.

However, the pandemic has hindered the Board's ability to engage as fully as usual with some stakeholders this year and we had to curtail our travel plans, including a planned visit to AstraZeneca Japan, and some employee engagement activities. Having published our Notice of AGM at about the time the UK started its first lockdown, we had to hold a closed AGM in 2020. We encouraged shareholders to vote by proxy in advance and invited them to submit questions to the Board by post or e-mail. These questions and our responses were made available on our website. The Board is looking forward to returning to a more normal level of engagement with shareholders, employees and other stakeholders as soon as it is safe to do so in 2021.

With Directors based in different time zones across the world – from the west coast of the US to Asia – it has occasionally proved difficult to schedule Board meetings at times convenient for all. However, we believe this challenge is outweighed by the benefits of having a diverse Board that reflects the global nature of our business, made up of Directors who have the skills and experience that align with the Company's and the Board's needs.

Despite having to operate virtually, we successfully recruited two new Non-Executive Directors during 2020, in October and November – Euan Ashley and Diana Layfield. We are delighted to have the benefit of Euan's scientific achievements and interests, and his entrepreneurial experience on the US west coast, and of Diana's broad international business experience, expertise in delivering innovation at scale and her passion for life sciences.

As always, discussion of strategy was a key part of the good governance process in 2020 and you can read elsewhere in this report about our agreement to acquire Alexion. As part of its oversight of management, the Board will continue to monitor the work to close this proposed transaction and assure itself that there is good planning for a successful integration, subject, of course, to regulatory clearances and shareholders' approval.



Leif Johansson
Chairman

Corporate Governance Overview

Delivery

How our governance supports the delivery of our strategy

All Directors are collectively responsible for the success of the Group. The Non-Executive Directors exercise independent, objective judgement in respect of Board decisions, and scrutinise and challenge management. They also have various responsibilities concerning the integrity of financial information, internal controls and risk management.

The Board is responsible for setting our strategy and policies, overseeing risk and corporate governance, and monitoring progress towards meeting our objectives and annual plans. It is accountable to our shareholders for the proper conduct of the business and our long-term success, and seeks to represent the interests of all stakeholders. The Board conducts an annual review of the Group's overall strategy. The CEO, CFO and Senior Executive Team (SET) take the lead in developing our strategy, which is then reviewed, constructively challenged and approved by the Board.

Governance structure

The Board has delegated some of its powers to the CEO and operates with the assistance of four Committees:

Board
Corporate Governance Report from page 108

- **Audit Committee** – Report from page 122
- **Remuneration Committee** – Report from page 131
- **Nomination and Governance Committee** – Report from page 120
- **Science Committee** – Report from page 119

Senior Executive Team (SET)
Details of our SET on pages 106 and 107

In addition to the SET, we have two senior-level governance bodies:

- **Early Stage Portfolio Committee** – Page 106
- **Late Stage Portfolio Committee** – Page 106

Attendance in 2020

● Board or Committee Chairman

The Board held 15 meetings in 2020, including its usual annual strategy review. Eight of these were convened at short notice and related to the proposed acquisition of Alexion. Other than its meeting in January 2020, which took place in London, UK, all Board meetings in 2020 were held virtually by video conference due to the COVID-19 pandemic.

[1] Dr Euan Ashley missed three ad hoc meetings. Two absences were due to long-standing medical training and student teaching commitments, and the third resulted from a time zone conflict. For full details, see page 115.

Board Committee membership and meeting attendance in 2020

Name	Board	Audit	Remuneration	Nomination and Governance	Science
Euan Ashley – *appointed 1 October 2020*	4(7)[1]				1(1)
Geneviève Berger	14(15)				4(5)
Philip Broadley	13(15)	● 7(7)	6(6)	5(5)	
Graham Chipchase	12(15)		● 4(4)	4(5)	
Michel Demaré	15(15)	7(7)	● 2/(2)		
Deborah DiSanzo	12(15)	7(7)			
Marc Dunoyer	15(15)				
Leif Johansson	● 15(15)		6(6)	● 5(5)	
Diana Layfield – *appointed 1 November 2020*	5(5)				
Sheri McCoy	14(15)	7(7)	6(6)		
Tony Mok	15(15)				5(5)
Nazneen Rahman	15(15)			5(5)	● 5(5)
Pascal Soriot	15(15)				
Marcus Wallenberg	13(15)				4(5)

Note: number in brackets denotes number of meetings during the year that Board members were entitled to attend.

For more information, see Changes to the composition of the Board and its Committees for the year ended 31 December 2020 on page 104.
For more information on attendance at Board and Committee meetings, see Role of Non-Executive Directors on page 115.

Board of Directors
as at 31 December 2020

Committee membership key

- Committee Chairman
- NG Nomination and Governance
- A Audit
- S Science
- R Remuneration

* Date of first appointment or election to the Board.

Changes to the composition of the Board and its Committees for the year ended 31 December 2020

Euan Ashley
Appointed as a Non-Executive Director and became a member of the Science Committee on 1 October 2020.

Michel Demaré
Appointed as a member and Chairman of the Remuneration Committee on 1 August 2020.

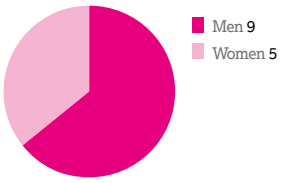
Graham Chipchase
Stepped down as Chairman of the Remuneration Committee on 1 August 2020.

Diana Layfield
Appointed as a Non-Executive Director on 1 November 2020.

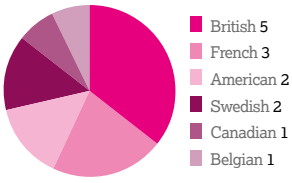
For full biographical details of our Board members see, www.astrazeneca.com/our-company/leadership

Board composition
as at 31 December 2020

Gender split of Directors



Directors' nationalities



Length of tenure of Non-Executive Directors

<3 years
4
Euan Ashley
Michel Demaré
Diana Layfield
Tony Mok

3-6 years
4
Deborah DiSanzo
Sheri McCoy
Nazneen Rahman
Philip Broadley

6-9 years
3
Leif Johansson
Geneviève Berger
Graham Chipchase

>9 years
1
Marcus Wallenberg

Leif Johansson NG R
Non-Executive Chairman of the Board
(April 2012*)

Skills and experience: From 1997-2011, Leif was Chief Executive Officer of AB Volvo. Leif served at AB Electrolux as Chief Executive Officer from 1994-1997. He was a Non-Executive Director of BMS from 1998-September 2011, serving on the Audit Committee and Compensation and Management Development Committee. Leif was Chairman of LM Ericsson from 2011-2018. He holds an MSc in engineering from Chalmers University of Technology, Gothenburg.

Other appointments: Leif holds board positions at Autoliv, Inc. and Ecolean AB. Leif has been a member of the Royal Swedish Academy of Engineering Sciences since 1994 (Chairman 2012-2017), is a member of the European Round Table of Industrialists (Chairman 2009-2014) and also of the Council of Advisors, Boao Forum for Asia.

Pascal Soriot
Executive Director and CEO
(October 2012*)

Skills and experience: Pascal has a passion for science and medicine, and significant experience in established and emerging markets, together with a strength of strategic thinking and execution, a successful track record of managing change and executing strategy, and the ability to lead a diverse organisation. He served as COO of Roche's pharmaceuticals division from 2010-2012 and previously as CEO of Genentech in San Francisco, where he led its successful merger with Roche. Pascal joined the pharmaceutical industry in 1986 and has worked in senior roles in major companies around the world. He is a doctor of veterinary medicine (École Nationale Vétérinaire d'Alfort, Maisons-Alfort) and holds an MBA from HEC Paris.

Marc Dunoyer
Executive Director and CFO
(November 2013*)

Skills and experience: Marc's pharmaceutical career includes periods with Roussel Uclaf, Hoechst Marion Roussel and GSK, which has given him extensive industry experience in: finance and accounting; corporate strategy and planning; research and development; sales and marketing; business reorganisation; and business development. Marc is a qualified accountant and joined AstraZeneca in 2013 serving as Executive Vice-President, Global Product and Portfolio Strategy (GPPS) from June-October 2013. Previously, he served as Global Head of Rare Diseases at GSK and (concurrently) Chairman, GSK Japan. He holds an MBA from HEC Paris and a Bachelor of Law degree from Paris University.

Other appointments: Marc is a Director of Orchard Therapeutics Plc.

Graham Chipchase NG
Senior independent Non-Executive Director
(April 2012*)

Skills and experience: Graham is Chief Executive Officer of Brambles Limited, a global supply chain logistics company listed on the Australian Securities Exchange that operates primarily through the CHEP brand. Graham was Chief Executive Officer of Rexam PLC from 2010-2016 after serving as Group Director, Plastic Packaging and Group Finance Director. Previously, he was Finance Director of Aerospace Services at GKN PLC from 2001-2003. After starting his career with Coopers & Lybrand Deloitte, he held various finance roles in The BOC Group PLC (now part of The Linde Group). He is a Fellow of the Institute of Chartered Accountants in England and Wales and holds an MA (Hons) in chemistry from Oriel College, Oxford.

Other appointments: Chief Executive Officer of Brambles Limited.

Euan Ashley S
Non-Executive Director
(October 2020*)

Skills and experience: Euan studied physiology and medicine at Glasgow University, trained as a junior doctor at Oxford University Hospitals NHS Trust, and gained a DPhil in cardiovascular cellular biology and molecular genetics at the University of Oxford. In 2002, Euan moved to Stanford University, California where his research focuses on genetic mechanisms of cardiovascular health and disease. His laboratory leverages AI and digital health tools, alongside biotechnology and technology partners in Silicon Valley, to advance translational and clinical research. Euan's awards include recognition from the Obama White House for contributions to personalised medicine and the American Heart Association's Medal of Honor for precision medicine.

Other appointments: Associate Dean and Professor of Biomedical Data Science and Professor of Cardiovascular Medicine and Genetics at Stanford University in California.

Geneviève Berger S
Non-Executive Director
(April 2012*)

Skills and experience: Geneviève was Chief Science Officer at Unilever PLC & NV, and a member of the Unilever Leadership Executive from 2008-2014. She holds doctorates in physics, human biology and medicine, and was appointed Professor of Medicine at Université Pierre & Marie Curie, Paris in 1995. Previous positions include Professor and Hospital Practitioner at: Hôpital de la Pitié-Salpêtrière, Paris; Director General, Centre National de la Recherche Scientifique; Chairman, Health Advisory Board of the EU Commission; and Non-Executive Director of Smith & Nephew plc. During 2020, Geneviève oversaw sustainability matters on behalf of the Board.

Other appointments: Chief Research Officer at Firmenich SA and Director of Air Liquide SA.

Philip Broadley (A) (R) (NG)

Non-Executive Director
(April 2017*)

Skills and experience: Philip has significant financial and international business experience. He was previously Group Finance Director of Prudential plc for eight years and Old Mutual plc for six years. He has served as Chairman of the 100 Group of Finance Directors in the UK and as a board member of Stallergenes Greer plc. He graduated in Philosophy, Politics and Economics from St Edmund Hall, Oxford, where he is now a St Edmund Fellow, and holds an MSc in Behavioural Science from London School of Economics.

Other appointments: Philip is a Non-Executive Director of Legal & General Group plc, where he chairs the Audit Committee. He is Treasurer of the London Library and Chairman of the Board of Governors of Eastbourne College.

Michel Demaré (R) (A)

Non-Executive Director
(September 2019*)

Skills and experience: Michel was previously Vice-Chairman of UBS Group AG (2010-2019), Chairman of Syngenta and Syngenta Foundation for Sustainable Agriculture (2013-2017) and Chairman of SwissHoldings (2013-2015). Between 2005 and 2013, Michel was CFO of ABB Ltd and interim CEO during 2008. He joined ABB from Baxter International Inc., where he was CFO Europe from 2002-2005. Prior to that, he spent 18 years at The Dow Chemical Company, including as CFO of Dow's Global Polyolefins and Elastomers division between 1997-2002.

Other appointments: Michel is Non-Executive Director of Vodafone Group Plc, Chairman of IMD Business School in Lausanne, Deputy Chairman of Louis Dreyfus Company Holdings BV and Chairman of Nomoko AG.

Deborah DiSanzo (A)

Non-Executive Director
(December 2017*)

Skills and experience: Deborah is president of Best Buy Health for Best Buy Co. Inc., where she is responsible for the company's health strategy. Her oversight includes GreatCall, a provider of connected health and personal emergency response services to the ageing population. Most recently, Deborah served as an instructor at the Harvard T.H. Chan School of Public Health. Deborah's previous roles have included General Manager for IBM Watson Health and CEO of Philips Healthcare.

Other appointments: Deborah is president of Best Buy Health for Best Buy Co. Inc, continues to teach at the Harvard T.H. Chan School of Public Health, is a Director of Novanta, Inc. and also serves on the board of Project Hope, a global health and humanitarian relief organisation.

Diana Layfield

Non-Executive Director
(November 2020*)

Skills and experience: Diana has broad global business experience which began in the pharmaceutical and biotech sector. She has held senior leadership roles in the technology sector and international banking, including senior positions at Standard Chartered Bank, as the CEO of a start-up technology company, and in Healthcare and Life Sciences at McKinsey & Co. Until December 2020, Diana was a Non-Executive Director of Aggreko plc. She has a BA from Oxford University and an MA in Public Administration and International Economics from Harvard University.

Other appointments: Diana is President, EMEA Partnerships at Google, driving technology transformation and is also Vice-President, 'Next Billion Users' & Product Management, leading the development of products and services for future Google users, and is also a Council Member of the London School of Hygiene & Tropical Medicine.

Sheri McCoy (A) (R)

Non-Executive Director
(October 2017*)

Skills and experience: Sheri had a distinguished 30-year career at Johnson & Johnson, latterly as Vice Chairman of the Executive Committee, responsible for the Pharmaceuticals and Consumer business segments. She joined Johnson & Johnson as an R&D scientist and subsequently managed businesses in every major product sector, holding positions including Worldwide Chairman, Surgical Care Group and Division President, Consumer. In 2012, Sheri was recruited by Avon Products, Inc. and served as Chief Executive Officer and a Director until February 2018.

Other appointments: Sheri serves on the boards of Stryker, Kimberly-Clark, and Novocure and is an industrial adviser for EQT, in connection with which she chairs Certara and Aldevron, and serves on the board of Galderma.

Tony Mok (S)

Non-Executive Director
(January 2019*)

Skills and experience: Tony is the Li Shu Fan Medical Foundation endowed Professor and Chairman of the Department of Clinical Oncology at the Chinese University of Hong Kong. His work includes multiple aspects of lung cancer research, including biomarker and molecular targeted therapy in lung cancer. Tony is a former President of the International Association for the Study of Lung Cancer and is on the Board of Directors of the American Society of Clinical Oncology. His work has achieved numerous awards including the ESMO Lifetime Achievement Award in 2018 and Giant of Cancer Care in 2020.

Other appointments: Tony is a Non-Executive Director of Hutchison China MediTech Limited and co-founder and the Chairman of Sanomics Limited.

Nazneen Rahman (S) (NG)

Non-Executive Director
(June 2017*)

Skills and experience: Nazneen has significant scientific, medical and data analysis experience. She was Head of the Division of Genetics and Epidemiology at the Institute of Cancer Research (ICR), London, and Head of Cancer Genetics at the Royal Marsden NHS Foundation Trust for 10 years to 2018. Nazneen was also founder and Director of the TGLclinical Genetic Testing Laboratory. She is now working on making healthcare more sustainable. Nazneen qualified in medicine from Oxford University in 1991, gained her Certificate of Completion of Specialist Training in medical genetics in 2001 and completed a PhD in molecular genetics in 1999. She has garnered numerous awards, including a CBE recognising her contribution to medical sciences. Nazneen has overseen sustainability matters on behalf of the Board from January 2021.

Other appointments: Nazneen is the founder of sustainable healthcare company, YewMaker.

Marcus Wallenberg (S)

Non-Executive Director
(April 1999*)

Skills and experience: Marcus has international business experience across various industry sectors, including the pharmaceutical industry from his directorship with Astra prior to 1999.

Other appointments: Marcus is Chairman of Skandinaviska Enskilda Banken AB, Saab AB and FAM AB. He is a member of the boards of Investor AB and the Knut and Alice Wallenberg Foundation.

Senior Executive Team (SET) as at 31 December 2020

In addition to the SET, we have two senior-level governance bodies accountable for making key decisions regarding our portfolio and pipeline.

Early Stage Portfolio Committee (ESPC)
The ESPC is a senior-level, cross-functional governance body with accountability for oversight of our early-stage small molecule and biologics portfolio across all therapy areas, from candidate drug investment decisions to Phase IIb. It is co-chaired by the EVP, Oncology R&D and the EVP, BioPharmaceuticals R&D.

The ESPC seeks to deliver a flow of products for Phase III development through to launch. The ESPC also seeks to maximise the value of our internal and external R&D investments through robust, transparent and well-informed decision making that drives business performance and accountability. This decision making is based on data generated by teams of scientists involved in the discovery and development process up to Phase IIb and who follow well established business processes.

Specifically, the ESPC has responsibility for the following:

- approving early-stage investment decisions
- prioritising the early-stage portfolio
- licensing activity for products in Phase I and earlier
- delivering internal and external opportunities
- reviewing allocation of R&D resources.

Late Stage Portfolio Committee (LSPC)
The LSPC is also a senior-level governance body, accountable for the quality of the portfolio post-Phase III investment decision. It is chaired by the CEO and co-chaired by the EVP, Oncology R&D and the EVP, Oncology Business Unit, and by the EVP, BioPharmaceuticals R&D and the EVP, BioPharmaceuticals Business Unit.

The LSPC seeks to maximise the value of our investments in the late-stage portfolio, also ensuring well-informed and robust decision making based on data that demonstrates the clinical efficacy and safety of the medicine. Specific accountabilities include:

- approval of the criteria supporting Proof of Concept
- decisions to invest in Phase III development based on the scientific data, commercial opportunity and our plans to develop the medicine
- evaluations of the outcomes of development programmes and decisions to proceed to regulatory filing
- decisions to invest in life-cycle management activities for the late-stage assets
- decisions to invest in late-stage business development opportunities.

Pascal Soriot
CEO

See page 104.

Marc Dunoyer
CFO

See page 104.

Katarina Ageborg
Executive Vice-President, Sustainability and Chief Compliance Officer

Katarina has overall responsibility for the delivery, design and implementation of the Company's sustainability programme, covering three priority areas: access to healthcare; environmental protection; and ethics and transparency. She leads the Global Sustainability function, focusing on Compliance, and Safety, Health and Environment. Katarina was appointed President of AstraZeneca AB (Sweden) in 2018. Prior to these roles, Katarina led the Global Intellectual Property function from 2008-2011, before taking the role as Chief Compliance Officer. Katarina holds a Master of Law Degree from Uppsala University School of Law in Sweden and ran her own law firm before joining AstraZeneca in 1998.

José Baselga
Executive Vice-President, Oncology R&D

José has responsibility for our Oncology portfolio from discovery through to late-stage development. He was formerly Physician-in-Chief at Memorial Sloan Kettering Cancer Center, Professor of Medicine at Weill Cornell Medical College, led the Division of Oncology at the Massachusetts General Hospital and was Professor of Medicine at Harvard Medical School. José was also founding Director of the Vall d'Hebron Institute of Oncology and is an international thought leader in innovation in cancer care and research. He is a past President of ESMO and AACR, a member of the National Academy of Medicine, the American Society of Clinical Investigation, the Association of American Physicians, and a Fellow of the AACR Academy.

Pam Cheng
Executive Vice-President, Operations & Information Technology

Pam joined AstraZeneca in June 2015, after 18 years with Merck/MSD in Global Manufacturing, Supply Chain and Commercial roles. She was the Head of Global Supply Chain Management & Logistics for Merck and led the transformation of Merck supply chains across the global supply network. Pam also held the role of President of MSD China. Prior to joining Merck, Pam held various engineering and project management positions at Universal Oil Products, Union Carbide Corporation and GAF Chemicals. She holds Bachelor's and Master's degrees in chemical engineering from Stevens Institute of Technology, New Jersey and an MBA from Pace University in New York. Pam serves as a Non-Executive Director of the Smiths Group plc board.

Ruud Dobber
Executive Vice-President, BioPharmaceuticals Business Unit

Ruud has responsibility for product strategy and commercial delivery for CVRM, Respiratory & Immunology, neuroscience and infection. Ruud joined Astra in 1997 and has held the roles of Executive Vice-President, North America; Executive Vice-President, Europe; Regional Vice-President, Europe, Middle East and Africa; and Regional Vice-President, Asia Pacific. Ruud was a member of the board and executive committee of the European Federation of Pharmaceutical Industries and Associations and was previously Chairman of the Asia division of Pharmaceutical Research and Manufacturers of America. Ruud holds a doctorate in immunology from the University of Leiden, Netherlands, beginning his career as a research scientist in immunology and ageing.

David Fredrickson

Executive Vice-President,
Oncology Business Unit

Dave is responsible for driving growth and maximising the commercial performance of the AstraZeneca global Oncology portfolio. He has global accountability for marketing, sales, medical affairs and market access in Oncology and plays a critical leadership role in setting the Oncology portfolio and product strategy. Previously, Dave served as President of AstraZeneca K.K. in Japan, and Vice-President, Specialty Care in the US. Before joining AstraZeneca, Dave worked at Roche/Genentech, where he served in several functions and leadership positions, including Oncology Business Unit Manager in Spain, and strategy, marketing and sales roles in the US. Dave is a graduate of Georgetown University in Washington DC.

Menelas Pangalos

Executive Vice-President,
BioPharmaceuticals R&D

Mene is responsible for BioPharmaceuticals R&D from discovery through to late-stage development across CVRM, Respiratory & Immunology, neuroscience and infection. He previously held senior R&D roles at Pfizer, Wyeth and GSK. Mene is a Fellow of the Academy of Medical Sciences, the Royal Society of Biology and Clare Hall, University of Cambridge. He sits on the Medical Research Council, co-chairs the Life Sciences Council Expert Group on Innovation, Clinical Research and Data. He is on the boards of The Francis Crick Institute, The Judge Business School and Dizal Pharma. In 2019, Mene was awarded a knighthood from The Queen and the Prix Galien Medal, Greece. He oversees the creation of AstraZeneca's new Global R&D Centre in Cambridge.

Jeff Pott

General Counsel and, effective January 2021, Chief Human Resources Officer

Jeff was appointed General Counsel in January 2009 and has overall responsibility for all aspects of AstraZeneca's Legal and IP function. In addition to his role as General Counsel, he was appointed Chief Human Resources Officer in January 2021 assuming additional responsibilities for the AstraZeneca Human Resources function. Jeff joined AstraZeneca in 1995 and has worked in various litigation roles, where he has had responsibility for IP, anti-trust and product liability litigation. Before joining AstraZeneca, he spent five years at the US legal firm Drinker Biddle and Reath LLP, where he specialised in pharmaceutical product liability litigation and anti-trust advice and litigation. He received his Bachelor's degree in political science from Wheaton College and his Juris Doctor Degree from Villanova University School of Law.

Iskra Reic

Executive Vice-President,
Europe and Canada

Iskra has responsibility for BioPharmaceuticals sales, marketing and commercial operations across our businesses in 30 European countries and Canada. She trained as a doctor of dental surgery at the Medical University of Zagreb, Croatia. She joined AstraZeneca in 2001 and has held a variety of in-market, regional sales and marketing, and general management roles, including: Head of Commercial Operations for Croatia; Head of Specialty Care Central & Eastern Europe; and General Manager, Russia and the Eurasia Area. She was appointed EVP, Europe in April 2017. Iskra has an International Executive MBA from the IEDC-Bled School of Management, Slovenia.

Leon Wang

Executive Vice-President,
International and China President

Leon Wang is responsible for overall strategy driving sustainable growth across the International region, which includes China. Leon joined AstraZeneca China in March 2013 and was promoted to become President, AstraZeneca China in 2014. Under Leon's leadership, China has become AstraZeneca's second-largest market worldwide and AstraZeneca has become the largest pharmaceutical company in China. Prior to joining AstraZeneca, Leon held positions of increasing responsibility in marketing and business leadership at Roche, where he was a Business Unit Vice-President. In addition, Leon holds several positions in local trade associations and other prominent organisations in China. Leon holds an EMBA from China Europe International Business School, and a Bachelor of Arts from Shanghai International Studies University.

Fiona Cicconi

Executive Vice-President,
Human Resources

Throughout 2020, Fiona was Executive Vice-President, Human Resources with responsibility for design and delivery of AstraZeneca's people strategy and ambition to Be a Great Place to Work. She held that role until 31 December 2020, when she resigned to take up a similar role at a global company outside the pharmaceutical industry.

Corporate Governance Report
Activities of the Board

All Directors are collectively responsible for the success of the Company.

Principal matters considered by the Board in 2020

Reserved powers

The Board maintains and periodically reviews a list of matters that are reserved to, and can only be approved by, the Board.

These include: the appointment, termination and remuneration of any Director; approval of the annual budget; approval of any item of fixed capital expenditure or any proposal for the acquisition or disposal of an investment or business which exceeds $150 million; the raising of capital or loans by the Company (subject to certain exceptions); the giving of any guarantee in respect of any borrowing of the Company; and allotting shares of the Company. The matters that have not been expressly reserved to the Board are delegated by the Board to its four principle Committees or the CEO.

Principal matters

The principal matters considered by the Board during 2020 and the link to the Group's strategic priorities are set out in the table. As part of the business of each Board meeting, the CEO typically submits a progress report, giving details of business performance and progress against the goals the Board has approved. To ensure that the Board has good visibility of the key operating decisions of the business, members of the SET attend Board meetings regularly and Board members meet other senior executives throughout the year. The Board also receives accounting and other management information about our resources, and presentations from internal and external speakers on legal, governance and regulatory developments.

Adapting to virtual ways of working

From the end of the first quarter of 2020, all Board and Board Committee meetings were held virtually by videoconference due to the global COVID-19 pandemic. Directors adapted quickly to this new way of working, although scheduling virtual meetings at times convenient to all Board members was made more difficult by Directors being based in multiple time zones, including the US west and east coasts and Asia. In addition, as described later in this report, the pandemic significantly curtailed the Board's usual annual programme of site visits and face-to-face engagement with employees and other stakeholders.

Area of focus		Strategic priority
Strategic matters	> The Group's strategy, including its long-range plan, annual budget, strategic options and the overall state of the pharmaceuticals industry	
	> The Group's capital structure, including financing needs, credit rating and capital strategy	
	> The proposed acquisition of Alexion	
	> Requests for approval of business development transactions of a size requiring Board approval, including the co-development and co-commercialisation agreement with Daiichi Sankyo for DS-1062	
	> Dividend decisions	
Operational matters	> Executive management reports, including business performance reports, R&D pipeline updates and the results of key clinical trials	
	> Quarterly results announcements	
	> Reviews of the development of *COVID-19 Vaccine AstraZeneca*, cybersecurity and IT more generally, Operations, plans relating to climate change and the Company's carbon footprint, doing business in China and the switch of US share and bond listings to Nasdaq	
	> Business continuity during the global COVID-19 pandemic, including safeguarding employees' health and safety, and doing the right thing for patients.	
Stakeholders	> Investor perceptions	
	> Employee gender data	
	> Sustainability and philanthropic matters	
	> Review of the Board's Inclusion and Diversity Policy	
Governance, assurance and risk management	> Reports from Board Committees	
	> Routine succession planning for SET and Board-level roles	
	> Review of the workforce culture and employee engagement reports	
	> Year-end governance and assurance reports	
	> The Group's viability, risk appetite and Modern Slavery Act statements	
	> The annual review of the performance of the Board, its Committees and individual Directors	
	> Private discussions between Non-Executive Directors only	

Key

- Deliver Growth and Therapy Area Leadership
- Accelerate Innovative Science
- Be a Great Place to Work
- Achieve Group Financial Targets

Board performance evaluation

2020 Overview

During the year, the Board conducted the annual evaluation of its own performance and that of its Committees and individual Directors. The 2020 evaluation was externally facilitated by Lintstock Ltd (Lintstock), a London-based corporate advisory firm that provides objective and independent counsel to leading European companies. Lintstock supplies software and services to the Company Secretary's team for Board evaluation questionnaires but has no other commercial relationship with the Company or any individual Directors. Based on Board members' responses to the web-based questionnaire covering a wide range of topics and on interviews carried out by Lintstock with each Board member, Lintstock prepared a report which was discussed by the Board at its meeting in December 2020 and was also used by the Chairman as the basis for individual conversations with each Board member prior to the full Board discussion.

As part of each Director's individual discussion with the Chairman during the Board evaluation, his or her contribution to the work of the Board and personal development needs were considered. Directors' training needs are met by a combination of: internal presentations and updates and external speaker presentations as part of Board and Board Committee meetings; specific training sessions on particular topics, where required; and the opportunity for Directors to attend external courses at the Company's expense, should they wish to do so.

The Board intends to continue to comply with the UK Corporate Governance Code guidance that the evaluation should be externally facilitated at least every three years and expects to commission the next externally-facilitated review in 2023.

As part of the Board performance evaluation, Directors are asked to consider the composition and diversity of the Board, as well as how effectively members are working together.

2020 Outcomes

Main areas covered	Main conclusions and recommendations
> Board composition and dynamics > Stakeholder oversight > Board meeting management and support > Board Committees > Board oversight > Risk management and internal control > External Audit function > Succession planning and human resource management > Priorities for change > COVID-19	> The Board operates effectively and in a manner that encourages open and frank discussion where all Board members feel free to express their views. > The way in which the Board actively discussed its composition and the varied skills and experience of Directors was commended. > The Board's relationship with management was highly rated. > The reviews of the performance of the Board's Committees did not raise any significant issues and the evaluation concluded that the Committees are operating effectively and are highly rated overall. > The performance of the External Auditor was rated positively overall, and the scope and quality of work and reporting was highly rated. Further detail on the review of the External Audit function is set out on page 130 of the Audit Committee Report. > An appropriate focus on structured succession planning for the most senior Board roles was being maintained. > Areas for improvement identified included: how the full Board reviews key risks faced by the Company; finding more opportunities for the Board to hear about or interact with a broad selection of stakeholders; and re-assessing the format and cadence of the annual schedule of Board meetings. > The Board adjusted its focus and priorities well in response to the COVID-19 pandemic and engaged quickly and effectively. > In respect of the 2020 annual performance evaluation, it was concluded that each Director continues to perform effectively and to demonstrate commitment to his or her role and the performance of the Board since the last Board evaluation was rated highly.

Chairman evaluation

Process	Overall conclusion
The 2020 evaluation also included a review of the performance of the Chairman by the other Directors, led by the senior independent Non-Executive Director and absent the Chairman	The Chairman is highly engaged and continues to perform very well across the broad spectrum of internal and external stakeholders. The Company's reputation and how it is viewed by external stakeholders was suggested as an additional area for the Board's focus in 2021. The Chairman was encouraged to continue to keep the Board regularly informed about succession planning for the most senior Board roles, as he had done throughout 2020, and to consider ways to mitigate the effects of remote meetings and working. Minor improvements relating to management of virtual Board meetings by videoconference were suggested.

Actions against prior year recommendations

2019 evaluation	2020 actions taken
Consider ways to reduce the length of Board meeting papers, such as making more use of executive summaries, while ensuring the Board receives all the information it needs	The Board continues to seek the right balance between discouraging lengthy Board meeting papers and making sure it receives all the information it needs, and to encourage management to make greater use of executive summaries, where appropriate.
Further focus in 2020 on sustainability	The Company's Ambition Zero Carbon strategy to eliminate emissions by 2025 and be carbon negative by 2030 was launched during the year. As part of the Board's 2020 review of the Company's strategy, the Board received a presentation from the EVP, Sustainability and Chief Compliance Officer about Ambition Zero Carbon and related sustainability matters, which enabled Directors to discuss the programme and the Company's overall approach to sustainability, including its carbon footprint and exposure to climate change risk.
Further focus in 2020 on aspects of digital technology, such as AI	As part of the Board's 2020 review of the Company's strategy, the Board received presentations from various members of the SET and the Chief Digital Officer and Chief Information Officer that demonstrated how the Company is embracing digital technology in R&D, Operations, commercial teams and enabling units. Additionally, in recruiting new Directors, the Board has increasingly focused on candidates with the right skills and experience for a digital world, as evidenced by the appointments in 2020 of Euan Ashley and Diana Layfield.

Corporate Governance Report
Connecting with our Stakeholders

When making decisions, the Directors of AstraZeneca PLC act in the way they consider is most likely to promote the success of the Company, for the benefit of its members as a whole, while also considering the broad range of stakeholders who interact with the business.

How we engage as a Company

In striving to achieve our Purpose to push the boundaries of science and deliver life-saving medicines, our business touches the lives of many people. We exist in a complex and evolving regulatory and scientific environment and as a result we have a number of key stakeholder groups.

Considering the interests of our stakeholders is fundamental to the way in which the Group operates. Our Values and Code of Ethics empower employees to make the best decisions in the interests of the Group and our stakeholders, and help to ensure that these considerations are made not only at Board level, but throughout our organisation.

The following table identifies our key stakeholders, as well as summarising the engagement that has been undertaken across the business during 2020. In addition, the Board's engagement with our workforce is set out on page 113. How the Board understands the interests of stakeholders, and how the Board considers stakeholders' interests in decision making, including examples of principal decisions made in 2020 are summarised on page 112.

The s.172(1) statement is set out on page 100. For more information about our Code of Ethics, see page 61

A full list of our stakeholders can be found in our 2020 Sustainability Report on the website, www.astrazeneca.com/sustainability.

	Shareholders, investors and analysts	Patients
Overview Significance of the stakeholder to the business	The Board and management maintain a regular, fair and balanced dialogue with investors to secure a group of supporters and believers in the Company's strategy, provide objective information about performance, enabling investors to put a fair value on the Company and ensure continued access to capital if needed	We see every patient as a person first and put them at the heart of what we do. We do this by listening to their experiences, co-creating solutions and embedding their insights into our daily work. By truly understanding the needs of the people we serve we can ensure the life-changing medicines, products and services we develop have the greatest impact on their lives.
Interests Issues and factors which are most important to the stakeholder group	> Exposure to Geopolitical and macro-economic risk > Strategy, resource allocation and R&D productivity > Pipeline, business and financial performance > Culture, values and behaviours > Environmental, social and governance (ESG) matters	> Customising support and including their insights throughout the entire patient experience > Designing clinical trials that reflect real-world clinical practice, are minimally burdensome to patients, and measure outcomes they care about > Providing information that is easy to understand, accessible, reliable and transparent > Ensuring the safety, efficacy and affordable accessibility of our medicines
Engagement Examples of engagement in 2020	> Chairman met analysts and Remuneration Committee Chairman met shareholders > Quarterly results conference call and webcast > Management meetings with investors and analysts > 'Meet AZN management' events at medical meetings > Q&A facilities with operational management at key news events > Extensive outreach programme including regular roadshows, incoming visits and attending investor conferences; over 1,000 meetings in 2020 with more than 5,200 people	> Engaged patients at every stage in our development and clinical trial programmes > Grew our Patient Partnership Programme across 12 diseases > Gathered diverse insights from patients and patient stakeholders to co-create programmes across business units > Established patient support and affordability programmes
Outcomes Any actions which resulted	> More time allocated to Q&A with senior and next-level/ operational management > Increased focus on ESG matters within quarterly results announcements > Initial disclosures made in the 2020 Annual Report against the TCFD framework > Introduction of an ESG metric within PSP measures	> Continued to evolve, enhance and embed insights from patients and patient stakeholders into our work > Increased number of programmes to support patients throughout their experience > Evolved Health Innovation Hub archetypes > Scaled patient-centric ecosystem solutions > Updated corporate materials to reflect patient-centric practices and narrative

	Healthcare practitioners (HCPs)	Suppliers	Government and payers	Communities
Overview	HCPs positively influence our business to enhance the lives of patients. HCPs are essential partners in clinical research, as advisers and study investigators. We provide HCPs with information about our medicines to support rational prescribing, and they provide insights that improve our medicines for patients.	In 2020, we spent approximately $14 billion with suppliers on goods or services critical to the effective operation of our entire value chain – from discovery to development, manufacturing and supply of our medicines to patients. Our business-critical operations are delivered and managed with the support of our suppliers.	Government policy can impact the business operating environment. Health technology assessment agencies, national and regional healthcare insurance funds and government bodies appraise the clinical and economic value of our medicines following successful regulatory approval.	We aim to make a positive impact on the communities in which we operate, as well as those which our medicines reach. Communities expect companies to give back and support the issues that affect them. Communities have a direct influence on the health of patients, caregivers and families.
Interests	> Development of medicines for unmet clinical needs > Education and information on advances in medical science > Accurate and balanced information on licenced medicines, including up-to-date safety data > Uninterrupted supply of quality medicines > Ethical and transparent interactions with industry	> Understanding of AstraZeneca's strategy and how the supplier can best create value through innovative and new opportunities > Creating a collaborative and trusting environment between the supplier and AstraZeneca > That AstraZeneca acts ethically, lawfully, protects the environment and benefits society and its partners	> Attracting business investment > Investment in research and scientific collaborations > Access to innovative medicines > Pricing of medicines, including breakthrough therapies and the impact on public budgets > Containment of reimbursement expenditure > The safety and efficacy of drugs	> How our activities and plans impact local communities > Support for programmes, platforms and policies that make healthcare more accessible, build health equity and reduce health disparity > Identification of areas of unmet need and collaborating to address them > Promotion of science-based education and careers
Engagement	> Provided and supported HCP educational events, including early platforms for physicians to share their experience of treating patients with COVID-19 > Established HCP advisory boards > Engaged HCPs in clinical trials > Responded to more than 118,000 HCP enquiries and processed over 21,000 adverse event reports from HCPs	> Engaged with suppliers to find creative solutions to address the impact of COVID-19 > Enabled 1st- and 2nd-tier small and diverse suppliers access to business opportunities through our participation in outreach events, collaborations, and memberships with various industry groups and diversity councils > Partnered with suppliers to scale our impact in sustainability through joint workshops, collaborative projects and initiatives	> Discussions with governments and policy makers to increase understanding of supporting investment in life sciences, regulation of the pharmaceutical industry and improve access to new medicines > Engaged in discussions on evolving the current reimbursement system for medicines in the US > Hosted site visits and tours at our manufacturing and R&D facilities for international and local politicians	> Young Health Programme delivered NCD prevention information to over one million young people > AstraZeneca HealthCare Foundation provided $1.02 million in grants to prevent, better manage and reduce CV disease > More than $1.4 billion of medicines donated for disaster relief and patient assistance programmes > AstraZeneca Generation Health STEM Program reached over one million students and educators > More than $15 million granted to non-profit organisations for COVID-19 relief
Outcomes	> Advisory boards informed our clinical research and product strategy. > Collaboration in clinical studies has led to new products. Our use of 'virtual' study monitoring has taught HCPs this system for their own studies > Exchange of information with HCPs supports clinical decision making > We enabled early shared learning between HCPs on management of patients with COVID-19	> Securing contract manufacturing facilities and critical supply contracts for on-time vaccine delivery, supply of PPE, robust clinical and testing strategies > Enabled innovative solutions through extending the supplier diversity programme to South Africa and the UK, in addition to the US and Brazil, to enrich our supply base. In the US we received five external industry recognitions and awards for supporting diverse suppliers > Achieved our 2020 commitment to remove single use plastics from facilities' key areas	> Established working relationships with key government stakeholders > Regular meetings, roundtables and events have been organised to increase understanding about how governments can support life sciences investment and improve patient access to new medicines	> New five-year collaboration with UNICEF to reach five million youths, train 1,000 young leaders and change 12 policies by 2025 > Expansion of disease prevention programming collaborations in Colombia, Egypt, the Caribbean, Angola and South Africa > External evaluation of programming shows evidence of risk behaviour reduction in youth

How our Board understands the interests of our stakeholders

To promote and facilitate Directors' understanding of the interests of our stakeholders, the Board is able to review the stakeholder matrix, which sets out management's engagement with stakeholders and highlights the most significant issues to each group. This provides assurance to the Board that management has engaged with stakeholders and allows the Board to consider stakeholder impact, as well as other factors, when making decisions. The stakeholder matrix is refreshed annually to ensure that stakeholders and methods of engagement remain relevant to the business.

Understanding in action

In 2020, all employees were invited to participate in a crowdsourcing event – COVID-19: Now & Next. This provided an opportunity for the workforce to share perspectives, thoughts and ideas to support the delivery of our strategy and enable us to emerge stronger from the pandemic. Almost half of our employees participated and more than 12,000 people from across 47 countries contributed ideas, reactions and comments. These employee ideas and comments helped inform recommendations that were made to the AstraZeneca Board as part of the Group's annual strategy review process.

For more information on COVID-19: Now & Next, see from page 18.

How our Board considers stakeholders' interests in decision making

Throughout the year, Directors recognised their responsibility to act in good faith to promote the success of the Company for the benefit of shareholders, while also considering the impact of their decisions on wider stakeholders and other factors relevant to the decision being made. Clear communication and proactive engagement to understand the issues and factors which are most important to stakeholders is fundamental to this.

The Board acknowledges that every decision made will not necessarily result in a positive outcome for all stakeholders. By considering our Purpose and Values, together with our strategic priorities, the Board aims to ensure that the decisions made are consistent and intended to promote the Company's long-term success.

In addition to the stakeholder considerations set out on pages 110 to 111, the Board has also had regard to other factors such as environmental factors and community interests. For more information on the environmental and community factors considered by the business, see the Sustainability section set out from page 72.

The table to the right provides examples of how key stakeholders were considered in Principal Decisions made by the Board during 2020.

For the s.172(1) statement, see page 100.

Principal Decisions in 2020

Overview

We define 'Principal Decisions' as decisions and discussions, which are material or strategic to the Group, and also those that are significant to any of our stakeholder groups. We consider the following items to be examples of Principal Decisions made by the Board during 2020.

Principal Decisions

Throughout 2020, the Board considered management's response to the COVID-19 pandemic to ensure that it was consistent with the Group's Values of following the science, putting patients first and doing the right thing. The Board considered the Group's work in communities to ensure that efforts such as global donations of PPE reached those most in need and that the business supported the communities in which we operate, such as through the establishment of a COVID-19 testing facility in Cambridge and providing additional support to our Young Health Programme partners. Employees also remained at the forefront of Board discussions to ensure the creation of safe working environments and the establishment of measures to support employees' physical and mental wellbeing. Ensuring the safety of patients and the continued supply of all of AstraZeneca's medicines remained a priority, and the Board sought regular operational updates from management.

In April 2020, the Group entered into a landmark agreement with the University of Oxford for the global development, production and supply of their potential vaccine for COVID-19. AstraZeneca committed to doing this at no profit during the pandemic and to providing broad and equitable supply of billions of doses of the potential vaccine. The Board acknowledged that although vaccine-related activities were not a core therapy area, the need for a vaccine was urgent and AstraZeneca had expertise and resources that could assist in its development. If successful, the vaccine would significantly impact all stakeholders and have a wide-reaching societal benefit.

For more information on the Group's response to the COVID-19,Pandemic see page 28 and Other medicines and COVID-19 from page 47

During 2020, the Group entered an agreement with Daiichi Sankyo for the co-development and co-commercialisation of DS-1062, a clinical-stage, proprietary, TROP2-targeting ADC. The Board discussed the opportunity DS-1062 presented and the potential the medicine had to reshape the current standard of care for the treatment of lung cancer, while also considering patient safety. The Board considered how DS-1062 would fit into the Group's portfolio and noted that DS-1062 was at a relatively early stage of development, and therefore carried a degree of risk, but was being investigated in tumour types that would provide a good strategic fit for AstraZeneca and early data indicated it had the potential to be a best-in-class treatment. The Board also considered the Group's capital allocation priorities and level of investment required alongside the potential future market for ADCs and the potential returns the investment could generate for the Company's shareholders. It was concluded that entering into the agreement would promote the long-term success of the Company and, if successful, could help transform the treatment of patients and deliver value for shareholders.

For more information, see Business development from page 63, and the Oncology Therapy Area Review from page 30.

In December 2020, the Group signed an agreement to acquire Alexion subject to regulatory clearances and approval by the shareholders of both companies. When discussing this opportunity, the Board considered how Alexion's pipeline, expertise in immunology and strong research platforms could accelerate the combined company's strategic ambitions. The potential combination would drive innovation and speed of delivery of the next wave of science, accelerating the development of potential medicines to help more patients around the world. The Board also considered the Company's shareholders and the strong financial benefits of the proposed acquisition, which would include improved profitability and strengthened cash flow.

For more information, see the CEO Review on page 5.

Engaging with our workforce

AstraZeneca is committed to being a great place to work. Engagement with employees is an important element in fostering this and ensuring an environment in which all employees are respected, and where openness is valued, diversity celebrated and every voice heard. We rely on our global workforce and their commitment to uphold our Values, deliver our strategic priorities and make the changes necessary to sustain and improve short- and long-term performance. For AstraZeneca, 'global workforce' includes all AstraZeneca's full-time and part-time employees, fixed-term workers and external contractors working full- or part-time, regardless of their geographical location.

The Directors believe that the Board as a whole should continue to take responsibility for gathering the views of the workforce. Consequently, the Board chose not to implement any of the three methods set out in the 2018 Code. Instead, the multiple, long-standing channels of engagement which already exist in the organisation were developed and enhanced to ensure that the Board continues to understand the global workforce's views on a wide variety of topics.

The Board believes that this alternative approach is the best model of engagement for the Group and ensures that the Board has access to the views of the workforce, regardless of their location, and provides meaningful information and data that the Board can use when considering the impact of the strategic decisions on employees. Additionally, the chosen mechanisms allow all Directors to engage directly with a wider cross-section of the global workforce and provide opportunity for meaningful dialogue. The Board considers these views and the potential impacts on the workforce when it makes key decisions.

Due to the global COVID-19 pandemic, the Board's usual annual programme of site visits and face-to-face engagement with the workforce was significantly curtailed during 2020. Instead, a number of virtual engagements took place. Directors attended virtual townhalls which were broadcast to the global workforce on matters including the Group's performance and the response to the COVID-19 pandemic. The CFO also took part in a Q&A session via Workplace, the Group's social media platform, responding to questions on the intended Alexion acquisition. The Audit Committee undertook a number of virtual site visits which facilitated understanding of business operations and allowed engagement between the Directors and employees. Further information about this can be found from page 123. The Science Committee also hosted a number of virtual coffees with individuals within the R&D units to provide exposure to talent and leadership, and provide opportunity for dialogue.

In addition, the Board received a number of reports containing various metrics on workforce engagement and culture.

For more information, see People, from page 68.

Investing in and rewarding our workforce

The Remuneration Committee considers remuneration arrangements for our global workforce, aiming to ensure the global total reward offering is competitive, compelling and aligned to our business performance, while supporting a culture where everyone feels valued and included.

For more information, see the Directors' Remuneration Report from page 131.

Workforce culture

During 2020, the Board reviewed the workforce culture report, which demonstrates how our Values and behaviours are embedded throughout all levels of the workforce. Within the report, there is a summary metrics dashboard, which is divided into five categories reflecting various key aspects of AstraZeneca's culture (Performance and Development, Integrity, Engagement, Reputation and Sustainability). The dashboard is compiled from data across the global workforce including scores from the Pulse surveys and promotion and resignation rates. Additionally, Directors receive information on compliance issues and grievance cases, and a workforce trends report which covers broader metrics around workforce structure, composition, hiring and retention. The Board monitors the data for trends and to ensure that a culture consistent with our Values is being fostered. The report also contains a list of approximately 10 further analyses that reference culture and workforce engagement and help the Board to judge our culture and whether it reflects our Values. This information is made available to Directors via the Board portal.

The workforce culture report is reviewed by the Board twice per annum. Where the Board has concerns that the culture does not reflect our Values, the Board seeks assurances from management that remedial action has been taken, and where necessary, requests senior management's attendance at Board meetings to discuss corrective actions.

Workforce trends report and Annual Global Remuneration Overview

The Board was provided with information outlining progress against a range of metrics related to workforce culture and engagement. This information is provided biannually to enable Directors to monitor trends and, if required, take action. The Remuneration Overview provides evidence of how the workforce is rewarded in line with our principles.

92%

of employees stated they believe strongly in AstraZeneca's future direction and key priorities in the November 2020 Pulse survey

Employee opinion surveys (Pulse)

Twice a year the workforce are invited to take part in an employee opinion survey, which seeks employees' views of the business. The results are reviewed by management and trends are monitored. The results are shared with the Board, which enables it to understand the views and sentiments of the workforce.

91%

of employees took part in the November 2020 Pulse survey

Actions and outcomes

The Board considered the workforce throughout its Principal Decisions in 2020. Directors ensured that, where required, queries raised during engagements were fed back to management or discussed by the wider Board. In 2020, the Board discussed the impact of the COVID-19 pandemic on employees. The Board received regular updates on the steps taken by management to create safe working environments, support the mental and physical wellbeing of the workforce and access to testing for employees. The Remuneration Committee also discussed and reported back to the full Board the Group's decision to remove performance ratings and the shift our focus to coaching, development and contribution to the organisation.

Corporate Governance Report
Compliance with the UK Corporate Governance Code

How we have complied with the UK Corporate Governance Code

We have prepared this Annual Report with reference to the UK Corporate Governance Code published by the UK Financial Reporting Council (FRC) in July 2018.

Our statement of compliance (together with the wider Corporate Governance Report and other sections of this Annual Report) describes how we apply the principles set out in the UK Corporate Governance Code. We have complied throughout the accounting period with the provisions of the UK Corporate Governance Code, which is available on the FRC's website, www.frc.org.uk.

Board Leadership and Company Purpose

A. Board's role	The Board is comprised of skilled individuals from a diverse range of nationalities and professional backgrounds, as set out in their biographies on pages 104 and 105, and the skills matrix on page 121. The Directors' diversity of experience and ability to exercise independent and objective judgement help the Board to operate effectively, through an established governance framework, to assist the Group in delivering its strategy, thereby promoting the long-term sustainable success of the Group, generating value for shareholders and contributing to wider society.	The Board discharges its responsibilities as set out in the Corporate Governance Overview on page 103 through a programme of meetings that includes regular reviews of financial performance, the Group's R&D pipeline and critical business issues, review and approval of the Group's strategy and long-range plan, and oversight of their execution and delivery. For information on how the Board considers stakeholders' interests in decision making and the principal matters considered in 2020, see page 112.
B. Our Purpose, Values and culture	The Board believes that our Purpose, to push the boundaries of science to deliver life-changing medicines, positions AstraZeneca for long-term, sustainable success. Our strategy, which was refreshed in 2019, remains relevant for the current status of our business and the evolving external environment. Our Values, and the behaviours that align with these Values, support a culture in which our people are empowered and inspired to make a difference to patients, society and our Company, and makes AstraZeneca a great place to work.	The Board reviews a workforce culture and employee engagement report twice per year. For more information, see People from page 68. As part of its work, the Remuneration Committee also reviewed the Company's approach to rewarding the workforce. For more information, see page 113. Individual Committees also monitor culture throughout the year.
C. Resources and controls	The Board ensures that the necessary resources are in place to help the Company to meet its objectives and measure its performance against them. The Audit Committee received quarterly updates from the Internal Audit Services (IA) and Compliance functions. For more information, see pages 125 and 126 of the Audit Committee Report.	The Board has a formal system in place for Directors to declare a conflict, or potential conflict of interest. For more information, see Conflicts of interest on page 268.
D. Engagement	The Board aims to ensure that a good dialogue with our shareholders is maintained and that their issues and concerns are understood and considered. The Company's 2020 AGM was held on 29 April 2020 as a closed meeting due to the COVID-19 pandemic. Engagement with shareholders remains of the utmost importance to the Board and all shareholders were encouraged to vote by proxy in advance and invited to submit questions to the Board by post or email. These questions and the responses, as well as the communications to shareholders regarding the AGM arrangements, are available on our website, see www.astrazeneca.com.	In our reporting to shareholders and other interested parties, we aim to present a balanced and understandable assessment of our strategy, financial position and prospects. Our corporate website, www.astrazeneca.com, contains a wide range of data of interest to institutional and private investors. Details of how the Board considers shareholders and wider stakeholders when making decisions is set out in the Connecting with our stakeholders section from page 110 and throughout the Strategic Report. Our section 172(1) statement is set out on page 100. How the Board engages with the global workforce is set out on page 113.
E. Our workforce policies	Our Code of Ethics (the Code) is based on our Values, expected behaviours and key policy principles. The Code empowers our workforce to make decisions that are in the best interests of the Group and society and intended to promote the Company's long-term sustainable success. It applies to the Board and all officers, employees and temporary staff within the Group worldwide. More information on the Code is set out on pages 61 and 118.	Details of further engagement with the global workforce is set out on page 113.

Division of responsibilities

F. The role of the Chairman

Leif Johansson, our Non-Executive Chairman, is responsible for leadership of the Board and promoting a culture of openness and constructive debate.

He was considered to be independent upon his appointment as Chairman.

The 2020 Evaluation of the Board, including details of the Chairman's evaluation, is set out on page 109.

G. Composition of the Board

The Board comprises 12 Non-Executive Directors, including the Chairman, and two Executive Directors – the CEO, Pascal Soriot, and the CFO, Marc Dunoyer.

The roles of the Board, Board Committees, Chairman and CEO are documented, as are the Board's reserved powers and delegated authorities. The Board's responsibilities and the governance structure by which it delegates authority is set out in the Corporate Governance Overview from page 103.

During 2020, the Board considered the independence of each Non-Executive Director for the purposes of the UK Corporate Governance Code and the Nasdaq Listing Rules. Except for Marcus Wallenberg, the Board considers that all the Non-Executive Directors are independent.

Marcus Wallenberg was appointed as a Director of Astra in May 1989 and subsequently became a Director of the Company in 1999. He is a Non-Executive Director of Investor AB, which has a 3.93% interest in the issued share capital of the Company as at 11 February 2021.

For these reasons – his overall length of tenure and relationship with a significant shareholder – the Board does not believe that he can be determined independent under the UK Corporate Governance Code. However, the Board believes that he has brought, and continues to bring, considerable business experience and makes a valuable contribution to the work of the Board. In April 2010, he was appointed as a member of the Science Committee, reflecting his interest in innovation and R&D, knowledge of the history of the Company and its scientific heritage and culture, and his broad experience of other industries and businesses in which innovation and R&D are important determinants of success.

The membership of the Board as at 31 December 2020 and information about individual Directors is contained in Board of Directors on pages 104 and 105.

H. Role of the Non-Executive Directors

The role of the Non-Executive Directors is to provide constructive challenge, strategic guidance, offer specialist advice and hold management to account. At the end of Board meetings, the Non-Executive Directors meet without the Executive Directors present to review and discuss any matters that have arisen during the meeting and/or such other matters as may appear to the Non-Executive Directors to be relevant in properly discharging their duty to act independently.

Time commitment

Our expectation is that Non-Executive Directors should be prepared to commit 15 days a year, as an absolute minimum, to the Group's business. In practice, Board members' time commitment exceeds this minimum expectation when all the work that they undertake for the Group is considered, particularly in the case of the Chairman of the Board and the Chairmen of the Board Committees. As well as their work in relation to formal Board and Board Committee meetings, the Non-Executive Directors also commit time throughout the year to meetings and telephone calls with various levels of executive management, visits to AstraZeneca's sites throughout the world and, for new Non-Executive Directors, induction sessions and site visits.

On occasions when a Director is unavoidably absent from a Board or Board Committee meeting, they still receive and review the papers for the meeting and typically provide verbal or written input ahead of the meeting, usually through the Chairman of the Board or the Chairman of the relevant Board Committee, so that their views are made known and considered at the meeting.

Given the nature of the business to be conducted, some Board meetings are convened at short notice, which can make it difficult for some Directors to attend due to prior commitments.

Euan Ashley attended all scheduled Board meetings following his appointment as a Director on 1 October 2020. He missed three ad hoc meetings relating to the proposed acquisition of Alexion that were arranged at short notice. Two clashed with long-standing, pre-arranged commitments of Dr Ashley attending on a cardiac care unit and in respect of a PhD student exam. The other was unavoidably arranged at a time in the middle of the night in Dr Ashley's time zone in California. The Board recognises the challenges of having Directors based in multiple time zones, including the US west and east coasts and Asia, particularly when arranging ad hoc, virtual or telephone meetings at short notice, but is committed to having a diverse Board that reflects the global nature of the Company's business and is made up of Directors with skills and experience that align with the Company's and the Board's needs.

Subject to specific Board approval, Directors and SET members may accept external appointments as non-executive directors of other companies, and retain any related fees paid to them, provided that such appointments are not considered by the Board to prevent or reduce the ability of the executive to perform his or her role within the Group to the required standard.

Senior independent Non-Executive Director

Graham Chipchase was appointed senior independent Non-Executive Director with effect from 1 January 2019. The role of the senior independent Non-Executive Director is to serve as a sounding board for the Chairman and as an intermediary for the other Directors when necessary. The senior independent Non-Executive Director is also available to shareholders if they have concerns that contact through the normal channels of Chairman or Executive Directors has failed to resolve, or for which such contact is inappropriate.

For more information, see Board Committee membership and meeting attendance in 2020 on page 103.

Corporate Governance Report
Compliance with the UK Corporate Governance Code *continued*

I. The Company Secretary	The Company Secretary is responsible to the Chairman for ensuring that all Board and Board Committee meetings are properly conducted, that the Directors receive appropriate information prior to meetings to enable them to make an effective contribution, and that governance requirements are considered and implemented.	The 2020 Board Evaluation set out on page 109 provides details of the effective operation of the Board.

Composition, succession and evaluation

J. Appointments to the Board and succession planning	The Nomination and Governance Committee and, where appropriate, the full Board, regularly review the composition of the Board and the status of succession to both senior executive management and Board-level positions. Directors have regular contact with and access to succession candidates for senior executive management positions. During 2020, the Board appointed two new Non-Executive Directors, Euan Ashley and Diana Layfield. During 2020, the Committee engaged search firms Korn Ferry, MWM Consulting and Spencer Stuart. For information on the Nomination and Governance Committee, including appointments and Director inductions, see the Nomination and Governance Committee Report from page 120.	**Re-election of Directors** In accordance with Article 66 of the Articles, all Directors retire at each AGM and may offer themselves for re-election by shareholders. Accordingly, all the Directors will retire at the AGM in April 2021. The Notice of AGM will give details of those Directors seeking election or re-election. For more information, see the Nomination and Governance Committee Report from page 120.
K. Skills, experience and knowledge of the Board	As part of its role, the Nomination and Governance Committee is responsible for reviewing the composition of the Board, to ensure that it has the appropriate expertise while also recognising the importance of diversity.	The Committee reviews the composition of the Board using a matrix that records the skills and experience of current Board members, comparing this with the skills and experience it believes are appropriate to the Company's overall business and strategic needs, both now and in the future. The composition of the Board is set out on page 104. For more information, see the Nomination and Governance Committee Report from page 120.
L. Board evaluation	In 2020, the Board undertook an externally-facilitated evaluation in line with the UK Corporate Governance Code guidance that the evaluation should be externally facilitated at least every three years.	For further information, including results of the 2020 evaluation and actions taken, see page 109 of the Corporate Governance Report.

Audit, risk and internal control

M. Internal and external audit	The role of the Audit Committee is set out from page 122. The Audit Committee is responsible for reviewing the Company's relationship with its external auditors, PricewaterhouseCoopers LLP (PwC), including the independence of the external auditors. The Committee maintains a policy (the Audit and Non-Audit Services Policy) for the pre-approval of all audit services and audit related services undertaken by the external auditor. The principal purpose is to ensure that the independence of the auditor is not impaired. For more information on fees paid to the auditors for audit and audit related services and the Audit and Non-Audit Services Policy, see Note 30 to the Financial Statements.	For more information on fees paid to the auditors for audit-related and other assurance fees and the Audit and Non-Audit Services Policy, see Note 30 to the Financial Statements on page 233 and page 130 of the Audit Committee Report. The Audit Committee also reviews the independence and effectiveness of Internal Audit Services. For more information, see Risk management and controls on page 118.
N. Fair, balanced and understandable assessment	The Board as a whole takes a keen interest in the Company's financial and business reporting including, in particular, reviewing the Company's quarterly financial results announcements and through its oversight of the Company's Disclosure Committee. For more information about the Disclosure Committee, see page 118.	The Board considers this Annual Report, taken as a whole, to be fair, balanced and understandable, and provides the information necessary for shareholders to assess AstraZeneca's position and performance, business model and strategy.
O. Risk management and internal controls	The Board has overall responsibility for our system of internal controls and risk management policies and has an ongoing responsibility for reviewing their effectiveness. During 2020, the Directors continued to review the effectiveness of our system of controls, risk management (including a robust assessment of the emerging and Principal Risks) and high-level internal control processes.	The Directors believe that the Group maintains an effective, embedded system of internal controls and complies with the FRC's guidance entitled 'Guidance on Risk Management, Internal Control and Related Financial and Business Reporting'. For more information about the ways in which we manage our business risks, our procedures for identifying our emerging risks, how we describe our Principal Risks and uncertainties, and our Viability statement, see Risk management and controls on page 118, the Risk Overview from page 52 and Risk from page 254.

Remuneration

P. Policies and practices	The Remuneration Committee is responsible for determining, approving and reviewing the Company's global remuneration principles and frameworks, to ensure that they support the strategy of the Company and are designed to promote long-term sustainable success.	For more information on the Remuneration Committee's work during 2020, see the Directors' Remuneration Report from page 131.
Q. Procedure for developing remuneration policy	During 2020, the Remuneration Committee reviewed the Directors' Remuneration Policy to ensure it continues to align with corporate governance best practice; support the Company's ability to recruit and retain executive talent to deliver against its strategy; and promote the delivery of the long-term strategy. The Remuneration Committee also considers executive pay in the context of the wider workforce, details of which can be found from page 151. As part of the process for developing the Directors' Remuneration Policy, the Chairman of the Remuneration Committee consulted with major institutional shareholders on the Committee's proposals and Willis Towers Watson as independent adviser to the Remuneration Committee.	Details of these engagements are set out in the Directors' Remuneration Report from page 131. The Directors' Remuneration Policy, which is to be put to shareholders for approval at the 2021 AGM, can be found from page 156.
R. Exercising independent judgement	The Remuneration Committee exercises independent judgement when determining remuneration outcomes. The Committee takes into account factors such as wider business and individual performance during the year, including achievements across the enterprise, such as advancing our Great Place to Work priorities and environmental, social and governance (ESG) goals.	For more information on 2020 Remuneration Outcomes, see the Directors' Remuneration Report from page 131.

Corporate Governance Report
Other Governance Information

Risk management and controls

Disclosure Committee

Our disclosure policy provides a framework for the handling and disclosure of inside information and other information of interest to shareholders and the investment community. It also defines the role of the Disclosure Committee. The core members of the Disclosure Committee in 2020 were the CFO, who chaired the Disclosure Committee; the General Counsel; the Vice-President, Global Corporate Affairs; the Head of Investor Relations; and the Senior Vice-President Finance, Group Controller. The EVP, BioPharmaceuticals R&D and the EVP, BioPharmaceuticals Business Unit were members of the Disclosure Committee for BioPharmaceuticals-related matters. The EVP, Oncology R&D and the EVP, Oncology Business Unit were members of the Disclosure Committee for Oncology-related matters. Other personnel attend its meetings on an agenda-driven basis. The Deputy Company Secretary acted as secretary to the Disclosure Committee.

The Disclosure Committee meets regularly to assist and inform the decisions of the CEO concerning inside information and its disclosure. Periodically, it reviews our disclosure controls and procedures and its own operation as part of work carried out to enable management and the Board to assure themselves that appropriate processes are operating for both our planned disclosures, such as our quarterly results announcements and scheduled investor relations events, and our unplanned disclosures in response to unforeseen events or circumstances.

Global Compliance and Internal Audit Services (IA)

The role of the Global Compliance function is to help the Group achieve its strategic priorities by doing business the right way – with integrity and high ethical standards. Global Compliance continues to focus on ensuring the delivery of a globally aligned approach to compliance that addresses key risk areas across the business, including risks relating to third parties and anti-bribery/anti-corruption. Our priorities include: reinforcing and strengthening compliant behaviours through effective policies, training, advice and communications; monitoring adherence to our Code of Ethics and supporting requirements; providing assurance that we are conducting appropriate risk assessments and due diligence on third parties whom we engage for services; and ensuring that employees and external parties can raise any concerns.

We take all alleged compliance breaches and concerns extremely seriously, including appropriate investigation, as well as disciplinary action, and other remediation to address misconduct and prevent reoccurrence. Internal investigations are undertaken by staff from our Global Compliance, Human Resources and/or Legal functions. When necessary, external advisers are engaged to conduct and/or advise on investigations. Where a significant breach has occurred, management, in consultation with our Legal function, will consider whether the Group needs to disclose and/or report the findings to a regulatory or governmental authority.

Global Compliance provides direct assurance to the Audit Committee on compliance matters, including an analysis of compliance breaches and associated disciplinary actions, as well as commentary on the more serious breaches and corresponding remediation. Complementing this, IA carries out a range of audits that include compliance-related audits and periodically reviews the assurance activities of other Group assurance functions.

The results from these activities are reported to the Audit Committee. Global Compliance and IA work with specialist compliance functions throughout our organisation to share outcomes and to coordinate reporting on compliance matters.

IA is established by the Audit Committee on behalf of the Board and acts as an independent and objective assurance function guided by a philosophy of adding value to improve the operations of the Group. The scope of IA's responsibilities encompasses, but is not limited to, the examination and evaluation of the adequacy and effectiveness of the Group's governance, risk management, and internal control processes in relation to the Group's defined goals and objectives.

Among others, internal control objectives considered by IA include:

- compliance with significant policies, plans, procedures, laws and regulations
- consistency of operations or programmes with established objectives and goals and effective performance
- safeguarding of assets.

Based on its activity, IA is responsible for reporting significant risk exposures and control issues identified to the Board and to senior management, including fraud risks, governance issues, and other matters needed or requested by the Audit Committee. It may also evaluate specific operations at the request of the Audit Committee or management, as appropriate.

Code of Ethics

Our Code of Ethics (the Code) is based on our Values, expected behaviours and key policy principles. The Code recommends that employees report possible violations to their line managers or to their local Human Resources, Legal or Compliance partners. The Code also contains information on how to report possible violations through our helpline, which includes the AZ Ethics telephone lines, the AZ Ethics website, and the Global Compliance email and postal addresses. The externally-operated website is available in approximately 58 languages to facilitate reporting, and telephone lines are included for 151 countries. AstraZeneca's new case management platform launched in the third quarter of 2020 continues to incorporate the AZ Ethics helpline for reporting compliance concerns and raising inquiries. The new platform is more user-friendly for reporters by expanding access to reporting channels, streamlining intake of reports and prompting regular communication touchpoints with AstraZeneca investigators. AZ Ethics continues to be managed by an independent third party on the Group's behalf and remains available to both employees and external parties via website or telephone, and now SMS in North America.

The helpline is available to both employees and to external parties to report any concerns or make enquiries. Reports can be made anonymously where desired and where permitted by local law. Anyone who raises a potential breach in good faith is fully supported by management.

The majority of cases come to our attention through management and employee self-reporting, which can be seen as an indication that employees are comfortable in raising their concerns with line managers or local Human Resources, Legal or Compliance, as recommended in the Code and reinforced in the 2020 Code training. In addition, in 2020, 385 reports of alleged compliance breaches or other ethical concerns were made through the helpline, including reports made by any anonymous route that could be considered whistleblowing: in 2019 there were 556 reports.

External auditor

A resolution will be proposed at the AGM on 30 April 2021 for the reappointment of PricewaterhouseCoopers LLP (PwC) as auditor of the Company. During 2020, PwC undertook various audit and audit related services. More information about this work and the audit and audit related fees that we have paid are set out in Note 30 to the Financial Statements on page 233. The external auditor is not engaged by AstraZeneca to carry out any audit related services in respect of which it might, in the future, be required to express an audit opinion. As explained more fully in the Audit Committee Report from page 122, the Audit Committee has established pre-approval policies and procedures for audit and audit related services permitted to be carried out by the external auditor and has carefully monitored the objectivity and independence of the external auditor throughout 2020.

Electronic communications with shareholders

The Company has been authorised by shareholders to place shareholder communications (such as the Notice of AGM and this Annual Report) on the corporate website in lieu of sending paper copies to shareholders (unless specifically requested). While recognising and respecting that some shareholders may have different preferences about how they receive information from us, we will continue to promote the benefits of electronic communication given the advantages that this has over traditional paper-based communications, both in terms of the configurability and accessibility of the information provided and the consequent cost savings and reduction in environmental impact.

Science Committee Report

"The Science Committee's core role is to provide assurance to the Board regarding the quality, competitiveness and integrity of the Group's R&D activities."

Our focus during 2020

> COVID-19 pandemic impact and response
> R&D strategic science capabilities
> Corporate scorecard achievements and targets

Role of the Committee

The Science Committee's core role is to provide assurance to the Board regarding the quality, competitiveness and integrity of the Group's R&D activities. This is done by way of meetings and dialogue with our R&D leaders and other scientist employees, when circumstances allow visits to our R&D sites throughout the world, and review and assessment of:

> the approaches we adopt in respect of our chosen therapy areas
> the scientific technology and R&D capabilities we deploy
> the scientific strategy for maintaining our pipeline and competitiveness
> the decision-making processes for R&D projects and programmes
> the quality of our scientists and their career opportunities and talent development
> benchmarking against industry and scientific best practice, where appropriate.

The Science Committee periodically reviews important bioethical issues that we face and assists in the formulation of, and agrees on behalf of the Board, appropriate policies in relation to such issues. It also considers future trends in medical science and technology. The Science Committee does not review individual R&D projects but does review, on behalf of the Board, the R&D aspects of specific business development or acquisition proposals and advises the Board on its conclusions.

Membership of the Committee

During 2020, the members of the Science Committee, all of whom have a knowledge of, or an interest in, life sciences, were Nazneen Rahman (Chair), Geneviève Berger, Marcus Wallenberg, Tony Mok and the newest member, Euan Ashley. As usual, the EVP, Oncology R&D and the EVP, BioPharmaceuticals R&D participated in meetings of the Science Committee as co-opted members in 2020. The Vice-President, Chief Operating Officer acts as secretary to the Science Committee.

Activities during 2020

The Science Committee held five meetings in 2020, virtually, as a result of the global COVID-19 pandemic.

Key areas of focus for the Science Committee in 2020 included:

> **COVID-19:** how the pandemic is impacting AstraZeneca clinical trials, the progress of AstraZeneca's vaccine and monoclonal antibody programmes and clinical trials of existing AstraZeneca drugs such as *Calquence* and *Farxiga*.
> **R&D strategic science capabilities:** including functional genomics, Diagnostics/ precision medicine, cfDNA- based registrational studies, cell therapy, epigenetics and oligonucleotides.
> **Corporate scorecard outturn and goal setting:** providing insight and feedback to the Remuneration Committee in support of 2020 achievements and 2021 goal setting.
> **Daiichi Sankyo collaboration:** providing a review to the Board of the scientific case supporting the joint development and commercialisation agreement with Daiichi Sankyo for DS-1062.
> **Alexion**: providing scientific review in AstraZeneca Board meetings prior to proposed commercial agreement.

Nazneen Rahman
Chairman of the Science Committee

The Science Committee's terms of reference are available on our website, www.astrazeneca.com.

Nomination and Governance Committee Report

"The Nomination and Governance Committee recommends to the Board new Board appointments and considers, more broadly, succession plans at Board level."

Our focus during 2020

> Composition of the Board
> Succession planning for the Board
> Inclusion and diversity
> Inductions and training

Composition of the Board

As part of its role, the Nomination and Governance Committee is responsible for reviewing the composition of the Board, to ensure that it has the appropriate expertise while also recognising the importance of diversity. The Committee reviews the composition of the Board using a matrix that records the skills and experience of current Board members, comparing this with the skills and experience it believes are appropriate to the Company's overall business and strategic needs, both now and in the future. The matrix is set out opposite. Any decisions relating to the appointment of Directors are made by the entire Board based on the merits of the candidates and the relevance of their background and experience, measured against objective criteria, with care taken to ensure that appointees have enough time to devote to our business.

Inclusion and diversity

Diversity is integrated across our Code of Ethics and associated workforce policy, and we promote a culture of diversity, respect and equal opportunity, where individual success depends only on personal ability and contribution. We strive to treat our employees with fairness, integrity, honesty, courtesy, consideration, respect, and dignity, regardless of gender, race, nationality, age, sexual orientation or other forms of diversity. The Board is provided each year with a comprehensive overview of the AstraZeneca workforce, covering a wide range of metrics and measures (including trends around gender diversity, leadership, ethnic diversity and age profile). The latest Hampton-Alexander Report published in 2020 named AstraZeneca PLC as one of the top 10 best performers in the FTSE 100 for representation of women on the combined executive committee and their direct reports.

For the year ended 31 December 2020, women represented 42.5% of senior management and their direct reports.

The Board views gender, nationality, cultural and ethnic diversity among Board members as important considerations when reviewing its composition and has met the recommendations of the Hampton-Alexander and Parker Reviews. Considering diversity in a wider sense, the Board aims to maintain a balance in terms of the range of experience and skills of individual Board members, which includes relevant international business, pharmaceutical industry and financial experience, as well as appropriate scientific and regulatory knowledge. The biographies of Board members set out on pages 104 and 105 give more information about current Directors in this respect.

The Board has adopted an Inclusion and Diversity Policy (the Policy), which is applicable to the Board and its Committees. The Policy reinforces the Board's ongoing commitment to all aspects of diversity and to fostering an inclusive environment in which each Director feels valued and respected. While the Board appoints candidates based on merit and assesses Directors against measurable, objective criteria, the Board recognises that an effective Board with a broad strategic perspective requires diversity.

The Policy sets out the Board's aim to maintain a composition of at least 33% female Directors and at least one Director from an ethnic minority background. The Policy provides a commitment to use at least one professional search firm which has signed up to the 'Voluntary Code of Conduct for Executive Search Firms', to help recruit Directors from a broad, qualified group of candidates to increase diversity of thinking and perspective. The Board's approach to

Non-Executive Directors' experience, as at 31 December 2020

	Business					Geographic			Industry-specific				
Name	Commercial	Financial	Managerial	Sales & Marketing	Tech & Digital	US	Europe	Asia	Science	Regulatory	Pre-AZ Pharma	Biologics	Medical Doctor/ Physician
Leif Johansson	●		●		●		●	●			●		
Euan Ashley	●				●	●	●		●		●	●	
Geneviève Berger	●		●				●	●	●				●
Philip Broadley	●	●	●			●	●	●					
Graham Chipchase	●	●	●			●	●	●					
Michel Demaré	●	●	●			●	●				●		
Deborah DiSanzo	●		●	●	●	●	●		●		●		
Diana Layfield	●	●	●	●	●	●	●	●					
Sheri McCoy	●		●	●		●			●		●		
Tony Mok	●					●		●	●			●	●
Nazneen Rahman					●		●		●			●	●
Marcus Wallenberg	●	●	●				●	●			●		

inclusion and diversity continues to yield successful results. Currently, 42% of the Company's Non-Executive Directors are women, and women make up 36% of the full Board.

This meets the Policy's aim of 33% female representation on the Board, the same target as set out in the report from Lord Davies published in October 2015. The Board also met the recommendations of the Hampton-Alexander and Parker Reviews.

The Board's Inclusion and Diversity Policy can be found on our website, www.astrazeneca.com.

Information about our approach to diversity in the organisation below Board level can be found in the People section from page 68.

Inductions and training

Newly appointed Directors are provided with comprehensive information about the Group and their role as Non-Executive Directors. They also typically participate in tailored induction programmes that take account of their individual skills and experience. During 2020, two independent Non-Executive Directors, Euan Ashley and Diana Layfield, were appointed and commenced ongoing induction programmes intended to provide an understanding of the Group, as well as their duties as a Director of a listed company. Due to the global COVID-19 pandemic, these induction programmes are taking place virtually, typically by videoconference, until it is possible to recommence face-to-face meetings and site visits. Although elements of their inductions will be adjusted for their existing expertise and Committee membership, key areas covered during 2020 and continuing into 2021 include:

> meetings with members of the Board, SET and other senior management
> meeting with external legal advisers
> meeting with the external auditors
> when possible after the pandemic, visits to various sites including R&D centres, commercial sites and operations facilities in China, Sweden, the UK and the US
> access to a reading room which provides information on the Group, including financial performance, pipeline information, policies including the AstraZeneca Securities Dealing Code and rules relating to inside information, investor and analyst reports, and media updates. In addition, the reading room contains guidance on directors' duties and listed company requirements.

Ongoing training and development

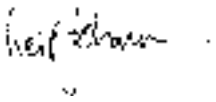
AstraZeneca is committed to developing a culture of lifelong learning, including for Directors. As part of each Director's individual discussion with the Chairman, his or her contribution to the work of the Board and personal development needs were considered. Directors' training needs are met by: a combination of internal presentations and updates and external speaker presentations as part of Board and Board Committee meetings; specific training sessions on particular topics, where required; and the opportunity for Directors to attend external courses at the Company's expense, should they wish to do so. In addition, Directors are encouraged to attend site visits during the year. During these visits, Directors meet with local management and have tours of both AstraZeneca sites and facilities, as well as those of our strategic partners. These site visits further Directors' understanding of the Group's business and operations, as well as providing an insight into the particular challenges faced in those regions. Additionally, such visits provide Directors with an opportunity to engage with key stakeholders. As mentioned elsewhere in this report, the COVID-19 pandemic significantly curtailed Board members' ability to travel for site visits during 2020 but such visits will recommence when possible.

Succession planning

The Nomination and Governance Committee considers both planned and unplanned (unanticipated) succession scenarios and met five times in 2020. The Committee split the majority of its time between succession planning for Non-Executive Directors and continued routine succession planning for the roles of Chairman, CEO and CFO. The search firms Korn Ferry, MWM Consulting and Spencer Stuart were engaged to assist the Committee with its work. Korn Ferry and Spencer Stuart periodically undertake executive search assignments for the Company.

Corporate governance

The Nomination and Governance Committee also advises the Board periodically on significant developments in corporate governance and the Company's compliance with the UK Corporate Governance Code. See from page 114 for the Company's statement of compliance with the UK Corporate Governance Code during 2020.



Leif Johansson
Chairman

The Nomination and Governance Committee's terms of reference are available on our website, www.astrazeneca.com.

Audit Committee Report

"Effective internal controls, appropriate accounting practices and policies, and the exercise of experienced judgement by the Committee and the Board underpin AstraZeneca's financial reporting integrity."

Our focus during 2020

This Report describes the work of the Audit Committee (the Committee) and the significant issues it considered in 2020. Our priorities were to receive assurance over the integrity of:

- Financial reporting, internal controls, and the quality and effectiveness of the external audit
- Risk management, including the identification, mitigation, monitoring and reporting of risks, and lines of management accountability
- Compliance matters, including continued work on fostering a 'Speak Up' culture, and on anti-bullying and anti-harassment
- Cybersecurity and information governance
- Business continuity planning and resilience

Financial reporting

Effective internal controls, appropriate accounting practices and policies, and the exercise of experienced judgement by the Committee and the Board underpin AstraZeneca's financial reporting integrity. At least once per quarter, the Committee reviewed the Group's significant accounting matters, including contingent liabilities and provisions, revenue recognition and impairment triggers for intangible assets. Where appropriate, the Committee challenged management's decisions before approving the proposed accounting treatment. The Committee dedicated significant time to considering the effects of COVID-19 on the Company's business, internal controls and financial reporting. This included: (i) the additional accounting and reporting considerations given the increased risk posed by the economic consequences of COVID-19 (including specific, topical guidance from regulators such as the Financial Reporting Council, the Financial Conduct Authority, the Securities Exchange Commission and the European Securities and Markets Association); (ii) ensuring that Company management and internal audit personnel involved in managing and reviewing, and PwC audit teams involved in auditing, the Company's accounting, reporting and control activities were able to carry out their work adequately using remote and technology-enabled working practices; and (iii) accounting considerations, governance, risk management and controls framework relating to the development, manufacture and supply of the vaccine, *COVID-19 Vaccine AstraZeneca* and the development of other AstraZeneca medicines to treat COVID-19.

PwC was reappointed as the Company's external auditor by its shareholders at the Company's AGM held in April 2020, serving for the fourth successive year. The Committee continued to oversee the conduct, performance and quality of the external audit, in particular through its review and challenge of the coverage of the external auditor's audit plan and subsequent monitoring of their progress against it. The Committee maintained regular contact with PwC through formal and informal reporting and discussion throughout the year, with a particular focus on maintaining audit efficiency and quality during a prolonged period of remote working.

Risk identification and management

During the year, the Committee continued its regular reviews of the Group's approach to risk management, the operation of its risk reporting framework and risk mitigation. The Committee has continued its interaction with the Company's Science Committee to assist both Committees in deepening their understanding of the clinical compliance risk facing the Group, with Nazneen Rahman (Science Committee Chair) attending the Committee session on R&D activities in China.

When identifying risks, the Committee considers the total landscape of risks. The most significant of these, as measured through potential impact and probability, are our Principal Risks. We then consider those specific risks which are challenging our business presently, our key active risks. Finally, we scan the horizon and identify risks which may challenge us in the future, our emerging risks. This framework provided the context for the Committee's consideration of the Directors' Viability statement. The Directors' Viability statement is underpinned by the assurance provided through a 'stress test' analysis under which key profitability, liquidity and funding metrics are tested against severe downside scenarios.

Each of these scenarios assumes that the associated risks crystallise and that management will take mitigating actions against those risks. The Committee considered in detail the validity of each scenario. This included obtaining additional analysis from management as to the indirect or unintended consequences of its proposed mitigating actions including, for example, assessing the likely response of a broader range of stakeholders. The Committee also assessed whether the proposed mitigations were viable.

For more information on the Viability statement, see Risk Overview from page 78.

The Committee's consideration of risk management was supported by 'deep dive' reviews of key activities, including:

- a detailed review with PwC of the audit process, the current and future regulatory environment for auditors and the use of technology in auditing
- regular information security and information technology updates
- R&D activities in China and the impact of the Human Genetic Resource regulation
- a review of compliance-related activities in the Central America & Caribbean (CAMCAR) region
- the implementation of the Global Standards on sexual harassment, and bullying and harassment
- tax charges and liabilities
- defined benefit pensions scheme liabilities and disclosures
- manufacturing and supply activities, including inventory management and *C19VAZ* vaccine production
- specific risks posed by COVID-19 aligned with respective mitigation actions.

Further information on the deep dive reviews can be found in the Business updates section on page 126.

As discussed below, members of the Committee engaged with Group personnel through virtual meetings to enhance their understanding of risks arising across the organisation.

For more information on the Group's Principal Risks, see Risk Overview from page 78.

Cybersecurity and information governance

The Committee receives bi-annual presentations from the Chief Digital Officer and Chief Information Officer (CIO) and her team. During 2020, the Committee continued to monitor and review the effectiveness of our procedures to defend our IT systems against increased levels and new forms of attack from external agents. The Committee also reviewed data governance standards across the Group.

Business continuity planning

The Committee receives quarterly risk management reports from the CFO on the key active and emerging risks facing the Company. During the year, the Committee considered the particular risks associated with operating during the pandemic, including maintaining manufacture and supply of the Company's products in all markets.

Compliance with the Code of Ethics

The Committee's priorities continue to include overseeing compliance with AstraZeneca's Code of Ethics, and ensuring high ethical standards, and that we operate within the law in all countries where we operate. The Code of Ethics is written in simple and accessible language to empower decision making that reflects AstraZeneca's Values, expected behaviours and key policy principles. During the year, the Committee continued to monitor and review the effectiveness of our anti-bribery and anti-corruption controls across the Group, prioritising its focus on countries/regions where we have significant operations and countries in which doing business is generally considered to pose higher compliance risks. The Committee also monitored and reviewed the impact of the implementation of our new Global Standards of behaviour on bullying and harassment. AstraZeneca is committed to ensuring that its people feel respected through promoting a culture of inclusion and diversity, and fostering a working environment in which its employees feel able and safe to speak up.

For more information on our Code of Ethics, see the Business Review on page 61 and the Corporate Governance Report on page 118.

Engagement with employees and other stakeholders

The Committee regularly interacts with members of management below the SET and seeks wider engagement with the Group's employees and other stakeholders. In a normal year, this would have involved members of the Committee visiting a wide range of the Group's sites. As this was not possible in 2020 due to travel restrictions and social distancing measures, the Committee undertook a series of virtual interactions with a wider range of teams from across the organisation. While these virtual interactions were typically shorter than in-person site visits, meeting virtually enabled the Committee to arrange for a greater number of meetings across many geographies. The Committee met with representatives from the following teams:

- the Japanese marketing company
- Business Development Operations and Oncology Business Development
- the German marketing company
- the Australian marketing company
- Treasury
- the UK marketing company
- the Middle East and Africa marketing organisation
- the French marketing company.

These interactions provided the Committee with valuable insights from these teams about the key issues and challenges relating to, and current and emerging risks associated with, our activities in these areas. They also enabled AstraZeneca personnel from these parts of the business to meet Committee members and share their perspectives on the Group and the work they do. The Committee welcomes the opportunity to engage with employees in these meetings and uses them to communicate the importance it attaches to compliance and our 'Speak Up' culture. The Committee looks forward to being able to make in-person visits again in the future and to meet an even wider range of personnel.

During 2020, the Committee monitored the Group's engagements with external stakeholders relevant to the Committee's areas of oversight, including the Financial Reporting Council (FRC) and Securities and Exchange Commission. In particular, during the year the FRC's Audit Quality Review (AQR) team reviewed PwC's audit of the Group's 2019 Financial Statements as part of its annual inspection of audit firms. The Audit Committee received and reviewed the final report from the AQR team which identified no key findings, assessed the audit as requiring limited improvement, and noted some areas of good practice.

We hope that you find this information helpful in understanding the work of the Committee. Our dialogue with our shareholders and other stakeholders is valued greatly and we welcome your feedback on this Report.

Philip Broadley
Chairman of the Audit Committee

Audit Committee Report *continued*

The role of the Committee and how we have complied

Committee membership and attendance

All Committee members are Non-Executive Directors and considered by the Board to be independent under the UK Corporate Governance Code. The Committee's members are Philip Broadley (Committee Chairman), Michel Demaré, Deborah DiSanzo and Sheri McCoy.

In December 2020, the Board determined that, for the purposes of the UK Corporate Governance Code, at least one member of the Committee had recent and relevant financial experience, and Philip Broadley and Michel Demaré were determined to be financial experts for the purposes of the Sarbanes-Oxley Act. The Board also determined that the members of the Committee as a whole had competence relevant to the sector in which the Company operates, as Philip Broadley has served as a Non-Executive Director of the Company since April 2017, Michel Demaré has experience of working in an innovation and science-driven environment from his role as Chairman of Syngenta, Deborah DiSanzo has healthcare sector experience from her roles previously at IBM Watson Health and now at Best Buy Health, and Sheri McCoy has had a 30-year career in the pharmaceutical industry. The Board of Directors' biographies on pages 104 and 105 contain details of each Committee member's skills and experience.

The Committee held seven meetings in 2020 and the Committee members' attendance is set out in the table on page 103.

Role and operation of the Committee

The Committee's terms of reference are available on our website, www.astrazeneca.com.

The Committee regularly reports to the Board on how it discharges its main responsibilities, which include the following standing items:

- Monitoring the integrity of the Company's financial reporting and formal announcements relating to its financial performance, and reviewing significant financial reporting judgements and estimates contained within them.
- Monitoring the work of the Disclosure Committee which manages the Company's other public disclosures.
- Ensuring the Company's Annual Report and financial statements presents a fair, balanced and understandable assessment of the Company's position and prospects by carrying out a formal review of the documentation and receiving a year-end report from management on the internal controls, governance, compliance, assurance and risk management activities that support the assessment.
- Reviewing the effectiveness of the Company's internal financial controls, internal non-financial controls, risk management systems (including whistleblowing procedures) and compliance with laws and the AstraZeneca Code of Ethics.
- Monitoring and reviewing the role, resources and effectiveness of the Group's IA function and its Compliance function.
- Reviewing the effectiveness of the external audit process and overseeing the Group's relationship with its external auditor.
- Monitoring and reviewing the external auditor's independence and objectivity.
- Ensuring that the provision of non-audit services by the external auditor are appropriate and in accordance with the policy approved by the Committee.
- Making recommendations to the Board for seeking shareholder approval relating to the appointment, reappointment and removal of the external auditor, and to approve the remuneration and terms of engagement of the external auditor.
- Monitoring the Company's response to any external enquiries and investigations regarding matters within the Committee's area of responsibility.

Following each Committee meeting, the Committee Chairman informs the Board of the principal matters the Committee considered and of any significant concerns it has or that have been reported by the external auditor, the IA function or the Group Compliance function. The Committee identifies matters that require action or improvement and makes recommendations on the steps to be taken. The Committee's meeting minutes are circulated to the Board.

The Committee's work is supported by valuable insight gained from its interactions with other Board Committees, senior executives, managers and external experts. The Committee meetings are routinely attended by: the CFO; the General Counsel; the Executive Vice-President Sustainability and Chief Compliance Officer; the VP Ethics & Transparency and Deputy Chief Compliance Officer; the Vice-President, IA; the Senior Vice-President Finance, Group Controller; and the Company's external auditor. The CEO and other members of the Senior Executive Team attend when required by the Committee.

In addition, to ensure the effective flow of material information between the Committee and management, the Committee, and separately the Committee Chair, meet privately and on an individual basis with: the CFO; the Executive Vice-President Sustainability and Chief Compliance Officer; the VP Ethics & Transparency and Deputy Chief Compliance Officer; the General Counsel; the Vice-President, IA; and the Company's external auditor.

Regulation

The Committee considers that the Company has complied with the Competition and Markets Authority's Statutory Audit Services for Large Companies Market Investigation (Mandatory Use of Competitive Tender Processes and Audit Committee Responsibilities) Order 2014 in respect of its financial year commencing 1 January 2020.

Principal activities focused on by the Committee in 2020

During 2020 and in January 2021, the Committee considered and discussed the following items:

Financial reporting

- Key elements of the Financial Statements and the estimates and judgements contained in the Group's financial disclosures. Accounting matters considered included the areas described in the Financial Review under Critical accounting policies, judgements and estimates (with a focus on accounting issues relevant to revenue recognition, litigation and taxation matters, and intangible asset impairment) from page 97.
- The appropriateness of management's and the external auditor's analysis and conclusions on judgemental accounting matters.
- The completeness and accuracy of the Group's financial performance against its internal and external key performance indicators.
- The going concern assessment and adoption of the going concern basis in preparing this Annual Report and the Financial Statements. More information on the basis of preparation of Financial Statements on a going concern basis is set out in the Financial Statements on page 180.
- The preparation of the Directors' Viability statement and the adequacy of the analysis supporting the assurance provided by that statement.
- The external auditor's reports on its audit of the Group Financial Statements, and reports from management, IA, Global Compliance and the external auditor on the effectiveness of our system of internal controls and, in particular, our internal control over financial reporting.
- Compliance with applicable provisions of the Sarbanes-Oxley Act. In particular, the status of compliance with the programme of internal controls over financial reporting implemented pursuant to section 404 of that Act.

For more information, see Sarbanes-Oxley Act section 404 in the Financial Review on page 99.

Risk and compliance

- The Group's Principal, enduring and emerging risks, including the Group's risk management approach, risk reporting framework and risk mitigation. The Committee also considered how the risk management process was embedded in the Group and assured itself that management's accountability for risks was clear and functioning.
- Quarterly reports from the General Counsel on the status of significant litigation matters and governmental investigations.
- Quarterly reports of work carried out by IA and Finance, including the status of follow-up actions with management.
- The geographic presence, reach and capabilities of the IA and Compliance functions and the appropriateness of the Group's resource allocation for these vital assurance functions.
- Quarterly reports from Global Compliance regarding key compliance incidents (both substantiated and unsubstantiated), trends arising and the dispersion of incidents across the Group's business functions and management hierarchy, including any corrective actions taken so that the Committee could assess the effectiveness of controls, and monitor and ensure the timeliness of remediation.
- Data from reports made by employees via the AZethics helpline, online facilities and other routes regarding potential breaches of the Code of Ethics, together with the results of enquiries into those matters.
- The monitoring, review, education and improvements made to support assurance that the risk of modern slavery and human trafficking is eliminated, to the fullest extent practicable, from AstraZeneca's supply chain.

Further information about the Principal Risks faced by the Group is set out in the Risk Overview section from page 78.

External audit

- Monitoring the effectiveness and quality of the external audit process through: examination and review of the coverage provided by the external auditor's audit plan, and their performance against it; management's feedback on the conduct of the audit; and considering the level of and extent to which the auditors challenged management's assumptions. External audits typically involve a significant amount of in-person meetings and other interactions. The Committee therefore paid particular attention to the delivery of the audit plan in a predominantly remote working environment. The Committee was satisfied that the external auditor would be able to deliver the plan in these conditions.
- Reviewing quarterly reports from the external auditor over key audit and accounting matters, and business processes, internal controls and IT systems.
- Audit and non-audit fees of the external auditor during the year, including the objectivity and independence of the external auditor through the application of the Audit and Non-Audit Services Pre-Approval Policy as described further on page 130.

Further information about the audit and non-audit fees for 2020 is disclosed in Note 30 to the Financial Statements on page 233.

Audit Committee Report *continued*

Principal activities focused on by the Committee in 2020 *continued*

Performance assessment	> An effectiveness review of IA by considering its performance against the internal audit plan and key activities. IA provided assurance over compliance with significant policies, plans, procedures, laws and regulations, as well as risk-based audits across a broad range of key business activities, further strengthened its thematic reporting to the business, and adapted the audit plan to respond to new or arising risks and COVID-19 disruption. The Committee noted IA's continued contributions in supporting and delivering value to the business and the Committee during the year. The Committee supports IA's continued efforts to deploy its resources in line with the shape and size of the overall organisation and was satisfied with the quality, experience and expertise of the IA function.	> The Committee conducted the annual evaluation of its own performance, with each Committee member and other attendees responding to a questionnaire prepared by a third party. The results were reported to and discussed with the Committee and the Board. The Committee was deemed highly diligent and its oversight was rated positively. There continued to be a strong focus on risk, risk governance and targeted deep dives with appropriate lines of questioning and challenges to management's logic and thinking regarding financial reporting and strategies. It was thought that there were opportunities to refine the approach to deep dives, enhance analysis of key accounting judgements, and enhance discussion and focus on potential new disclosures containing greater degrees of sensitivity and judgement.
Business updates	> A review of compliance-related activities in the Central America & Caribbean (CAMCAR) region. > A detailed review with PwC of the audit process, the current and future regulatory environment for auditors and the use of technology in auditing. > An overview of R&D activities in China and the impact of the Human Genetic Resource regulation. > A review of the implementation of the Global Standards on sexual harassment, and bullying and harassment. > An overview of the global corporate income tax environment including transfer pricing, disputes and dispute resolution, fiscal incentives, controlled foreign company regimes, country-by-country reporting, and recent developments at the OECD including the Pillar 1 and Pillar 2 blueprints.	> An overview of the Group's pensions arrangements, in particular the valuation and management of pension assets and liabilities. > An overview of the Group's manufacturing and supply activities, including inventory management and technology trends. > Regular updates from the IS/IT team on matters including: the Group's cyber defence capability; the activities of the team responding to COVID-19 and supporting remote and technology-enabled working practices; and the use of artificial intelligence in the business.

Significant financial reporting issues considered by the Committee in 2020

Reporting issue	Rationale	Committee response	Committee conclusion/actions taken
Vaccine and other COVID-19 activities' accounting Group Accounting Policies from page 180.	AstraZeneca entered into a large number of new arrangements with government bodies, certain vaccine alliances, and external contract manufacturers as part of the Group's response to develop and supply *COVID-19 Vaccine AstraZeneca*, a vaccine against COVID-19. Some of these government arrangements included grants or advanced funding to support both research and development costs and the establishment of supply chains. Each government and alliance arrangement required a thorough and considered assessment to determine different performance obligations and ensure appropriate accounting treatment. Furthermore the impact of the COVID-19 pandemic has given rise to topical regulatory guidance being issued by the UK FRC, The Department for Business, Energy & Industrial Strategy (BEIS) and the European Securities and Markets Authority (ESMA), coupled with an increased focus on impairment risks, going concern and viability, presentation of non-GAAP measures along with the impact on key judgements and significant estimates.	The Committee is aware of the significance and complexity of the new arrangements and focused considerable attention on ensuring a clear understanding of the impact on the Group's financial position and performance. The Committee was presented with a detailed assessment of areas of increased risk conducted by management and has been provided with updates throughout the year. A detailed report on the status (and any financial reporting implications) of each new arrangement related to the vaccine is provided on a quarterly basis.	The Committee has discussed and challenged the applicable accounting principles applied, which were assessed to be appropriate. Given the material value of the government grants included in the new arrangements, a new accounting policy has been included as part of the Group's Accounting Policies from page 180. The Committee recognised management's proactive assessment and continual close monitoring of the COVID-19 pandemic on the areas of increased risk, as noted in the Group's Accounting Policies from page 180. The Committee has also reviewed the additional disclosures that have been included in the Annual Report relating to the vaccine arrangements and concluded these to be appropriate.
Revenue recognition Financial Review from page 82 and Note 1 to the Financial Statements from page 187.	The US is our largest single market and sales accounted for 33% of our Product Sales in 2020. Revenue recognition, particularly in the US, is affected by rebates, chargebacks, returns, other revenue accruals and cash discounts.	The Committee pays attention to management's estimates of these items, its analysis of any unusual movements and their impact on revenue recognition, informed by commentary from the external auditor.	The Committee receives regular reports from management and the external auditor on this complex area. The US market remains highly competitive with diverse marketing and pricing strategies adopted by the Group and its peers. The Committee recognised the close monitoring and control by management and the continuous drive to improve the accuracy in forecasting for managed market rebates and excise fees, which has supported a stabilisation of the overall gross-to-net deductions.

Audit Committee Report *continued*

Significant financial reporting issues considered by the Committee in 2020 *continued*

Reporting issue	Rationale	Committee response	Committee conclusion/actions taken
Valuation of intangible assets Financial Review from page 82 and Note 10 to the Financial Statements from page 198.	The Group carries significant intangible assets on its balance sheet arising from the acquisition of businesses and IP rights to medicines in development and on the market. Each quarter, the CFO reports on the carrying value of the Group's intangible assets and, in respect of those intangible assets that are identified as at risk of impairment, the difference between the carrying value and management's current estimate of discounted future cash flows for 'at risk' products (the headroom). Products will be identified as 'at risk' because the headroom is small or, for example, in the case of a medicine in development, there is a significant development milestone such as the publication of clinical trial results which could significantly alter management's forecasts for the product. The reviews also cover the impact on any related contingent consideration.	The Committee considered the impairment reviews of the Group's intangible assets. Significant reviews included the partial impairments of *Bydureon*, *Eklira/Duaklir and FluMist*.	The Committee assured itself of the integrity of the Group's accounting policy and models for its assessment and valuation of its intangible assets, and related headroom, including understanding the key assumptions and sensitivities within those models, along with the internal and external estimates and forecasts for the Group's cost of capital relative to the broader industry. The Committee was satisfied that the Group had appropriately accounted for the identified impairments. The Committee was assisted by the provision of external benchmark market data to enhance its understanding of key assumptions.
Litigation and contingent liabilities Note 29 to the Financial Statements from page 228.	AstraZeneca is involved in various legal proceedings considered typical to its business and the pharmaceutical industry as a whole, including litigation and investigations relating to product liability, commercial disputes, infringement of IP rights, the validity of certain patents, anti-trust law, and sales and marketing practices.	The Committee was regularly informed by the General Counsel of, and considered management and the external auditor's assessments about, IP litigation, actions, governmental investigations, and claims that might result in fines or damages against the Group, to assess whether provisions should be taken and, if so, when and in what amount.	Of the matters the Committee considered in 2020, the more significant included: the continued defence of the *Nexium* and *Prilosec* product liability litigation in the US, the *Seroquel* Antitrust, Iraq DOJ, Array, and Amplimmune litigations; and patent challenges relating to *Symbicort*, *Tagrisso*, *Enhertu* and *Farxiga* in the US. The Committee was satisfied that the Group was effectively managing its litigation risks including seeking appropriate remedies and continuing to defend its IP rights vigorously.
Tax charges and liabilities AstraZeneca's *Approach to Taxation*, which was published in December 2020 and covers its approach to governance, risk management and compliance, tax planning, dealing with tax authorities and the level of tax risk the Company is prepared to accept, can be found on our website, www.astrazeneca.com. Note 4 to the Financial Statements from page 190.	The Group has business activities around the world and incurs a substantial amount and variety of business taxes. AstraZeneca pays corporate income taxes, customs duties, excise taxes, stamp duties, employment and many other business taxes in all jurisdictions where due. In addition, we collect and pay employee taxes and indirect taxes such as value-added tax. The taxes the Group pays and collects represent a significant contribution to the countries and societies in which we operate. Tax risk can arise from unclear laws and regulations as well as differences in their interpretation.	The Committee reviews the Group's approach to tax, including governance, risk management and compliance, tax planning, dealings with tax authorities and the level of tax risk the Group is prepared to accept. During 2020, the Committee undertook a deep dive into tax matters which covered developments in the global corporate income tax environment, including transfer pricing, disputes and dispute resolution, fiscal incentives, controlled foreign company regimes, country-by-country reporting and recent developments at the OECD including the Pillar 1 and Pillar 2 blueprints.	The Committee was satisfied with the Group's practices regarding tax liabilities, including, most notably, its response to developments in the corporate income tax environment.

Significant financial reporting issues considered by the Committee in 2020 *continued*

Reporting issue	Rationale	Committee response	Committee conclusion/actions taken
Retirement benefits Financial Review from page 82 and Note 22 to the Financial Statements from page 209.	Accounting for defined benefit pension and other retirement benefits is an important area of focus. The Group recognises that the present value of these liabilities is sensitive to changes in long-term interest rates, future inflation and mortality expectations. As a result, the assumptions used to value the liabilities for the Group's main retirement benefit obligations are updated every quarter. Similarly, 'mark-to-market' asset valuations are also procured. This enables an updated funding level to be calculated each quarter. The Group is cognisant of the wider regulatory environment and local requirements around funding levels and contributions.	The Committee monitors the Group's funding level on a quarterly basis for its principal defined benefit pension obligations in the Tier 1 countries (Sweden, UK and US) and the funding requirements in each case, alongside key developments. The Committee reviews annually the Group's global funding objective and key activities, the engagement with local fiduciary bodies, and comparisons of funding solvency relative to the wider market. In addition, the Committee reviews the reasonableness of the key actuarial assumptions used to determine the value of the Group's liabilities. In 2020, the Committee undertook a further, detailed assessment of how the Group's defined benefit pension assets and liabilities are measured and managed. The Committee considered the investment strategy deployed by local fiduciary bodies and the resulting investment performance and the liability management exercises undertaken by the Group. The Committee noted the Group's review of the IAS 19 reporting framework for the various small benefit obligations around the world.	The Committee was reassured by the Group's engaged and balanced approach to managing the risks associated with the funding of its defined benefit obligations. The Committee was satisfied that the Group's contribution policy and actuarial assumptions used were appropriate during the year. The Committee was also satisfied that the actuarial valuation for the UK Pension Fund had been agreed with the Trustee and submitted to the Pensions Regulator ahead of the regulatory deadline. The Committee is cognisant of the need to adhere to local funding regulations and best practice and to the security provided by the Group which underwrites obligations to members. The Committee was reassured by the review which took place to ensure that all benefits which fall under IAS 19 rules were correctly reported.

Fair, balanced and understandable assessment

As in previous years, at the instruction of the Board, the Committee undertook an assessment of this Annual Report to ensure that, taken as a whole, it is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position and performance, business model and strategy. The Committee reviewed the Company's governance structure and assurance mechanisms for the preparation of the Annual Report and, in particular, the contributor and SET member verification process. The Committee received an early draft of the Annual Report to review its proposed content and the structural changes from the prior year and to undertake a review of the reporting for the year, following which the Committee members provided their individual and collective feedback. In addition, in accordance with its terms of reference, the Committee (alongside the Board) took an active part in reviewing the Company's quarterly announcements and considered the Company's other public disclosures which are managed through its Disclosure Committee. To aid its review further, the Committee also received a summary of the final Annual Report's content, including the Company's successes and setbacks during the year and an indication of where they were disclosed within the document.

The processes described above allowed the Committee to provide assurance to the Board to assist it in making the statement required of it under the UK Corporate Governance Code, which is set out from page 114.

Audit Committee Report *continued*

Internal controls

The Committee receives a report of the matters considered by the Disclosure Committee during each quarter. At the February 2021 meeting, the CFO presented to the Committee the conclusions of the CEO and the CFO following the evaluation of the effectiveness of our disclosure controls and procedures required by Item 15(a) of Form 20-F at 31 December 2020. Based on their evaluation, the CEO and the CFO concluded that, as at that date, the Company maintained an effective system of disclosure controls and procedures.

There was no change in our internal control over financial reporting that occurred during the period covered by this Annual Report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

For further information on the Company's internal controls, refer to the Audit, Risk and Internal Control section in the Corporate Governance Report on page 117.

External auditor

Following a competitive tender carried out in 2015, PwC was appointed as the Company's external auditor for the financial year ending 31 December 2017. In April 2020, PwC was reappointed as the Company's auditor for the financial year ending 31 December 2020. Richard Hughes continues to be the lead audit partner at PwC.

Non-audit services and safeguards

The Committee maintains a policy (the Audit and Non-Audit Services Pre-Approval Policy) for the pre-approval of all audit services, audit-related services and other services undertaken by the external auditor. The principal purpose of this policy is to ensure that the independence of the external auditor is not impaired. The Audit and Non-Audit Services Pre-Approval Policy was revised during the year to incorporate the requirement of the FRC Ethical Standard and it includes a 'whitelist' of permitted audit and audit-related services along with a listing of prohibited services aligned with the rules of the FRC, SEC and other relevant UK and US professional and regulatory requirements.

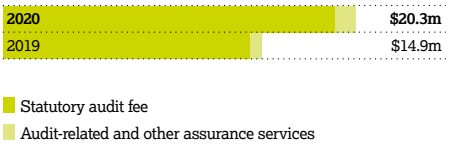
The pre-approval procedures permit certain audit and audit-related services to be performed by the external auditor during the year, subject to annual fee limits agreed with the Committee in advance. Pre-approved audit and audit-related services below the clearly trivial threshold (within the overall annual fee limit) are subject to case-by-case approval by the Senior Vice-President Finance, Group Controller.

Pre-approved audit services included services in respect of the annual financial statement audit (including quarterly and half-year reviews), attestation opinions under section 404 of the Sarbanes-Oxley Act, statutory audits for subsidiary entities, and other procedures to be performed by the independent auditor to be able to form an opinion on the Group's consolidated Financial Statements. The pre-approved audit-related services, which the Committee believes are services reasonably related to the performance of the audit or review of the Company's Financial Statements, included certain services required by law or regulation, such as financial statements audits of employee benefit plans and transactions. The Audit and Non-Audit Services Pre-Approval Policy prohibits any tax services. Audit-related services included the assurance in relation to tax regulatory certificates required to be issued by the external auditor.

The CFO (supported by the Senior Vice-President Finance, Group Controller), monitors the status of all services being provided by the external auditor. Authority to approve work exceeding the pre-agreed annual fee limits and for any individual service above the clearly trivial threshold is delegated to the Chairman of the Committee together with one other Committee member in the first instance. A standing agenda item at Committee meetings covers the operation of the pre-approval procedures and regular reports are provided to the full Committee.

All services other than the pre-approved audit and audit-related services, require approval by the Committee on a case-by-case basis. In 2020, PwC provided audit services including an interim review of the results of the Group for the six months ended 30 June 2020, and audit-related assurance services in respect of the Group's debt issuance activities, including its US shelf registration prospectus renewal.

Audit/non-audit services



Fees for audit-related and other assurance services amounted to 6% of the fees payable to PwC for audit services in 2020 (2019: 5%). The Committee is mindful of the 70% non-audit services fee cap under EU regulation, together with the overall proportion of fees for audit and audit-related services in determining whether to pre-approve such services. Fees for audit-related and other assurance services payable to PwC in 2020 were 9% of average audit fees over 2017 to 2019.

PwC were considered better-placed than any alternative provider to provide these services in terms of their familiarity with the Company's business, skills, capability and efficiency. All such services were either within the scope of the pre-approved services set out in the Audit and Non-Audit Services Pre-Approval Policy or were presented to Committee members for pre-approval and all such services were permitted by the FRC Ethical Standard. Further information on the fees paid to PwC for audit, audit-related and other services is provided in Note 30 to the Financial Statements on page 233.

Assessing external audit effectiveness

In accordance with its normal practice, the Committee considered the performance of PwC and its compliance with the independence criteria under the relevant statutory, regulatory and ethical standards applicable to auditors.

The Committee assessed PwC's effectiveness principally against four key factors, namely: judgement; mindset and culture; skills, character and knowledge; and quality control. As part of that assessment, it also took account of the views of senior management within the Finance function and regular Committee attendees.

The Committee concluded that the PwC audit was effective for the financial year ended 31 December 2020.

In February 2021, the Committee recommended to the Board the reappointment of PwC as the Company's auditor for the financial year ending 31 December 2021. Accordingly, a resolution to reappoint PwC as auditor will be put to shareholders at the Company's AGM in April 2021.

Directors' Remuneration Report

We have sought to be clear and transparent in how we link remuneration of our executives to successful delivery of our strategy and shareholder returns.

"Stretching targets have once again incentivised strong performance, as evidenced by a three year total shareholder return of 77%."

The Directors' Remuneration Report contains the following sections:

On behalf of the Board, I am pleased to present AstraZeneca's Directors' Remuneration Report. This is my first report as Chairman of the Remuneration Committee, since stepping into the role in August 2020. On behalf of the Committee I would like to thank Graham Chipchase for his valuable contribution as Chairman over the past five years and express my gratitude to him for the great support he provided me as I took over the role.

2020 has been a very challenging and difficult year for everyone around the globe. In this demanding environment, our Chief Executive Officer, Mr Soriot, Chief Finance Officer, Mr Dunoyer, and the Senior Executive Team have delivered an outstanding performance, exceeding targets set in many areas, including strengthening our scientific leadership. They also positioned AstraZeneca as a globally recognised leader in developing solutions in response to the global pandemic.

COVID-19

As outlined earlier in this Annual Report, 2020 has been an impactful year for AstraZeneca, which has taken a world-leading role in responding to the COVID-19 pandemic. The development of testing, treatment and vaccination in response to COVID-19 is an entirely new field of activity for AstraZeneca. This includes ongoing clinical trials in relation to potential neutralising mAbs for the virus and trials to explore the potential benefits of approved medicines in COVID-19 patients. In addition to providing humanitarian aid, such as the development of extremely high efficacy PCR, saliva and antibody tests for the virus and the establishment of national testing facilities, the most significant development has been our agreement with the University of Oxford to develop, produce and supply a vaccine at a record pace. We have also decided to make an unparalleled move to make these vaccines available and affordable around the world. Our leadership team has secured agreements spanning some 180 countries to deliver billions of doses of a COVID-19 vaccine worldwide, on a not-for-profit and equitable basis throughout the pandemic.

AstraZeneca has also not applied for any Government funded wage subsidies or furlough arrangements, around the world.

For more information on the impact of COVID-19 on our employees, see the Great Place to Work paragraph on page 132.

2020 Performance

AstraZeneca has continued to deliver against its strategic priorities throughout this unprecedented period. In December 2020, the Group announced the proposed acquisition of Alexion, which is anticipated to close in Q3 2021 subject to regulatory clearance and approval by shareholders of both companies. The proposed acquisition is intended to accelerate AstraZeneca's commercial and scientific evolution even further, allowing AstraZeneca to enhance its presence in immunology. For more information on the acquisition, see page 79.

Growth and Therapy Area Leadership

Revenue growth is strong, and has continued throughout 2020, with new medicines driving growth – more than $2 billion of incremental total revenue compared with 2019. This has been accomplished in an environment where the pandemic has adversely impacted healthcare for non-COVID patients. Our success has been made possible through an acceleration of our digital transformation and the dedication of our workforce, who have ensured both continuity of the supply of medicines to patients and of engagement with healthcare professionals around the world.

Accelerate Innovative Science

Science productivity has also continued to grow markedly, with return on investment in our pipeline continuing to outperform our peers. We secured a record number of 36 pipeline progression events, either NME Phase II starts or Phase III investment decisions in 2020. Our clinical trial success rate (from pre-clinical through to registrational studies) stands at 24%. This is three times higher than the industry median[1], exemplified in 2020 with two studies unblinded and submitted early for overwhelming efficacy (*Tagrisso* ADAURA and *Forxiga* CKD), emergency supply approval of the COVID-19 vaccine in the UK, and positive readout for tezepelumab NAVIGATOR. We have also secured a range of opportunities to collaborate with partners, bringing our clinical development expertise to bear in relation to NMEs discovered by the global scientific community. An example of this is our trusted partnership with Daiichi Sankyo, which has materialised into a further collaboration for the development of datopotamab deruxtecan (DS-1062), building on our successful 2019 collaboration in relation to *Enhertu*. These assets continue to show enormous promise in the clinic across multiple tumour types, and the recent successful US and Japan launches of *Enhertu* highlight the importance of such partnerships for future growth.

[1] Benchmarking group consists of Amgen, Astellas, Biogen, Boehringer, BMS, Roche, GSK, Janssen, Merck KGaA, Merck, Novo Nordisk, Novartis, Pfizer, Sanofi.

Great Place to Work

Our focus on ensuring that AstraZeneca continues to be a great place to work increased during the pandemic. AstraZeneca helped employees to work from home whenever necessary, and increased emphasis on the health and safety of our global workforce. We implemented new COVID-19 safe protocols and working arrangements for those that continued to attend the workplace. This ensured continuity of clinical trials and the supply of medicines to patients. We have taken steps to ensure that our workforce, who have continued to deliver, are appropriately recognised and rewarded. Payments to employees and contractors were increased in some areas to address the additional requirements of COVID-19. Of our total workforce, 96% report that they are proud of AstraZeneca's contribution to society through the pandemic. Employee engagement is at an all-time high and we continue to improve our diversity at senior levels. An example of this is the increase in women in senior roles, now at 47% with our ambition to achieve 50% by 2025. This is underscored by the CEO's personal commitment to oversee the delivery of our Inclusion & Diversity strategy as Chair of our Global Inclusion and Diversity Council.

Total shareholder return

This success is reflected in the share price and TSR growth.

2020 remuneration outcomes

The Committee always seeks to ensure that the remuneration of our Executive Directors and our wider workforce reflects the underlying performance of the business. When approving outcomes, we therefore considered the Group scorecard along with wider business and individual performance over 2020, including other achievements across the enterprise, such as our COVID-19 response summarised earlier in this letter, advancing our Great Place to Work priorities and environmental, social and governance (ESG) goals. In that context, we believe that the payments outlined below fairly reflect performance.

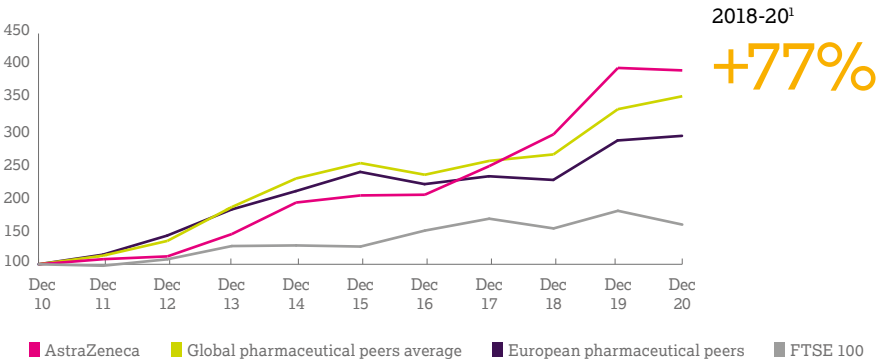
Annual bonus – 90% of maximum

When determining bonus outturns, the Committee considered the formulaic outcome from the Group scorecard along with wider business and individual impact and performance in 2020, including ESG achievements. The Committee determined to award annual bonuses equivalent to 90% of maximum (180% of base pay) and 90% of maximum (162% of base pay) to Mr Soriot and Mr Dunoyer respectively. Details of the factors considered to determine the bonuses are provided from pages 139 to 143.

One half of each Executive Director's bonus for 2020 will be deferred into AstraZeneca shares for three years to ensure further alignment with shareholder interests.

How we have performed in 2020

Total shareholder return (TSR)



[1] Calculated using a three-month calendar average, from 1 October to 31 December, prior to the start and at the end of the relevant period.

More information on the European and global pharmaceutical peer groups can be found on page 134.

Delivery against strategy – 2020 Group scorecard performance[3]

	Target	2020 outcome
Deliver Growth and Therapy Area Leadership		
Total Revenue	$26.8bn	**$26.5bn**
Accelerate Innovative Science		
Pipeline progression events	19	**25**
Regulatory events	33	**43**
Achieve Group Financial Targets		
Cash flow	$4.4bn	**$4.6bn**
Core EPS	$4.14	**$4.17**

[3] For details of the Remuneration Committee's consideration of Group scorecard outcomes and a description of performance measures, see from page 140.

Further detail of 2020 commercial and scientific performance can be found in the Strategic Report from page 18.

Long-term incentives (LTI)

2018 PSP – 99% of maximum

Our approach aims to reward sustainable out-performance and hence our 2018 award will vest at the upper end of the possible range. The three-year performance period for Performance Share Plan (PSP) awards granted to Executive Directors in 2018 ended on 31 December 2020. Awards will vest at 99% of maximum, as shown on page 144 and reflect overachievement in each and every three year target, as well as delivering a three year TSR of 77%.

Policy review and remuneration in 2021

At last year's AGM, our shareholders approved our new Remuneration Policy, which is usually intended to stay in place for three years. We need, however, to acknowledge that the world has drastically changed in the last 12 months, and so did AstraZeneca. Our Executive Directors, Mr Soriot and Mr Dunoyer, have demonstrated solid and visionary leadership to steer the Company towards delivering another outstanding performance. They have delivered on financial targets, actively managing the pipeline to accelerate innovation and negotiated new partnerships with great potential, including the proposed acquisition of Alexion. Notably they have also initiated an impactful societal, not-for-profit initiative – in partnership with University of Oxford – as a response to the global pandemic. During 2020, they have led AstraZeneca in developing new or deeper relationships with governments and non-governmental organisations in the developed and developing worlds, to deliver globally an affordable vaccine and help mitigate the impact of the COVID-19 crisis.

Since their appointment, our Executive Directors have driven a remarkable turnaround in the Company's performance. This has resulted in AstraZeneca delivering a Total Shareholder Return of close to 300% over the last eight years, significantly ahead of our Global pharmaceutical and FTSE 100 peers (at 183% and 44% TSR respectively)[1]. With this impressive track record, the Board wants to ensure that our Remuneration Policy keeps driving a performance in line with the ambitious expectations of our shareholders and other stakeholders.

[1] From 2013-2020. TSR calculated using a three-month calendar average. AstraZeneca return of 284%.

Markets have changed and became even more differentiated in 2020. Strong leadership performance can more than ever drive exceptional success. In the last year, it became apparent that the current Remuneration Policy did not provide the Committee with sufficient flexibility to appropriately reward the exceptional performance and growth we expect the Executive team to deliver. We have therefore decided to propose some adjustments to our Policy, further increasing the focus on pay for performance for our Executive Directors, while immediately aligning pension contributions to the level of the wider workforce. We have also taken this opportunity to introduce an ESG measure to the performance criteria of our PSP.

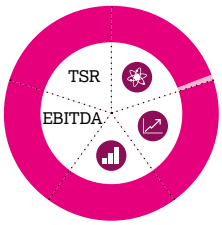
At the 2021 AGM, we will therefore be seeking shareholder approval for a renewed Directors' Remuneration Policy (the Policy). The Policy is set out from pages 156 to 167 and is intended to remain in effect for three years from the date of the AGM. Changes to the Policy and how it will be implemented are summarised on the following page and in more detail on page 156.

2020 Annual bonus scorecard performance[1]

	Achieved
Accelerate Innovative Science	90%
Deliver Growth and Therapy Area Leadership	32%
Achieve Group Financial Targets	66%

Achieved

2018 PSP performance



	Achieved
Achieve Scientific Leadership	96%
Return to Growth	100%
Achieve Group Financial Targets – Cash flow	100%
EBITDA	100%
Relative TSR	100%

Achieved

[1] When determining bonus outturns, the Committee considered the formulaic outcome from the Group scorecard along with wider business and individual impact and performance in 2020, including ESG achievements.

Our proposal is to increase the maximum PSP award under the Policy to 650% base pay from the current 550%. At the same time, the pension contributions of our current Executive Directors will be reduced to the level of the wider workforce (11% of base pay) under the new Policy. The combination of these two proposed changes drives further a reduction of the fixed remuneration component, while offering more potential when exceptional performance has been delivered.

In shaping the new Policy, we have taken into account the perspectives of shareholders, gathered from consultation undertaken during 2020. I met 21 of AstraZeneca's largest shareholders and proxy advisors to discuss our proposals, and was pleased with the level of engagement, feedback and support received. The importance of being able to offer our impactful CEO a remuneration package competitive with our European peers, has been a key theme in consultation discussions with our shareholders. The Committee took shareholders' feedback into account on the proposed changes to the Policy, and we would like to take this opportunity to thank all those who took part for their constructive engagement and support for our proposals.

There will be a 3% base pay increase for the two Executive Directors, effective 1 January 2021, in line with the UK all-employee base pay increase budget for 2021. Target annual bonus opportunity for Mr Soriot and Mr Dunoyer in 2021 will be 125% and 100% of base pay respectively, with the maximum bonus opportunity 250% of base pay for Mr Soriot and 200% of base pay for Mr Dunoyer. One half of any earned bonus will be deferred into shares for three years. Awards under the PSP will be increased for Mr Soriot and Mr Dunoyer to 650% and 450% of base pay respectively (from 550% and 400%). Shareholding guidelines will mirror the size of PSP awards and a two-year post-cessation shareholding requirement will continue to apply.

These proposals represent a reduction in our Executive Directors' fixed pay, whilst seeking to increase the competitiveness of their performance-related pay opportunity. This is illustrated in the charts on the following page, showing our Executive Directors' on-target opportunity relative to comparator groups. However, our proposed changes will only bring Mr Soriot and Mr Dunoyer into the lower quartile of our global peer group, but will better reflect AstraZeneca's relative position within the European peer group. Global competition for talent in the biopharmaceutical industry has increased as the world focuses on healthcare. The Board considers that the proposed changes will enable our remuneration framework to be more competitive as we focus on balancing the delivery of long-term sustainable success for our patients and shareholders with the need to attract and retain outstanding talent. And our emphasis on performance related pay is further strengthened, ensuring that outcomes are fully aligned with shareholder interests.

Incentivising environmental, social and governance delivery

As reflected in our 2019 Directors' Remuneration Report, AstraZeneca recognises the importance of ESG factors in operating a sustainable business and has made a number of clear commitments in this area. I am delighted to confirm that, from 2021, a metric focusing on the delivery of our Ambition Zero Carbon commitments will be included in our executive incentive arrangements for the PSP, to underline the importance we place on eliminating our Scope 1 and Scope 2 greenhouse gas emissions by 2025. Targets and assessment of performance against this metric will be determined in line with the World Resources Institute/World Business Council for Sustainable Development GHG Protocol methodology for accounting and reporting of our emissions footprint. In selecting this metric, the Committee considered a range of alternatives, covering Environmental Protection, Access to Healthcare, and Ethics and Transparency, the three pillars of AstraZeneca's sustainability strategy. As set out on pages 141 and 142, the full breadth of achievements in relation to ESG performance is taken into account when considering the individual performance of Executive Directors for bonus purposes.

In determining this ESG goal, the Committee is also conscious of the significant contribution to society that is reflected in AstraZeneca's commitment to support the global response to the COVID-19 pandemic on a not-for-profit basis during the pandemic. With those plans already well under way, the Committee concluded that it would be appropriate to instead focus on an environmental measure that is designed to incentivise the delivery of our Ambition Zero Carbon commitments, which will require the complete long-term transition to 100% renewable sources of onsite and imported energy, having an entirely electric vehicle fleet, and the introduction of a programme to eliminate F-gas propellant emissions from our inhaler production –

a significant investment in line with our commitment in this area. As an organisation committed to health equity, climate action is central to our sustainability strategy because climate change amplifies and accelerates existing social inequities, including physical and mental health issues, the prevalence of communicable and non-communicable diseases, poverty, forced migration, and disparities in education, housing, wealth, etc. Over the next decade or two, we believe environmental issues will become much more material and a differentiator in the marketplace as the wider healthcare value chain embraces net-zero. This will result in physical and transitional risks to proactively manage and mitigate, and new opportunities as we transition to a low carbon market where healthcare can be delivered to patients and society with a lower environmental burden and improved clinical outcomes. From page 276, our first statement that follows the Taskforce on Climate-related Financial Disclosures (TCFD)-recognised framework describes how Ambition Zero Carbon addresses these risks and opportunities.

Next steps

I hope that you find this Remuneration Report clear in explaining the implementation of our Remuneration Policy during 2020. We trust that we have provided the information you need to be able to support the resolution to be put to shareholders on the new Policy and this Remuneration Report at the Company's AGM in April 2021.

Our ongoing dialogue with shareholders and other stakeholders is valued greatly and, as always, we welcome your feedback on this Directors' Remuneration Report.

Michel Demaré
Chairman of the Remuneration Committee

2021 Remuneration Policy

Pension alignment with wider workforce	Pension contributions for CEO and CFO will reduce from a fixed pension allowance of £257,706 and £183,760 respectively to 11% of base pay
Improving the competitiveness of Executive Directors' compensation opportunity, reflecting the increase in the scope of their roles	We recognise that our Executive Directors' total compensation opportunity is well behind that of their peers in the global and European pharmaceutical talent market, not withstanding the significant breadth of their roles. The renewed Policy and its implementation for 2021 will align pay to performance and investor expectation, as follows: > No change to annual bonus Policy maximum. For 2021, the CEO's maximum bonus opportunity will be aligned to the Policy maximum at 250% of base pay. The maximum bonus opportunity for the CFO will be increased to 200% of base pay > Increased maximum limit under PSP from 550% to 650% of base pay. For 2021, the CEO's PSP award will be aligned to the new Policy maximum at 650% of base pay. The CFO's PSP award will be increased to 450% of base pay.
Shareholder alignment	Mandatory 50% bonus deferral into shares for three years Increased shareholding guidelines to align with the respective Executive Director's annual PSP opportunity, that continue to apply for two years post-employment.

Market positioning of CEO on-target remuneration for 2020

CEO

Lower quartile to median
Median to upper quartile
Current position

Market positioning of CFO on-target remuneration for 2020

CFO

Lower quartile to median
Median to upper quartile
Current position

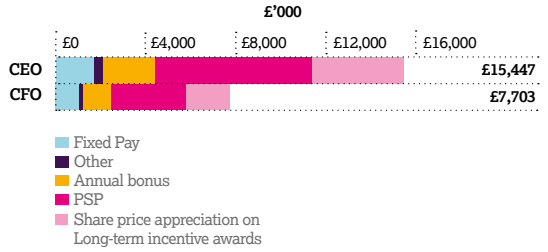
[1] Global pharma peer group consist of: AbbVie, Allergan, Amgen, BMS, Eli Lilly, Gilead, GSK, J&J, Merck, Novartis, Novo Nordisk, Pfizer, Roche, and Sanofi.
[2] European pharma peer group consists of: Bayer, GSK, Merck KGaA, Novartis, Novo Nordisk, Roche, and Sanofi.

Remuneration includes base salary, target annual bonus and the expected value of Long-term Incentives (LTI) awards. Benchmarking data has been provided by the Committee's independent adviser.

Remuneration at a glance

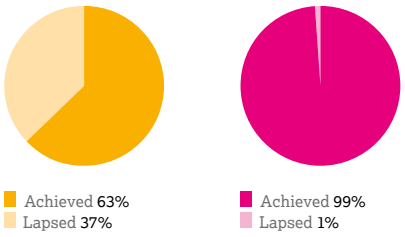
What our Executive Directors earned

Executive Directors' realised pay 2020 outcomes



Fixed pay consists of base pay, benefits fund and pension. Further information on Executive Directors' realised pay for 2020 is on page 138.

Annual bonus and PSP outcome



See from page 138 for further information on the annual bonus and PSP outcome.

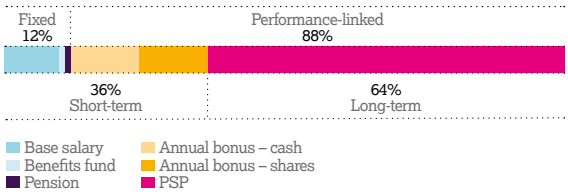
When determining bonus outturns, the Committee considered the formulaic outcome from the Group scorecard along with wider business and individual impact and performance in 2020, including ESG achievements.

Looking ahead

Executive Directors' remuneration for 2021

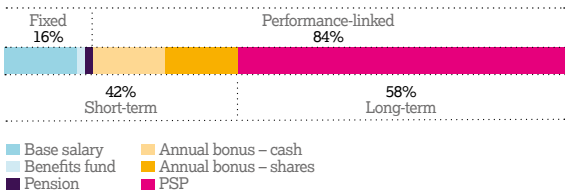
	Fixed remuneration	Annual bonus	Long-term incentives	Shareholding guideline	Post-cessation guideline
Pascal Soriot (CEO)	Base pay: £1,327,186 Benefits fund Pension: £145,990 (equivalent to 11% of base pay)	Max: 250% base pay Target: 125% base pay Deferred: 50% for three years	Max: 650% base pay Performance period: three years Holding period: two years	Holding requirement: 650% base pay	Holding requirement: shares up to 650% base pay for two years post-cessation
Marc Dunoyer (CFO)	Base pay: £788,249 Benefits fund Pension: £86,707 (equivalent to 11% of base pay)	Max: 200% base pay Target: 100% base pay Deferred: 50% for three years	Max: 450% base pay Performance period: three years Holding period: two years	Holding requirement: 450% base pay	Holding requirement: shares up to 450% base pay for two years post-cessation

CEO fixed vs performance-linked (%)



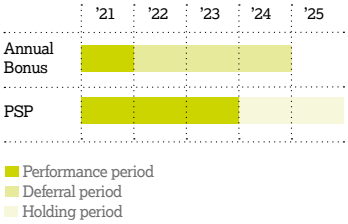
Based on maximum payout scenarios for the CEO assuming maximum of 250% and 650% of base salary for annual bonus and PSP respectively.

CFO fixed vs performance-linked (%)



Based on maximum payout scenarios for the CFO assuming maximum of 200% and 450% for annual bonus and PSP respectively.

Executive Directors' pay at risk



See from page 138 for further details on plan design.

How our performance measures for 2021 support the delivery of our strategy

AstraZeneca aims to continue to deliver great medicines to patients while maintaining cost discipline and a flexible cost base, driving operating leverage and increased cash generation. To incentivise and reward delivery of great performance over the short and longer term, the Committee carefully considered the balance of science and financial measures between the annual bonus and PSP.

Our focus on incentivising innovative science aligns with our patient centric culture, as we strive to push the boundaries of science to deliver life-changing medicines to patients. The 2021 performance measures are closely aligned with our strategic priorities, as shown below.

For more information about our strategic priorities, see page 18. For more information about the 2021 performance measures, see pages 143 to 147.

Key

- Annual bonus
- PSP
- KPI

Strategic pillar

Accelerate Innovative Science

Remuneration performance measures

Science indices

Our science measures incentivise the development of new molecular entities (NMEs) and the maximisation of the potential of existing medicines.

Bonus performance is assessed on pipeline progressions through Phase II and Phase III clinical trials. These reflect the outcome of nearer-term strategic investment decisions, whereas in contrast PSP performance is assessed on the volume of NMEs in Phase III and the registration stage which reflects the outcome of longer term strategic investment decisions.

Additionally, we measure regulatory submissions and approvals for bonus, and regulatory approvals for PSP to drive the conversion of scientific progress into commercial revenue over the short term (bonus) and the longer term (PSP).

Together, these science measures incentivise innovation and sustainable success along the length and breadth of the pipeline, leading to commercial growth.

Strategic pillar

Deliver Growth and Therapy Area Leadership

Remuneration performance measure

Total Revenue

Our Total Revenue measure is included in the bonus and the PSP, reflecting the importance of incentivising sustainable growth in both the short and longer term.

Financial targets

Achieve Group Financial Targets

Remuneration performance measures

Cash flow

Ensures that we can sustain investment in our pipeline and therapy areas while at the same time meeting our capital allocation priorities. Cash flow is included in both the bonus and the PSP, so as to motivate a focus on the importance of both short and longer term cash flow generation and balance sheet strength.

Core EPS

Incentivises operational efficiency and cost discipline, remains a key measure of our profitability and is a key focus for our investors.

Total shareholder return (TSR)

Assessed relative to our peer group of companies, the measure rewards positive performance that our shareholders also directly benefit from. This measure incentivises outperformance versus our peer group, and promotes the delivery of long-term sustainable returns for our shareholders.

Strategic pillar

Be a Great Place to Work

Being a Great Place to Work is critical to delivering our ambition. Assessment of performance against this pillar is captured through a holistic review of each Executive Director's individual performance as part of the final determination of annual bonus, including consideration of our progress against our ESG aspirations through:

- Contribution to the enterprise – their achievement of embedding a culture of life-long learning and development, and performing as an enterprise team, as well as advancement of our inclusion and diversity strategy; and
- Contribution to society – their delivery across access to healthcare, environmental protection, ethics and transparency to lead in sustainability.

Ambition Zero Carbon

This measure incentivises the elimination of our Scope 1 and Scope 2 greenhouse gas (GHG) emissions by 2025 with targets verified in line with the science of climate change, where we will innovate to avoid, reduce and substitute to become zero carbon.

How the Remuneration Committee ensures targets are stretching

We set stretching targets which incentivise our leaders to deliver exceptional performance, to drive sustainable results for our patients, our employees and our shareholders. We take the following robust process to setting annual bonus and PSP targets:

Stage 1 – Target setting	Science targets are based on a cohort of scientific opportunities specified at the start of the performance period. Opportunities represent potential achievements through the pipeline, from an early stage where our scientists work to discover new molecules, through to ultimately obtaining approvals and getting new medicines to patients. Rewarding success at each stage recognises the importance of creating and maintaining a long-term sustainable pipeline. Stretch of proposed targets is reviewed by the Science Committee taking into account factors such as past performance, the external regulatory environment and internal resourcing and efficiencies. Targets for realisation of these opportunities are ambitious.	Deliver Growth and Therapy Area Leadership and Achieve Group Financial Targets metrics align with the business' Long Range Plan (LRP), which sets out the financial framework for delivering our ambitious strategy over the short, medium and long-term. The LRP process includes detailed business reviews during which plans and efficiencies of each unit are challenged, leading to a proposed LRP for the Board to review and challenge. The Committee sets targets based on the Board-approved LRP, considering consensus expectations, independent analytics and anticipated challenges and opportunities. This range of data is used by the Committee to ensure the stretching nature of performance targets is robustly tested. Additionally, the PSP TSR measure is designed to reward strong performance relative to our peers.
Stage 2 – Committee review and approval of targets	The Committee thoroughly reviews and challenges initial targets proposed by management, before final targets are agreed and approved. Draft targets are reviewed in December, with final target setting and approval in January, once the prior year's final results are available to inform decisions. The Committee is provided with considerable supporting material for each metric. For science measures, the Committee reviews and approves the full cohort of opportunities and receives briefings from senior science leaders within the business. These targets are set with oversight of the Science Committee. The target in relation to our ESG metric in the PSP is determined with the input of our Non-Executive Director with accountability for the oversight of sustainability matters on behalf of the Board.	Committee members participate in the full Board discussions on the strategy, LRP and budget which form the basis for the targets. The Committee considers how proposed financial targets align with the LRP and budget; prior years' outcomes (in absolute terms and against target); how the ambition has changed from the prior LRP and budget; external guidance the business has provided or plans to give; consensus from external financial analysts and factors it may be impacted by; and the underlying assumptions. Statistical analysis conducted by the Committee's independent adviser is also used to assess the proposals. This includes an assessment of historic levels of performance volatility.
Stage 3 – Performance assessment	At the end of the period, final performance against each metric is assessed. Outcomes are calculated based on performance against each weighted metric. Each performance measure is assessed on a standalone basis, so that underperformance against one measure cannot be compensated for by overperformance against another.	The Science Committee independently considers and informs the Committee whether science achievements represent a fair and balanced outcome, reflecting genuine achievements and pipeline progression. Apart from Cash flow, which is set at actual rates of exchange, financial metrics are set at budget rates of exchange and evaluated at those rates at year end, which means they are not directly comparable year-on-year. The Committee is, however, provided with data to allow it to conduct year-on-year analyses.
Stage 4 – Determination of Executive Directors' bonuses	For annual bonus, the fairness of the formulaic Group scorecard outcome is considered in the context of overall business performance and the experience of shareholders. Such considerations include TSR performance and each Executive Director's personal impact on the delivery of the strategy, ESG performance and other organisational achievements, such as inclusion and diversity targets and the realisation of technology-based milestones. Each year there are important individual deliverables beyond the scorecard metrics which are taken into account when determining individual bonuses.	Having considered the Group scorecard outcome, overall business performance, the experience of shareholders and individual performance, the Committee carefully determines a final bonus outcome for each Executive Director which is considered fair and appropriate for the year's performance and is in the best interests of shareholders.

"We set stretching targets which incentivise our leaders to deliver exceptional performance, to drive sustainable results for our patients, our employees and our shareholders."

2021 targets

- Financial performance goals under the 2021 Group scorecard and PSP would require growth in excess of the average expected of the industry, and above prior year outturns.
- The Committee has reviewed the proposed targets against internal and external forecasts including market consensus and is comfortable that the level of stretch promotes exceptional performance.

Annual Report on Remuneration

Key:

Audited

Audited information
Content contained within the Audited panel indicates that all the information within has been subject to audit.

Planned implementation for 2021
Content contained within a grey box indicates planned implementation for 2021.

The elements within the Executive Directors' realised pay is colour coded:
> Fixed Remuneration has a light blue border and is found on pages 138 to 139
> Other items in the nature of remuneration has a purple border and can be found on page 139
> Annual bonus has a yellow border and can be found on pages 139 to 143
> Long-term incentives has a magenta border and can be found on pages 144 to 147

Executive Directors' remuneration

This section of the Remuneration Report sets out the Executive Directors' remuneration for the year ended 31 December 2020 alongside the remuneration that will be paid to Executive Directors during 2021.

Executive Directors' realised pay for 2020 (single total figure of remuneration)

Audited

The table below sets out all elements of take-home pay receivable by the Executive Directors in respect of the year ended 31 December 2020, alongside comparator figures for 2019. This includes the vesting of PSP awards from 2018 following the three-year performance period. These shares are subject to a further two-year holding period. The significant increase in AstraZeneca's share price over the period of grant to vest has provided the Executive Directors with a significant increase in value of the equity components of their reward. £4,050,722 of Mr Soriot's and £1,924,633 of Mr Dunoyer's 2020 realised pay is attributable to share price increases. The benefit of the increased share price has also been experienced by shareholders. The Committee did not exercise any discretion in relation to the Long-term incentive outcomes.

£'000		Base pay	Taxable benefits	Pension	**Total fixed**	Annual bonus	Long-term incentives[1]	**Total variable**	Other	**Single total figure**	**Share price appreciation as % of single figure total**
Pascal Soriot	**2020**	1,289	121	258	1,668	2,319	11,060	13,380	400	15,447	26%
	2019	1,289	124	387	1,800	1,933	11,464	13,396	110	15,307	25%
Marc Dunoyer	**2020**	765	79	184	1,028	1,240	5,255	6,495	180	7,703	25%
	2019	765	63	184	1,012	957	5,395	6,351	56	7,420	24%

[1] Long-term incentive values disclosed in 2019 have been recalculated using the average closing share price for the three months ended 31 December 2020, see page 144.

The following sections provide further detail on the figures in the above table, including the underlying calculations and assumptions and the Committee's performance assessments for variable remuneration. The Annual bonus section is set out from page 139 and the Long-term incentives section from page 144. Information about the Executive Directors' remuneration arrangements for the coming year, ending 31 December 2021, is highlighted in grey boxes.

Fixed remuneration

Audited

Base pay

When awarding base pay increases, the Committee considers, among other factors, base pay increases applied across the UK employee population. The Executive Directors' base pay for 2021 will increase in line with the UK all-employee base pay increase budget at 3%.

	2020		2021	
£'000	Change from 2019	Base pay	Change from 2020	Base pay
Pascal Soriot	0%	1,289	3%	1,327
Marc Dunoyer	0%	765	3%	788

Audited

Taxable benefits

The Executive Directors may select benefits within AstraZeneca's UK Flexible Benefits Programme and may choose to take their allowance, or any proportion remaining after the selection of benefits, in cash.

	2020	2021
£'000	Total taxable benefits	Taxable benefits
Pascal Soriot	121	In line with 2020
Marc Dunoyer	79	In line with 2020

Fixed remuneration *continued*

Audited

Pension

The Executive Directors receive a fixed pension allowance. During 2020, both Executive Directors took their pension allowance as a cash alternative to participation in a defined contribution pension scheme. Neither Executive Director has a prospective entitlement to a defined benefit pension by reason of qualifying service. Pension arrangements for 2021 are described on page 156.

	2020	2021
£'000	Fixed pension allowance	Pension allowance[1]
Pascal Soriot	258	146
Marc Dunoyer	184	87

[1] 2021 pension allowance to be reduced to 11% of base pay to be in line with the wider workforce.

Other remuneration

Audited

Other items in the nature of remuneration

Deferred shares granted to the Executive Directors under the Deferred Bonus Plan (DBP) (in respect of the withheld proportion of their annual bonuses awarded for performance during the year ended 31 December 2016) were released during 2020 on completion of the three-year deferral period. Shares granted to the Executive Directors under the 2015 PSP award were released during 2020 following completion of the three-year performance period and further two-year holding period. The dividend equivalents accrued on the DBP shares during the deferral period and the 2015 PSP award during the holding period and paid to the Executive Directors at the time of release are included in the Other column.

£'000	Dividend equivalents received on DBP awards	Dividend equivalents received on PSP awards released from holding period	Total Other items in the nature of remuneration
Pascal Soriot	50	350	400
Marc Dunoyer	27	153	180

Annual bonus

Audited

2020 Annual bonus

Annual bonuses earned in respect of performance during 2020 are included in the realised pay table. Detailed information on the Committee's approach to target setting and assessment of performance is set out on page 137.

Under the DBP a proportion of each Executive Director's pre-tax bonus is compulsorily deferred into Ordinary Shares which are released three years from the date of deferral, ordinarily subject to continued employment. The proportion of the 2020 bonus deferred is one half. Bonuses are not pensionable.

	Annual bonus in respect of performance during 2020				
	Bonus potential as % of base pay		Bonus payable in cash	Bonus deferred into shares	Total bonus awarded
£'000	Target	Maximum			
Pascal Soriot	100%	200%	1,160	1,160	2,319[1] 90% max
Marc Dunoyer	90%	180%	620	620	1,240 90% max

[1] Numbers have been rounded.

Annual bonus *continued*

Audited

2020 Group scorecard assessment

Performance against the 2020 Group scorecard is set out below.

The Group scorecard is used in the determination of bonus payouts for all AstraZeneca employees. Each metric within the scorecard is assessed on a standalone basis and has a defined payout range. Performance below the specified threshold level for a metric will result in 0% payout for that metric. 100% of target bonus will pay out for on-target performance. For employees, 200% of target bonus will pay out for the maximum level of performance. Maximum bonus payouts for the CEO and CFO for 2020 were capped at 200% and 180% of base pay respectively. The payout range for each metric is capped in line with each Executive Director's maximum bonus opportunity to ensure underperformance against one metric cannot be compensated for by overachievement against another. The table below shows the scorecard formulaic outcomes for the CEO and CFO as a percentage of target bonus, taking into account their respective target and maximum profiles.

2020 Group scorecard performance measures and metrics	Weighting	Threshold for payout	Target	Maximum	Outcome	Formulaic outcome (% of target bonus)
Science measures						
Accelerate Innovative Science						
Pipeline progression events	15%	10	19	29	25	24%
Regulatory events	15%	23	33	43	43	30%
Subtotal – Science measures	30%					54%
Financial measures						
Deliver Growth and Therapy Area Leadership						
Total Revenue ($bn)	30%	25.991	26.795	27.598	26.499	19%
Achieve Group Financial Targets						
Cash flow ($bn)	20%	4.1	4.4	4.9	4.6	28%
Core EPS ($)	20%	4.02	4.14	4.27	4.17	25%
Subtotal – Financial measures	70%					73%
Total[1]	100%					126%

Key: Bar charts are indicative of 2020 performance; scales do not start from zero.

[1] Due to rounding, the total formulaic outcome differs from the arithmetic total of the individual metric outcomes disclosed above.

Pipeline progression events include Phase II starts and progressions, and NME and life-cycle management positive Phase III investment decisions. Regulatory events include NME and major life-cycle management regional submissions and approvals. Further detail on our Accelerate Innovative Science performance and these events is included from page 18 of this Annual Report.

A number of further scientific achievements during 2020 have not been taken into account in the formulaic Group scorecard outcome, as they were additional to the cohort set at the start of the year. These have instead been considered and reflected in the Committee's final bonus determination.

Annual bonus *continued*

In 2020, Deliver Growth and Therapy Area Leadership measured Total Revenue. This target was set and evaluated at budget exchange rates at the beginning of the year and evaluated at those rates at the end of the performance period, so that any beneficial or adverse movements in currency, which are outside the Company's control, do not impact reward outcomes. The Cash flow measure is set and evaluated at the actual exchange rate and is evaluated by reference to net cash flow from operating activities less capital expenditure adding back proceeds from disposal of intangible assets, to be fully transparent with all elements easily derived from the Group IFRS cash flow statement. The Core EPS and Total Revenue measures are evaluated by reference to budget exchange rates, so that any beneficial or adverse movements in currency, which are outside the Company's control, do not impact reward outcomes. The Cash flow and EPS outcomes for 2020 were influenced by a number of significant one-off events, both positive and negative, which were unforeseeable at the start of the year when targets were set. Two material examples of this were the impact of unanticipated changes in corporate income tax rates and the impact of advances received from governments and supranational organisations in relation to the COVID-19 vaccine. The Committee agreed to eliminate these impacts when deciding the final bonus achievement as best reflecting the underlying operational Cash flow and EPS of the business.

Overall assessment

During 2020, the Executive Directors' individual performance was assessed in the following key areas which align with the Company's objectives.

Pascal Soriot

2020 was a truly remarkable year for AstraZeneca under Mr Soriot's leadership. In addition to delivery of the financial and scientific performance in extremely challenging circumstances as described from page 19, the Committee considered Mr Soriot's strong performance against his personal objectives as well as his inspiring leadership in response to the COVID-19 pandemic.

COVID-19 response	In 2020, Mr Soriot worked tirelessly to steer AstraZeneca into a world-leading role in response to the COVID-19 pandemic. Achievements of particular importance include: humanitarian aid, through the development of extremely high efficacy PCR, saliva and antibody tests for the virus, the establishment of national testing facilities and the donation of nine million items of personal protective equipment for the benefit of millions of people around the world; ongoing clinical trials in relation to potential neutralising monoclonal antibodies for the virus and trials to explore the potential benefits of approved medicines in COVID-19 patients; the delivery of an effective vaccine through our agreement with the University of Oxford, which is on track to deliver up to 3 billion doses of the vaccine worldwide, on a not-for-profit and equitable basis throughout the pandemic.
Demonstrating leadership to support developments in global life sciences	Throughout 2020, Mr Soriot continued to extend his influence with senior external stakeholders on key issues in healthcare with a particular focus on the world's response to COVID-19. Mr Soriot attended more than 50 meetings and engagements with senior level Government officials around the world including in China, Russia, Australia, the EU, Brazil, France, Japan, the UK, France, the Netherlands, Italy, Germany and the US. These interactions continue to shape the external environment and materially contribute to AstraZeneca's success around the world. They were also instrumental in securing agreements for the development, production and delivery of the vaccine.
Leading in Environmental, Social & Governance (ESG) performance	Under Mr Soriot's leadership we made significant progress against key environmental initiatives during 2020. At the World Economic Forum in January, Mr Soriot announced our Ambition Zero Carbon programme: our commitment to have zero carbon emissions from operations across the world by 2025 and ensure our entire value chain is carbon negative by 2030, bringing forward decarbonisation plans by more than a decade. 2020 saw significant progress against this ambition, with accelerated delivery of our renewable power sourcing targets, achieving 100% supply of certified renewable imported power across all our sites worldwide, five years ahead of our original RE100 (renewable energy) commitments. Ambition Zero Carbon targets will also feature as a performance measure under the Performance Share Plan from 2021 further demonstrating our commitment to strong environmental performance. Throughout 2020 AstraZeneca received external recognition as one of the leading companies demonstrating ESG practice. We were ranked 5th in the Dow Jones Sustainability Index for our industry globally and achieved the industry highest score in three areas – Environmental Reporting, Social Reporting, and Strategy to Improve Access to Drugs or Products. We were again named as a member of the FTSE4Good Index Series, an index designed to measure the performance of companies demonstrating strong ESG practices; and ranked 56th in the Corporate Knights Global 100 (an overview of global 100 most sustainable corporations in the world).
Making AstraZeneca a Great Place to Work – achieve demonstrable advances in inclusion, diversity and employee engagement	As Chair of the AstraZeneca Global Inclusion and Diversity (I&D) Council, Mr Soriot has continued to oversee and drive accountability for our I&D strategy throughout the organisation. In 2020, we held our first ever Global Power of Diversity Week to celebrate our diversity and build understanding of the link between inclusion, innovation, performance and creativity. This event was hugely successful with 71,000 employees around the globe participating in global and local events. The Council also oversaw the development and launch of comprehensive racial equity plans to benefit both our workforce and under-served patient populations. By the end of 2020, our internal KPIs were exceeded again with 46.9% of our senior leadership positions being held by women. We were pleased that AstraZeneca has again been included in the Bloomberg Gender-Equality Index, which distinguishes companies committed to transparency in gender reporting and advancing women's equality. Internal engagement remains high with internal surveys showing 96% of the 70,000 employee respondents stating they were proud of AstraZeneca's contribution to society through the pandemic. 91% said they felt AstraZeneca is truly patient-oriented and 89% would recommend AstraZeneca as a great place to work. 84% said they felt comfortable to speak up and express their opinion at work.

Annual bonus *continued*

Marc Dunoyer

COVID-19 response	Mr Dunoyer has played a critical role in realising the COVID-19 vaccine opportunity. He has been instrumental in ensuring vaccine availability around the world and putting together arrangements with governments to enable the development of a vaccine on a no profit/no loss basis. COVID-19 had a profound impact on the financial markets. Under Mr Dunoyer's leadership, the company's robust balance sheet on entering the pandemic was further strengthened during the course of 2020 to reduce liquidity risk, including a $3bn bond issuance at all time low financing costs. Recent technology investments within the Finance function enabled the group to quickly operationalise the challenges arising from the vaccines programme with regard to contract financial management, cash flow management, profitability, and foreign exchange exposure. Mr Dunoyer has also overseen delivery of revenue targets and has played a key role in ensuring our relationships with suppliers and customers have been managed effectively and fairly in these precarious times.
Acquisition of Alexion	In December 2020, we announced the intended acquisition of Alexion, the largest US takeover announced in 2020, which promises to open up many scientific and innovative opportunities, in particular expanding our presence in immunology. Mr Dunoyer led the deal on behalf of AstraZeneca, this included due diligence, the successful deal negotiations and oversight of the financing construct of the deal.
Japan	Mr Dunoyer's additional responsibilities continue to include leading AstraZeneca Japan, which had another year of strong performance in 2020, despite the broader economic and COVID challenges, achieving its business targets. Mr Dunoyer continued to play a critical leadership role in Japan, playing an active role despite the travel challenges in 2020. Throughout the year Mr Dunoyer had numerous meetings with senior government officials, as well as other senior pharmaceutical leaders, all of which were critical in enabling AZ Japan to sign a COVID-19 vaccine (AZD1222) contract of 120 million doses and contracts with local companies to manufacture the vaccine locally. Significant approvals obtained during the year included *Lokelma, Imfinzi* (Caspian), *Forxiga* and *Lynparza* (Paola, Polo, Profound).
Creating an enterprise-wide impact through Global Business Services (GBS)	GBS contributes to our Growth Through Innovation strategy by connecting business needs with innovative solutions that add value by freeing up time and money while protecting the Company's value and reputation. Under Mr Dunoyer's leadership, in 2020, GBS's automation programmes helped AstraZeneca to free-up more than hundred thousand hours across the enterprise while improving process accuracy and effectiveness. GBS enabled AstraZeneca to continue to effectively engage externally during the pandemic with innovative virtual meeting capabilities with over 230,000 people attending key events. GBS also ensured services resilience during COVID-19 and realised $200m working capital benefits and $100m cost savings.

Final determination of Executive Directors' bonuses

In determining the annual bonus outturn for executive directors, the Remuneration Committee considers the formulaic Group scorecard outcome, as well as the overall business performance, shareholder experience and the personal contribution of the individual Executive. A description of the Executive Directors' personal achievements is detailed above. In consideration of their exceptional leadership and personal contribution – particularly in relation to the response to COVID-19 as well as the successful announcement of the Alexion acquisition – the Committee determined the bonus outturn for both Executive Directors should be 180% of target (or 90% of maximum). This is in line with the approach to differentiate bonus awards for individuals in the wider workforce that have made an exceptional contribution in 2020.

Annual bonus *continued*

Deferred Bonus Plan

A proportion of each Executive Director's pre-tax annual bonus is compulsorily deferred under the Deferred Bonus Plan (DBP). In respect of the bonus deferred, the Executive Director is granted a conditional award over shares. No further performance conditions apply to DBP shares, but release at the end of the three-year deferral period is ordinarily subject to continued employment. One third of the bonus earned in respect of performance during 2019 was deferred and details of the consequent DBP awards granted in 2020 are shown below. One half of the bonus earned in respect of performance during 2020 has been deferred and the consequent DBP awards are expected to be granted in March 2021.

Audited

	2020 Grant				2021 Grant
	Ordinary Shares granted	Grant date	Grant price (pence per share)[1]	Face value £'000	2020 Bonus deferred £'000
Pascal Soriot	8,734	6 March 2020	7376	644	1,160
Marc Dunoyer	4,323	6 March 2020	7376	319	620

[1] The grant price is the average closing share price over the three dealing days preceding grant.

	2021 Group scorecard performance measures and metrics			
	Measure weighting	Underlying metrics (if applicable)	Metric weighting	2021 target
Accelerate Innovative Science	30%	Pipeline progression events	15%	↑ C
		Regulatory events	15%	↓ C
Deliver Growth and Therapy Area Leadership	30%	Total Revenue	30%	↑ C
Achieve Group Financial Targets	40%	Cash flow	20%	↑ C
		Core EPS	20%	↑ C

Key ↑ Target increased vs 2020 target ↓ Target decreased vs 2020 target ⇔ Target constant N New measure C Commercially sensitive

We intend to disclose the 2021 Group scorecard outcome, and details of the performance hurdles and targets, in the 2021 Directors' Remuneration Report following the end of the performance period. The performance targets are currently considered to be commercially sensitive as prospective disclosure may prejudice the Company's commercial interests. Executive Directors' individual contribution will be assessed by reference to individual goals in line with the Company's objectives for the year.

Long-term incentives

Long-term incentives included in the Executive Directors' realised pay for 2020 figure: 2018 PSP

The Executive Directors' realised pay for 2020 includes the value of Performance Share Plan (PSP) awards with performance period ended 31 December 2020. These shares and dividend equivalents will not be released to the Directors until the awards vest at the end of their respective holding periods.

The values of the shares due to vest have been calculated using the average closing share price over the three-month period ended 31 December 2020 (8,027.55 pence). The table below provides a breakdown showing the face value of these shares at the time they were granted, the value that is attributable to share price appreciation since grant and the value of dividend equivalents accrued on these shares over the relevant performance period. Further information about the individual awards and performance assessments follows the table.

Audited

Long-term incentive awards with performance periods ended 31 December 2020

				Value of shares due to vest			
		Ordinary Shares granted	Performance outcome	Face value at time of grant[1] £'000	Value due to share price appreciation[2] £'000	Dividend equivalent accrued over performance period £'000	Long-term incentives total £'000
Pascal Soriot	2018 PSP	128,889	99%	6,192	4,051	817	11,060
Marc Dunoyer	2018 PSP	61,240	99%	2,942	1,925	388	5,255

[1] Calculated using the grant price of 4853 pence for 2018 PSP awards.
[2] Calculated using the difference between the grant price and the average closing share price over the three-month period ended 31 December 2020.

The 2018 PSP awards granted on 23 March 2018 are due to vest and be released on 23 March 2023 on completion of a further two-year holding period. Performance over the period from 1 January 2018 to 31 December 2020 will result in 99% of the award vesting, based on the following assessment of performance.

The Return to Growth target (measuring aggregate Product Sales of the Oncology, New CVRM, Respiratory, Japan and Emerging Markets sales platforms, previously referred to as growth platforms) and EBITDA target are set at budget exchange rates at the beginning of the performance period and evaluated at those rates at the end of the performance period, so that any beneficial or adverse movements in currency, which are outside the Company's control, do not impact reward outcomes.

The EBITDA measure is assessed using cumulative Reported EBITDA, excluding non-cash movements on fair value of contingent consideration on business combinations and gains on disposals of intangible assets.

The Cash flow measure is assessed using cumulative net cash flow from operating activities less capital expenditure adding back proceeds from disposal of intangible assets and movement in profit participation liability.

AstraZeneca ranked third within the TSR peer group, in the upper quartile.

For more information about the TSR performance of the Company and the TSR comparator group, see page 153.

2018 PSP performance measures and metrics	Weighting	Threshold (20% vesting)	Maximum (100% vesting)	Outcome	Payout
Achieve Scientific Leadership					
NME approvals	6.7%	1	4	7	100%
Major life-cycle management approvals	6.7%	3	13	23	100%
NME Phase III/registrational volume	6.7%	3	13	11	87%
Subtotal – Achieve Scientific Leadership[1]	20%				96%
Return to Growth (aggregate revenue of growth platforms) ($bn)	20%	20.0	23.5	24.5	100%
Cash flow ($bn)	20%	8.0	12.0	13.0	100%
EBITDA ($bn)	20%	13.0	18.5	19.0	100%
Total shareholder return	20%	Median	UQ[2]	3rd	100%
Total[1]	100%				99%

Key: Bar charts are indicative of 2018 PSP performance; scales do not start from zero.
[1] The subtotal and total reflect the weightings of the individual metrics.
[2] UQ = Upper Quartile.

Audited

PSP awards granted during 2020

During 2020 conditional awards of shares were granted to Mr Soriot and Mr Dunoyer with face values equivalent to 550% of base pay and 400% of base pay respectively under the PSP. Face value is calculated using the grant price, being the average closing share price over the three dealing days preceding grant. The 21 May 2020 grant, following the approval of the policy at the 2020 AGM, was made at the same share price as the 6 March grant.

Performance will be assessed over the period from 1 January 2020 to 31 December 2022 against the measures outlined below, to determine the proportion of the award that vests. A further two-year holding period will then apply before vesting, which is scheduled to occur on the fifth anniversary of grant.

	Ordinary Shares granted	Grant date	Grant price (pence per share)	Face value £'000	End of performance period	End of holding period
Pascal Soriot	87,346	6 March 2020	7376	6,443	31 December 2022	6 March 2025
Pascal Soriot[1]	8,734	21 May 2020	7376	644	31 December 2022	21 May 2025
Marc Dunoyer	41,501	6 March 2020	7376	3,061	31 December 2022	6 March 2025

[1] This award forms part of the PSP award granted to Mr Soriot on 6 March 2020, and was made to take account of the revised limits for the PSP approved by shareholders at the Company's 2020 AGM.

The 2020 PSP performance measures focus on scientific, commercial and financial performance over the three-year performance period. The five performance metrics attached to the 2020 PSP awards are detailed below. Twenty percent of the award will vest if the threshold level of performance is achieved; the maximum level of performance must be achieved under each measure for 100% of the award to vest.

Relative total shareholder return (TSR) (20% of award)

TSR performance is assessed against a predetermined peer group of global pharmaceutical companies and consists of AbbVie, Amgen, Astellas, BMS, Daiichi Sankyo, Gilead, GSK, Johnson & Johnson, Lilly, MSD, Novartis, Novo Nordisk, Pfizer, Roche, Sanofi and Takeda. The rank which the Company's TSR achieves over the performance period will determine how many shares will vest under this measure.

TSR ranking of the Company	% of award that vests
Median	20% (threshold for payout)
Between median and upper quartile	Pro rata
Upper quartile	100%

Long-term incentives *continued*

Audited

Net Cash flow (25% of award)

The Cash flow measure is assessed using cumulative net cash flow from operating activities less capital expenditure adding back proceeds from disposal of intangible assets. The level of vesting under this measure is based on a scale between a threshold target and an upper target.

Cash flow	% of award that vests
$12.5bn	20% (threshold for payout)
Between $12.5bn and $15.0bn	Pro rata
$15.0bn	75%
Between $15.0bn and $17.5bn	Pro rata
$17.5bn and above	100%

Deliver Growth and Therapy Area Leadership (25% of award)

For PSP awards granted in 2020 Deliver Growth and Therapy Area Leadership measure Total Revenue. Disclosing the threshold and maximum hurdles for this measure could be construed to constitute financial guidance, which is not the Company's intention. The Deliver Growth and Therapy Area Leadership (Total Revenue) measure is thus considered to be commercially sensitive and will be disclosed following the end of the performance period. This measure is evaluated by reference to budget exchange rates.

Accelerate Innovative Science (30% of award)

Performance is assessed using dual indices which measure regulatory and pipeline progression events, allowing disclosure of targets at the beginning of the performance period.

NME PhIII/Registrational Volume (12% of award)	% of award that vests
8	20% (threshold for payout)
Between 8 and 11	Pro rata
11	75%
Between 11 and 15	Pro rata
15	100%

Regulatory events (18% of award)	% of award that vests
11	20% (threshold for payout)
Between 12 and 17	Pro rata
17	75%
Between 17 and 22	Pro rata
22	100%

PSP performance measures for 2021 grant

The 2021 PSP measures differ from the 2020 PSP measures as follows:

> An ESG measure, Ambition Zero Carbon, has been introduced with a weighting of 10%. This measure has been introduced to reflect the importance of eliminating greenhouse gas emissions from our Scope 1 and 2 operations by 2025.
> To accommodate the introduction of an ESG measure, the weighting of the Deliver Growth and Therapy Area Leadership (Total Revenue) and Cash Flow measures have both been reduced from 25% to 20%.
> The Relative TSR and Accelerate Innovative Science measures remain unchanged.

PSP performance measure	Measure weighting	Underlying metrics (if applicable)	Metric weighting	Threshold (20% vesting)	Maximum (100% vesting)
Accelerate Innovative Science	30%	NME Phase III/registrational volume	12%	8	15
		Regulatory events	18%	11	23
Deliver Growth and Therapy Area Leadership	20%	Total Revenue		Commercially sensitive until end of performance period	
Cash flow	20%			$16.0bn	$22.5bn
Relative TSR	20%			Median	Upper quartile
Ambition Zero Carbon	10%			60% reduction	68% reduction

Regulatory events measure NME and major life-cycle management approvals (taking into account the first approval over the performance period). NME Phase III/registrational volume measures the total NME pipeline volume at the end of the performance period. These two items ensure that management are assessed on both R&D late-stage delivery (approvals) and also future pipeline sustainability (volume).

Disclosing the threshold and maximum hurdles for the Deliver Growth and Therapy Area Leadership (Total Revenue) measure could be construed to constitute financial guidance, which is not the Company's intention. The Total Revenue measure is thus considered to be commercially sensitive and will be disclosed following the end of the performance period.

The Total Revenue measure is evaluated by reference to budget exchange rates such that beneficial or adverse movements in currency, which are outside the Company's control, do not impact reward outcomes. The Cash flow measure is evaluated using net cumulative cash flow from operating activities less capital expenditure adding back proceeds from disposal of intangible assets. The companies in the TSR comparator group are shown on page 153.

Our Ambition Zero Carbon measure is based on our Scope 1 and Scope 2 emissions reductions, as measured against our 2015 baseline. Further detail on our commitment can be found on page 75.

As described on page 137, the Committee takes into account a wide range of data to ensure that the stretching nature of PSP hurdles is robustly tested and that financial targets are aligned with the business's Long Range Plan. The Committee will take consensus into account when determining the appropriate level of stretch.

PSP awards are expected to be granted to the Executive Directors in March 2021. The PSP award to be granted to Mr Dunoyer will be equivalent to 450% of base pay. The PSP award to be granted to Mr Soriot will be equivalent to 550% of base pay. Subject to the approval of the Directors' Remuneration Policy and amended rules of the PSP at the Company's AGM on 30 April 2021, a further PSP award will be granted to Mr Soriot equivalent to 100% of base pay, bringing Mr Soriot's total PSP award for 2021 in line with the maximum opportunity under the Policy.

Non-Executive Directors' remuneration

Non-Executive Directors' realised pay for 2020 (total single figure of remuneration)

Audited

The table sets out all elements of remuneration receivable by the Non-Executive Directors in respect of the year ended 31 December 2020, alongside comparative figures for the prior year.

	2020 Fees £'000	2019 Fees £'000	**2020 Other £'000**	2019 Other £'000	**2020 Total £'000**	2019 Total £'000
Leif Johansson	**625**	625	**73**	72	**698**	697
Euan Ashley – *appointed 1 October 2020*	**26**	–	–	–	**26**	–
Geneviève Berger	**110**	110	–	–	**110**	110
Philip Broadley	**148**	144	–	–	**148**	144
Graham Chipchase	**141**	158	–	–	**141**	158
Michel Demaré – *appointed 1 September 2019*	**125**	36	–	–	**125**	36
Deborah DiSanzo	**108**	108	–	–	**108**	108
Diana Layfield – *appointed 1 November 2020*	**15**	–	–	–	**15**	–
Sheri McCoy	**123**	123	–	–	**123**	123
Tony Mok	**103**	103	–	–	**103**	103
Nazneen Rahman	**118**	118	–	–	**118**	118
Marcus Wallenberg	**103**	103	–	–	**103**	103
Former Non-Executive Directors						
Rudy Markham – *retired 26 April 2019*	–	44	–	–	–	44
Total	**1,745**	1,672	**73**	72	**1,818**	1,744

The Chairman's single total figure includes office costs (invoiced in Swedish krona) of £73,000 for 2020 and £72,000 for 2019.

Payments to former Directors

During 2020, no payments were made to former Directors.

Payments for loss of office

During 2020, no payments were made to Directors for loss of office.

Non-Executive Directors' fee structure

The Non-Executive Directors' fee structure that applied during 2020 is set out below, alongside the structure that will be in place during 2021. No changes have been made to fees for 2021. Further information on the Non-Executive Directors' fee structure can be found within the Remuneration Policy on page 166.

Non-Executive Director fees	2021 £'000	**2020 £'000**
Chairman[1]	625	**625**
Basic Non-Executive Director	88	**88**
Senior independent Non-Executive Director	30	**30**
Member of the Audit Committee	20	**20**
Member of the Remuneration Committee	15	**15**
Chairman of the Audit Committee or the Remuneration Committee[2]	25	**25**
Member of the Science Committee	15	**15**
Chairman of the Science Committee[2]	15	**15**
Non-Executive Director responsible for overseeing sustainability matters on behalf of the Board	7.5	**7.5**

[1] The Chairman does not receive any additional fees for chairing, or being a member of, a committee.
[2] This fee is in addition to the fee for membership of the relevant committee.

Fees in respect of Executive Directors' external appointments

Marc Dunoyer is a non-executive director of Orchard Therapeutics. During 2020, Mr Dunoyer received a gross fee of £46,000 from Orchard Therapeutics, which he retained in full.

Pascal Soriot was appointed a non-executive director of CSL Limited in July 2020. During 2020, Mr Soriot received a gross fee of £46,000 from CSL Limited, which he retained in full.

Directors' shareholdings

Minimum shareholding requirements

Audited

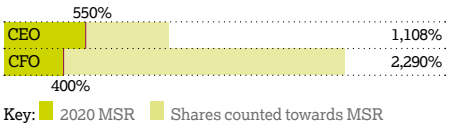
The CEO and CFO are each required to build a shareholding to satisfy their respective minimum shareholding requirements, each within five years of their dates of appointment. During 2020, the minimum shareholding requirements for the CEO and CFO were set at 550% and 400% of base pay respectively. Shares that count towards these minimum shareholding requirements are shares beneficially held by the Executive Director and their connected persons and share awards that are not subject to further performance conditions. Share awards included are DBP shares in deferral periods and PSP and AZIP shares in holding periods, on a net of tax basis. On this basis, as at 31 December 2020, Mr Soriot and Mr Dunoyer held shares worth 1,108% and 2,290% of base pay respectively and had fulfilled their minimum shareholding requirements.

A further post-employment shareholding requirement applies to Executive Directors. For two years following cessation of employment, Executive Directors are required to hold shares to the value of the shareholding guideline that applied at the cessation of their employment; or, in cases where the individual has not had sufficient time to build up shares to meet their guideline, the actual level of shareholding at cessation. The post-cessation requirement will be maintained through self-certification, with the Committee keeping this approach under review.

Position against minimum shareholding requirement (MSR) as a percentage of base pay

	Beneficially owned shares and shares in a holding period[1]	Shares in deferral period	Shares subject to performance conditions	Value of shares counted towards MSR as a % of base pay[2]
Pascal Soriot	358,272	31,740	327,444	1,108%
Marc Dunoyer	294,875	16,234	151,431	2,290%

[1] Holding period shares included are those which are not subject to continued employment.
[2] Holding as at 31 December 2020. Shares subject to deferral and holding periods calculated net of a theoretical 50% tax rate. Shares subject to performance conditions are not included in the value of shares counted towards MSR.



It is proposed that the minimum shareholding requirements for the CEO and CFO be increased to 650% and 450% of base salary respectively on approval of the proposed Directors' Remuneration Policy at the 2021 AGM.

Non-Executive Directors are encouraged to build up, over a period of three years, a shareholding in the Company with a value approximately equivalent to the basic annual fee for a Non-Executive Director (£88,000 during 2020) or, in the case of the Chairman, approximately equivalent to his basic annual fee (£625,000 during 2020). All Non-Executive Directors who had served for a period of three years or more as at 31 December 2020 held sufficient shares to fulfil this expectation.

Directors' interests as at 31 December 2020

The following table shows the beneficial interests of the Directors (including the interests of their connected persons) in Ordinary Shares as at 31 December 2020.

Executive Directors	**Beneficial interest in Ordinary Shares at 31 December 2020[1]**	Beneficial interest in Ordinary Shares at 31 December 2019[1]
Pascal Soriot	**358,272**	352,226
Marc Dunoyer	**294,875**	246,266
Non-Executive Directors		
Leif Johansson	**39,009**	39,009
Euan Ashley[2]	**1,150**	–
Geneviève Berger	**2,090**	2,090
Philip Broadley	**7,045**	5,735
Graham Chipchase	**3,000**	3,000
Michel Demaré[3]	**2,000**	–
Deborah DiSanzo	**1,000**	1,000
Diana Layfield[4]	**1,400**	–
Sheri McCoy	**1,736**	1,736
Tony Mok[5]	**1,000**	–
Nazneen Rahman	**1,017**	500
Marcus Wallenberg	**60,028**	60,028

[1] For the Executive Directors, beneficial interests include shares in holding periods which are not subject to performance measures or continued employment.
[2] Euan Ashley was appointed on 1 October 2020.
[3] Michel Demaré was appointed on 1 September 2019.
[4] Diana Layfield was appointed on 1 November 2020.
[5] Tony Mok was appointed on 1 January 2019.

Directors' shareholdings *continued*

Audited

Executive Directors' share plan interests

The following tables set out the Executive Directors' interests in Ordinary Shares under the Company's share plans.

Pascal Soriot

Share scheme interests	Grant date	Shares outstanding at 1 January 2020	Grant price (pence)	Shares granted in year	Shares released in year	Shares lapsed in year	Shares outstanding at 31 December 2020: Shares subject to performance	Shares outstanding at 31 December 2020: Shares in deferral/ holding period	Performance period end	Vesting and release date
DBP	24/03/2017	7,968	4880	–	7,968	–	**n/a**	**–**	n/a	24/03/2020[1]
	23/03/2018	13,157	4853	–	–	–	**n/a**	**13,157**	n/a	23/03/2021
	08/03/2019	9,849	6287	–	–	–	**n/a**	**9,849**	n/a	08/03/2022
	06/03/2020	–	7376	8,734	–	–	**n/a**	**8,734**	n/a	06/03/2023[2]
PSP	27/03/2015	80,668	4762	–	80,668	–	**–**	**–**	31/12/2017	27/03/2020[3]
	24/03/2016	102,473	3923	–	–	–	**–**	**102,473**	31/12/2018	24/03/2021
	24/03/2017	125,009	4880	–	–	3,751	**–**	**121,258**	31/12/2019	24/03/2022[4]
	23/03/2018	128,889	4853	–	–	–	**128,889**	**–**	31/12/2020	23/03/2023
	08/03/2019	102,475	6287	–	–	–	**102,475**	**–**	31/12/2021	08/03/2024
	06/03/2020	–	7376	87,346	–	–	**87,346**	**–**	31/12/2022	06/03/2025[5]
	21/05/2020	–	7376	8,734	–	–	**8,734**	**–**	31/12/2022	21/05/2025[5]
AZIP	11/06/2013	89,960	3297	–	–	–	**–**	**89,960**	31/12/2016	01/01/2021
	28/03/2014	20,677	3904	–	–	–	**–**	**20,677**	31/12/2017	01/01/2022
	27/03/2015	13,095	4762	–	–	–	**–**	**13,095**	31/12/2018	01/01/2023
	24/03/2016	21,618	3923	–	–	10,809	**–**	**10,809**	31/12/2019	01/01/2024[6]
Total		**715,838**		**104,814**	**88,636**	**14,560**	**327,444**	**390,012**		

Marc Dunoyer

Share scheme interests	Grant date	Shares outstanding at 1 January 2020	Grant price (pence)	Shares granted in year	Shares released in year	Shares lapsed in year	Shares outstanding at 31 December 2020: Shares subject to performance	Shares outstanding at 31 December 2020: Shares in deferral/ holding period	Performance period end	Vesting and release date
DBP	24/03/2017	4,262	4880	–	4,262	–	**n/a**	**–**	n/a	24/03/2020[1]
	23/03/2018	7,037	4853	–	–	–	**n/a**	**7,037**	n/a	23/03/2021
	08/03/2019	4,874	6287	–	–	–	**n/a**	**4,874**	n/a	08/03/2022
	06/03/2020	–	7376	4,323	–	–	**n/a**	**4,323**	n/a	06/03/2023[2]
PSP	27/03/2015	35,327	4762	–	35,327	–	**–**	**–**	31/12/2017	27/03/2020[3]
	24/03/2016	42,739	3923	–	–	–	**–**	**42,739**	31/12/2018	24/03/2021
	24/03/2017	59,439	4880	–	–	1,784	**–**	**57,655**	31/12/2019	24/03/2022[4]
	23/03/2018	61,240	4853	–	–	–	**61,240**	**–**	31/12/2020	23/03/2023
	08/03/2019	48,690	6287	–	–	–	**48,690**	**–**	31/12/2021	08/03/2024
	06/03/2020	–	7376	41,501	–	–	**41,501**	**–**	31/12/2022	06/03/2025[5]
AZIP	01/08/2013	8,176	3302	–	–	–	**–**	**8,176**	31/12/2016	01/01/2021
	28/03/2014	8,709	3904	–	–	–	**–**	**8,709**	31/12/2017	01/01/2022
	27/03/2015	5,734	4762	–	–	–	**–**	**5,734**	31/12/2018	01/01/2023
	24/03/2016	9,016	3923	–	–	4,508	**–**	**4,508**	31/12/2019	01/01/2024[6]
Total		**295,243**		**45,824**	**39,589**	**6,292**	**151,431**	**143,755**		

[1] Market price on 24 March 2020, the actual date of release, was 6831 pence.
[2] Award granted following deferral of one third of the annual bonus earned in respect of performance during 2019, further detail on page 143.
[3] Market price on 27 March 2020, the actual date of release, was 6882 pence.
[4] 97% of the shares entered the holding period, following assessment of performance over the period to 31 December 2019. The remaining shares lapsed.
[5] Details of PSP awards granted during 2020 are shown from page 145.
[6] 50% of the shares entered the holding period, following assessment of performance over the period to 31 December 2019.

No Director or senior executive beneficially owns, or has options over, 1% or more of the issued share capital of the Company, nor do they have different voting rights from other shareholders. None of the Directors has a beneficial interest in the shares of any of the Company's subsidiaries. Between 31 December 2020 and 11 February 2021, there was no change in the interests in Ordinary Shares shown in the tables on pages 149 and 150.

Remuneration in the wider context

In our Corporate Governance Report on page 113, we explain in detail how the Board has chosen to engage with AstraZeneca's workforce, and how important engagement with our employees is if we are to be a great place to work and continue to deliver outstanding performance. The Directors believe that the Board as a whole should continue to take responsibility for gathering the views of the workforce. Consequently, instead of implementing one of the three methods for workforce engagement prescribed in the 2018 UK Corporate Governance Code, the Board has chosen to further enhance and develop the long-standing channels of engagement which already exist in the organisation to ensure that the Board continues to understand the global workforce's views on a wide variety of topics, including matters relating to remuneration.

In light of the challenging conditions in a COVID-19 year, Directors' (including members of the Remuneration Committee) in person engagement was replaced with virtual interactions. Remuneration Committee members review wide-ranging data on employee reward, as well as broader information on workforce trends and culture, which is provided to the full Board. Decisions of the Remuneration Committee affecting employees, such as the annual Group scorecard outcomes, are communicated to employees through internal communications as well as through the Remuneration Report. In the event that more significant changes to workforce remuneration are proposed, active engagement with employee representative groups provides feedback to help the Committee understand the impact upon the broader workforce.

When considering executive remuneration and setting the Directors' Remuneration Policy, the Committee takes into consideration our global workforce, looking to ensure the global total reward offering is competitive, compelling and aligned to our business performance, while supporting a culture where everyone feels valued and included, as outlined in the table below. Being a great place to work is one of our three strategic priorities. We explain in our Business Review from page 64 the role that reward plays in developing a diverse culture that encourages and rewards innovation, entrepreneurship and high performance.

Summary of remuneration structure for employees below the Board

Element	Policy features for the wider workforce	Comparison with Executive Director and Senior Executive Team (SET) remuneration
Base pay	Our base pay is the basis for a competitive total reward package for all employees, and we review base pay annually. This review takes account of country budget, relevant market comparators, the skills, capabilities, knowledge and experience of each individual, relativity to peers within the Company and individual contribution. In setting the budget each year, we consider affordability as well as assessing how employee base pay is currently positioned relative to market rates, forecasts of any further market increases and turnover.	The base pay of our Executive Directors and SET form the basis of their total remuneration, and we review their base pay annually. The primary purpose of the review is to ensure base pay remains competitive and reflects the value of the individual to the organisation.
Pensions and benefits	We offer market-aligned wellbeing benefit packages reflecting market practice in each country in which we operate. Where appropriate, we offer elements of personal benefit choice to our employees.	The benefit packages of our Executive Directors and SET are broadly aligned with the wider workforce of the country in which they are employed. Pension contributions for our UK Executive Directors will be reduced to be in line with the UK workforce under our new Directors' Remuneration Policy, see page 156.
Annual bonus	With the exception of our sales representatives receiving sales related incentives, our global workforce participates in the same annual cash bonus plan as the Executive Directors and SET, with the same Group scorecard performance measures outlined on pages 140 and 143. Achievement against the scorecard creates a bonus pool from which all awards are made. For employees within our commercial organisation, the country-level share of the global bonus pool also takes into account country performance against KPIs. Individual outcomes are based on manager assessment of contribution against individual objectives and peers. Awards are based on a 0-200% target range.	The bonus ranges for our Executive Directors are described on page 139. The ranges for the SET align with the wider workforce at 0-200% of target. Half of any award to an Executive Director under the plan is subject to deferral into shares subject to a three-year holding period. One sixth of any award to SET under the plan is deferred into shares subject to a three-year holding period.
Long-term incentives	The PSP is operated with a three-year performance period for employees at Vice-President and Senior Vice-President level, with the same performance measures that apply to Executive Director and SET PSP awards (outlined on pages 145 and 146. A proportion of our workforce below Vice-President level is eligible to be considered for other long-term incentive awards, such as restricted stock awards.	PSP awards to Executive Directors and SET are granted under the same plan as PSP awards granted to Vice-Presidents. PSP awards to Executive Directors and SET are subject to a two-year holding period following the three-year performance period.

Remuneration in the wider context *continued*

Change in Director remuneration compared to other employees

In the table below, as per the requirements of the Companies (Directors' Remuneration Policy and Directors' Remuneration Report) Regulations 2019, changes to the base pay (or fees), taxable benefits and annual bonus of Directors are compared to employees over the same period (2019 to 2020). The regulations require comparison between the remuneration of each Director and that of all employees of the parent company on a full-time equivalent basis. As AstraZeneca PLC has no direct employees, and in line with our disclosure approach in prior years to changes in employee remuneration, the selected comparator group is comprised of employees in the UK, US and Sweden who represent approximately 30% of our total employee population. We consider that this group is representative of the Group's major science, business and enabling units. These employee populations are also well balanced in terms of seniority and demographics.

	Change in 2020 against 2019 (%)		
	Salary/fees	Benefits	Annual Bonus
Executive Directors			
Pascal Soriot	0.0%	-2.7%	20.0%
Marc Dunoyer[1]	0.0%	25.0%	29.6%
Non-Executive Directors			
Leif Johansson[2]	0.0%	1.4%	–
Euan Ashley[3]	–	–	–
Geneviève Berger	0.0%	–	–
Philip Broadley	2.8%	–	–
Graham Chipchase	-10.8%	–	–
Michel Demaré[4]	15.7%	–	–
Deborah DiSanzo	0.0%	–	–
Diana Layfield[5]	–	–	–
Sheri McCoy	0.0%	–	–
Tony Mok	0.0%	–	–
Nazneen Rahman	0.0%	–	–
Marcus Wallenberg	0.0%	–	–
Employees	4.1%	4.1%	-11.6%

[1] Changes to the value of benefits provided to Marc Dunoyer were due to increased costs to the Company for the provision of external financial planning advice during 2020 (£18,218 in 2020, compared to £2,444 in 2019). Other benefit values remained consistent with 2019.
[2] Benefits for Leif Johansson are office costs.
[3] Euan Ashley was appointed on 1 October 2020.
[4] Michel Demaré was appointed on 1 September 2019. 2019 fees have been annualised to enable like for like comparison. Mr Demaré became Chairman of the Remuneration Committee in August 2020.
[5] Diana Layfield was appointed on 1 November 2020.

CEO and employee pay ratios

The table below sets out the ratios of the CEO's realised pay to the equivalent pay for the lower quartile, median and upper quartile UK employees (calculated on a full-time equivalent basis). The ratios have been calculated in accordance with the Companies (Miscellaneous Reporting) Requirements 2018 (the Regulations).

Year[1]	Method	25th percentile pay ratio	50th percentile pay ratio	75th percentile pay ratio
2020	**Option A**	**284:1**	**197:1**	**130:1**
2019	Option A	280:1	190:1	123:1
2018	Option A	230:1	160:1	103:1

[1] Prior year's figures have not been restated for subsequent share price changes (as shown in the CEO realised pay for 2020 table on page 138).

The comparison with UK employees is specified by the Regulations. This group represents approximately 10% of our total employee population. The Regulations provide flexibility to adopt one of three methods of calculation; we have chosen Option A which is a calculation based on all UK employees on a full-time equivalent basis as we consider this to be the most appropriate method of comparison and in line with the calculation of CEO's realised pay. The ratios are based on total pay, which includes base pay, benefits, bonus and long-term incentives (LTI). The CEO pay is as shown in the realised pay for 2020 table, on page 138. For UK employees, quartile data has been determined as at 31 December 2020, with calculations based on actual pay data for January to November 2020. Estimates have been used for December 2020 pay, annual bonus outcomes and LTI dividend equivalent payments. These estimates are based on forecast December 2020 pay, the 2020 bonus budget and projected payout, and anticipated dividend equivalent payments on LTI awards, respectively. No elements of pay have been excluded from the calculation, which has been determined following the approach of previous years.

	CEO		UK employees					
			25th percentile		50th percentile		75th percentile	
Pay data[1] (£'000)	Base pay	Total pay	Base pay	Total pay	Base pay	Total pay	Base pay	Total pay
2020	**1,289**	**15,447**	**41**	**54**	**60**	**78**	**82**	**119**
2019	1,289	14,330	38	51	53	75	71	117
2018	1,251	11,356	36	49	50	71	70	110

[1] Prior year's figures have not been restated for subsequent share price changes (as shown in the CEO realised pay for 2020 table on page 138).

Although higher slightly at each quartile, the 2020 CEO pay ratio is broadly consistent when compared to 2019, which also saw strong bonus and PSP outcomes, and share price appreciation driving the CEO's realised pay. The Committee is mindful that ratios may vary significantly year-on-year given varied annual bonus and PSP outcomes and share price movements, and therefore also considers the CEO pay ratio when excluding LTI. The median pay ratio of the CEO compared to the median UK employee when excluding LTI is 53:1, compared to 51:1 in 2018 and 2019. The stability of the ratio at the 50th percentile between 2018, 2019 and 2020, when calculated to exclude the variability of LTIs, is consistent with the pay and progression policies for UK employees. The Committee remains mindful of the debate on executive pay and seeks to ensure that when determining the remuneration of the CEO it finds the right balance between rewarding performance in a highly competitive global executive talent market, as shown by the pay across the Group.

Relative importance of spend on pay

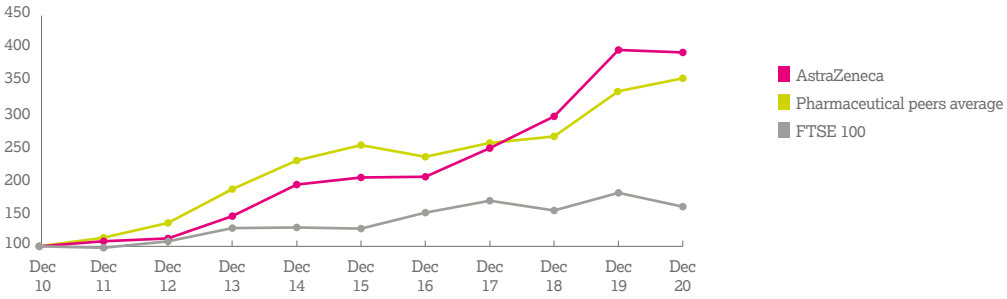
The table below shows the remuneration paid to all employees in the Group, including the Executive Directors, and expenditure on shareholder distributions through dividends. The figures have been calculated in accordance with the Group Accounting Policies and drawn from either the Company's Consolidated Statement of Comprehensive Income on page 176, or its Consolidated Statement of Cash Flows on page 179. Further information on the Group's Accounting Policies can be found from page 180.

	2020 $m	2019 $m	Difference in spend between years $m	Difference in spend between years %
Total employee remuneration	**8,247**	7,568	679	8.97
Distributions to shareholders: dividends paid	**3,572**	3,592	-20	-0.56

Total shareholder return (TSR)

The graph below compares the TSR performance of the Company over the past ten years with the TSR of the FTSE 100 Index. This graph is re-based to 100 at the start of the relevant period. As a constituent of the FTSE 100, this index represents an appropriate reference point for the Company. To provide shareholders with additional context we have also included a 'Pharmaceutical peers average', reflecting the TSR of the comparator group adopted in 2017 which is used to assess relative TSR performance for PSP awards granted in 2018. It consists of AbbVie, Amgen, Astellas, BMS, Celgene, Daiichi Sankyo, Gilead, GSK, Johnson & Johnson, Lilly, MSD, Novartis, Novo Nordisk, Pfizer, Roche, Sanofi, Shire and Takeda. Where a comparator company delisted during the 2018 PSP performance period, as the result of an acquisition, TSR performance has been assessed up unto the point of de-listing. The TSR comparator group for PSP awards to be granted in 2021 consists of AbbVie, Amgen, Astellas, BMS, Daiichi Sankyo, Gilead, GSK, Johnson & Johnson, Lilly, MSD, Novartis, Novo Nordisk, Pfizer, Roche, Sanofi and Takeda. CEO remuneration over the same ten-year period is shown after the TSR graph.

TSR over a ten-year period



CEO total remuneration table

Year	CEO	CEO realised pay £'000	Annual bonus payout against maximum opportunity %	LTI vesting rates against maximum opportunity %
2020	Pascal Soriot	15,447[1]	90	99
2019	Pascal Soriot	15,307[2]	83	90
2018	Pascal Soriot	12,868	83	79
2017	Pascal Soriot	10,429	87	81
2016	Pascal Soriot	14,342[3]	54	95
2015	Pascal Soriot	7,963	97	78
2014	Pascal Soriot	3,507	94	–
2013	Pascal Soriot	3,344	94	–
2012	Pascal Soriot – *appointed with effect from 1 October 2012*	3,693[4]	68	–
2012	Simon Lowth – *acted as interim CEO from June to September 2012 inclusive*	3,289	86	38[5]
2012	David Brennan – *ceased to be a Director on 1 June 2012*	4,147[6]	–[7]	38
2011	David Brennan	7,863	74	62

1 The 2020 realised pay is shown on page 138.
2 This figure has been revised using the average closing share price over the three-month period to 31 December 2020, as explained on page 144.
3 This figure includes shares awarded to Mr Soriot in 2013 under the AZIP to compensate him for LTIs from previous employment forfeited on his recruitment as the Company's CEO.
4 This figure includes £991,000 paid to compensate Mr Soriot in respect of his forfeited bonus opportunity for 2012 and an award of £2,000,000 to compensate him for his loss of LTI awards, both in respect of his previous employment.
5 Mr Lowth's LTI awards which vested during 2012 were not awarded or received in respect of his performance as Interim CEO.
6 This figure includes Mr Brennan's pay in lieu of notice of £914,000.
7 Mr Brennan informed the Committee that he did not wish to be considered for a bonus in respect of that part of 2012 in which he was CEO. The Committee determined that no such bonus would be awarded and also that there should be no bonus award relating to his contractual notice period.

Governance

Committee membership

During 2020, the Committee members were Michel Demaré (Chairman of the Committee), Leif Johansson, Sheri McCoy and Philip Broadley. Graham Chipchase stepped down as Chairman and a member of the Committee on 1 August 2020. The Deputy Company Secretary acts as secretary to the Committee. The Committee met six times in 2020 and members' attendance records are set out on page 103. During the year, the Committee was materially assisted, except in relation to their own remuneration, by the CEO; the CFO; the VP Finance Group Controller; the EVP, GMD; the EVP, Human Resources; the SVP, Reward and Inclusion; the Senior Director Executive Reward; the Company Secretary; the Deputy Company Secretary; EVP, Sustainability and Chief Compliance Officer; the Non-Executive Director responsible for overseeing Sustainability matters on behalf of the Board; and, the Non-Executive Directors forming the Science Committee. The Committee's independent adviser attended all Committee meetings.

Terms of reference

A copy of the Committee's terms of reference is available on our website, www.astrazeneca.com. The Committee reviewed its terms of reference during 2020 and did not recommend any changes. The terms of reference were subsequently approved by the Board.

Independent adviser to the Committee

The Committee reappointed Willis Towers Watson (WTW) as its independent adviser following a tender process undertaken in 2018. The 2018 tender process involved submission of written proposals, followed by shortlisted candidates being interviewed by both Committee members and members of the Company's management. The Committee selected and appointed WTW with effect from September 2018. WTW's service to the Committee during 2020 was provided on a time spent basis at a cost to the Company of £183,540, excluding VAT. During 2020, WTW also provided pensions advice and administration, and advice and support to management including market data to assist in the annual employee pay review and global pay survey data. WTW have no other connection with the Company or individual Directors. The Committee reviewed the potential for conflicts of interest and judged that there were no conflicts. WTW is a member of the Remuneration Consultants' Group, which is responsible for the stewardship and development of the voluntary code of conduct in relation to executive remuneration consulting in the UK. The principles on which the code is based are transparency, integrity, objectivity, competence, due care and confidentiality. WTW adheres to the code.

Shareholder voting at the AGM

At the Company's AGM on 29 April 2020, shareholders voted in favour of a resolution to approve the Directors' Remuneration Policy and Annual Report on Remuneration for the year ended 31 December 2019.

Resolution	Votes for	% for	Votes against	% against	Total votes cast	% of Issued Share Capital voted	Withheld votes
Ordinary Resolution to approve the Directors' Remuneration Policy (2020 AGM)	972,774,742	94.71	54,292,376	5.29	1,027,067,118	78.27	42,106,679
Ordinary Resolution to approve the Annual Report on Remuneration for the year ended 31 December 2019 (2020 AGM)	1,032,308,145	96.65	35,747,783	3.35	1,068,055,928	81.39	1,118,038

Directors' service contracts and letters of appointment

The notice periods and unexpired terms of Executive Directors' service contracts at 31 December 2020 are shown in the table below. AstraZeneca or the Executive Director may terminate the service contract on 12 months' notice.

Executive Director	Date of service contract	Unexpired term at 31 December 2020	Notice period
Pascal Soriot	15 December 2016	12 months	12 months
Marc Dunoyer	6 December 2016	12 months	12 months

None of the Non-Executive Directors has a service contract but each has a letter of appointment. In accordance with the Company's Articles, following their appointment, all Directors must retire at each AGM and may present themselves for re-election. The Company is mindful of the director independence provisions of the 2018 UK Corporate Governance Code and, in this regard, a Non-Executive Director's overall tenure will not normally exceed nine years. The Chairman of the Company may terminate his appointment at any time, on three months' notice. None of the other Non-Executive Directors has a notice period or any provision in their letters of appointment giving them a right to compensation upon early termination of appointment.

Basis of preparation of this Directors' Remuneration Report

This Directors' Remuneration Report has been prepared in accordance with the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 (as amended) (the 2013 Regulations). As required by the 2013 Regulations, a resolution to approve the Annual Report on Remuneration will be proposed at the AGM on 30 April 2021.

On behalf of the Board

A C N Kemp
Company Secretary
11 February 2021

Remuneration Policy

Changes to Remuneration Policy and its implementation

The table below summarises the main proposed changes to the Directors' Remuneration Policy (the Policy), the intended changes to implementation of the Policy in 2021 and the rationale for each change.

The full Policy that shareholders will be asked to approve is set out from page 157.

2021 Remuneration Policy Summary

Element	Proposed change to Policy	Implementation in 2021	Rationale for change
Base pay	No change	Increase for CEO or CFO in line with the workforce	
Pension	The maximum pension allowance for UK-based Executive Directors capped in line with the pension arrangements of other UK employees	CEO and CFO pension reduced to 11% of base pay in line with the wider workforce	Aligns Executive Director pension contributions with those of wider workforce
Annual bonus	No change	Bonus for 2021 will be as follows: CEO bonus: > Target: 125% of base pay (2020: 100%) > Max: 250% of base pay (2020: 200%) CFO bonus: > Target: 100% of base pay (2020: 90%) > Max: 200% of base pay (2020: 180%)	No change in policy maximum
Performance Share Plan (PSP)	Increase maximum opportunity from 550% to 650% of base pay	Increase CEO PSP award from 550% to 650% of base pay Increase CFO PSP award from 400% to 450% of base pay	Recognition of CEO's and CFO's criticality to future business success and increased scope of roles in light of significant activities arising from the COVID-19 vaccine development Continuing to close the gap to market pay levels within the competitive global and European pharmaceutical talent pool Increased weighting on long-term performance
Shareholding requirements		Increase shareholding requirements to mirror annual PSP opportunity: > Shareholding requirement for CEO increases from 550% to 650% of base pay > Shareholding requirement for CFO increases from 400% to 450% of base pay Executive Directors required to hold up to 100% of their shareholding requirement for two years after leaving office	Ensures further alignment with shareholders during and post-employment

Remuneration Policy

This section sets out the Directors' Remuneration Policy (the Policy) proposed for approval by shareholders at the Company's AGM on 30 April 2021. Subject to shareholder approval, the Policy is intended to remain in effect for three years from the 2021 AGM. The previous page summarises how the Policy differs from the policy which was approved by shareholders at the 2020 AGM. Whilst the policy at the 2020 AGM received strong support from our shareholders, the Committee reviewed the policy in light of AstraZeneca's continuous growth, the increase to both the CEO's and CFO's role scope following AstraZeneca's COVID-19 response, as well as competitive pay levels in comparison to global and European pharmaceutical peers.

Setting the Policy

The Remuneration Committee (the Committee) is responsible for setting overall remuneration policy and makes decisions about specific remuneration arrangements in the broader context of employee remuneration throughout the Group. The Committee reviews Group remuneration data annually, including ratios of average employee pay to senior executive pay; bonus data; as well as gender and geographical data in relation to base pay and variable compensation. This includes a workforce remuneration review to understand the ways in which reward is differentiated by contribution across the population.

Remuneration for all roles within the organisation is benchmarked against that for comparable roles in similar organisations and in the employee's local market. Executive Directors' remuneration is benchmarked against global and European pharmaceutical peer groups and the FTSE 30. In reviewing the base pay of Executive Directors, the Committee considers the overall level of any base pay increases being awarded to employees in the Executive Director's local market in the relevant year. In setting, reviewing and implementing the Policy, the Committee seeks independent advice and ensures that no Director makes decisions relating to their own remuneration. The Committee connects with the Audit Committee to ensure that the Group's remuneration policies and practices achieve the right balance between appropriate incentives to reward good performance, management of risk, and the pursuit of the Company's strategic objectives.

The Board as a whole takes responsibility for gathering the views of AstraZeneca's workforce, and does so through multiple channels of engagement. While the Committee does not consult employees specifically when setting the Executive Directors' remuneration policy, the Company engages with employees, either on a Group-wide basis or in the context of smaller focus groups, to solicit feedback generally on a wide range of matters, including pay. Many employees are also shareholders in the Company and therefore have the opportunity to vote on the Policy at the 2021 AGM.

In all aspects of its work, the Committee considers both the external environment in which the Company operates and the guidance issued by organisations representing institutional shareholders. It consults the Company's major investors on general and specific remuneration matters and provides opportunities for representatives of those investors to meet the Chairman of the Committee and other Committee and Board members. It is the Company's policy to seek input from major shareholders on an ad hoc basis when significant changes to remuneration arrangements are proposed. A thorough consultation process was undertaken as this Policy was developed, with investors' feedback on the Committee's proposals influencing the final Policy. The Company's shareholders are encouraged to attend the AGM and any views expressed will be considered by Committee members.

Legacy arrangements

The Committee may approve remuneration payments and payments for loss of office on terms that differ to the terms in the Policy where the terms of the payment were agreed before the Policy came into effect or were agreed at a time when the relevant individual was not a Director of the Company (provided that, in the opinion of the Committee, the agreement was not entered into in consideration for the individual becoming a Director of the Company). This includes the exercise of any discretion available to the Committee in connection with such payments. For these purposes, payments include the Committee satisfying awards of variable remuneration, including share awards, in line with the terms agreed at the time the award was granted.

Minor amendments

The Committee may make minor amendments to the arrangements for Directors described in the Policy without shareholder approval for regulatory, exchange control, tax or administrative purposes or to take account of a change in legislation.

Remuneration Policy
continued

Remuneration Policy for Executive Directors

Fixed elements of remuneration: base pay, benefits and pension

Base pay

Purpose and link to strategy	Operation	Maximum opportunity
Intended to be sufficient to attract, retain and develop high-calibre individuals	When setting base pay, the Committee gives consideration to a number of factors, including (but not limited to): > recognition of the value of an individual's personal performance and contribution > the individual's skills and experience > internal relativities > conditions in the relevant external market Base pay is normally reviewed annually with any change usually taking effect from 1 January.	While there is no formal maximum, any increases in base pay will normally be in line with the percentage increases awarded to the employee population within the individual's country location. Higher increases may be made if the Committee considers it appropriate, for example to reflect: > an increase in the scope and/or responsibility of the individual's role; or > development of the individual within the role.

Benefits

Purpose and link to strategy	Operation	Maximum opportunity
Intended to provide a market-competitive benefits package sufficient to attract, retain and develop high-calibre individuals	UK Executive Directors are provided with a fund, the value of which is based on a range of benefits, including private medical provision for themselves, partner and children; life assurance; company car; additional holidays and other additional benefits made available by the Company from time to time that the Committee considers appropriate based on the Executive Director's circumstances. A Director may choose to take a proportion of, or the entire, fund as cash. Non UK-based Executive Directors will receive a range of benefits (or a fund of equivalent value) comparable to those typically offered in their local market. Depending on local market practices, they may be able to elect to take the fund as cash or elect to take one or more of these benefits and take the balance as cash. At its discretion, the Committee may consider support towards reasonable costs associated with relocation and/or provide an allowance towards reasonable fees for professional services such as legal, tax, property and financial advice. The Company may also fund the cost of a driver and car for Executive Directors and any expenses deemed to be taxable which are reasonably incurred in the course of the Company's business, together with any taxes thereon. The Company provides directors' and officers' liability insurance and an indemnity to the fullest extent permitted by law and the Company's Articles.	The maximum value of the benefits available will be equivalent to the cost to the Company of the suite of benefits available in the local market at the time. The value of the support towards the costs of relocation, professional fees and other costs will be the reasonable costs associated with the Executive Director's particular circumstances. The maximum value of the directors' and officers' liability insurance and third-party indemnity insurance is the cost at the relevant time. While the Committee has not set an overall level of benefit provision, the Committee keeps the benefit policy and benefit levels under review.

Pension

Purpose and link to strategy	Operation	Maximum opportunity
Provision of retirement benefits to attract, retain and develop high-calibre individuals	UK-based Executive Directors receive a pension allowance based on a percentage of base pay, which the Director may elect to pay into a pension scheme (or an equivalent arrangement) or take as cash. Non UK-based Executive Directors will receive an allowance for the purpose of providing retirement benefits in line with local market practice. A non UK-based Executive Director may be offered the opportunity to elect to take some or all of the allowance as cash.	The maximum pension allowance that may be provided to UK-based Executive Directors shall be capped at a level in line with the pension arrangements of other UK employees. The maximum value that may be provided to non UK-based Executive Directors will be aligned with employees in the relevant local market.

Variable elements of remuneration: annual bonus and long-term incentive

Annual bonus and Deferred Bonus Plan (DBP)

Purpose and link to strategy	Operation	Maximum opportunity
The annual bonus incentivises and rewards short-term performance against Group targets and individual objectives that are closely aligned to the Company's strategy **The deferred share element of the annual bonus is designed to align Executive Directors' interests with those of shareholders**	Annual bonus awards are conditional on performance. Performance is measured over one year and the bonus, if awarded, is paid after the year end. Normally half of the bonus is delivered in cash and half is delivered in shares, which are deferred for three years under the DBP. DBP awards may consist of Ordinary Shares or American Depositary Shares (ADSs) depending on the country in which the Director is based. In line with the approach for other employees, a Director may be offered the opportunity to elect to defer part of their cash bonus into pension. Stretching Group targets are set annually by the Committee based on the key strategic priorities for the year. The performance targets form a Group scorecard, which is closely aligned to the Company's strategy, and are designed to reward scientific, commercial and financial success. Performance is assessed in relation to each performance target on a standalone basis. A threshold level of performance is specified; if performance falls below this level, there will be no payout for that proportion of the award. Payout levels are determined by the Committee after the year end, based on performance against the Group scorecard targets as well as each Executive Director's individual performance. The Committee may use its discretion to ensure that a fair and balanced outcome is achieved, taking into account the overall performance of the Company and the experience of shareholders. On vesting of the deferred shares, shares equivalent in value to the dividends that would have been paid during the deferral period will be awarded to the Director. The Committee has discretion to claw-back from individuals some or all of the cash bonus award in certain circumstances including (i) serious misconduct by the individual (for up to six years from the payment date); (ii) material misstatement or restatement of the results of the Group (for up to two years from the payment date); or (iii) significant reputational damage to the Group (for up to two years from the payment date). For shares under the DBP, the Committee has discretion to reduce or cancel any portion of an unvested deferred bonus share award in certain circumstances (malus) including (i) serious misconduct by the individual; (ii) material misstatement or restatement of the results of the Group; or (iii) significant reputational damage to the Group. The Committee also has discretion to claw-back from individuals some or all of the deferred bonus share award in certain circumstances, including (i) serious misconduct by the individual (for up to six years from the vesting date); (ii) material misstatement or restatement of the results of the Group (for up to two years from the vesting date); or (iii) significant reputational damage to the Group (for up to two years from the vesting date).	The maximum annual bonus amount that can be awarded is equivalent to 250% of base pay.

Remuneration Policy for Executive Directors *continued*

Long-term incentive (LTI): Performance Share Plan (PSP)

Purpose and link to strategy	Operation	Maximum opportunity
The PSP is designed to align the variable pay of Executive Directors with the successful execution of the Company's strategy	PSP awards are conditional awards and may be granted over Ordinary Shares or American Depositary Shares (ADSs) depending on the country in which the Director is based. Vesting is dependent on the achievement of stretching performance targets and continued employment, as further described in the Treatment of LTI and Deferred Bonus Plan awards on cessation of employment section on page 165. Stretching performance targets are set by the Committee at the beginning of the relevant performance period. Performance measures are closely aligned to the Company's strategy and are designed to reward scientific, commercial and financial success. The Committee will consult with major shareholders in advance if it proposes any material changes to the PSP performance measures. When selecting the performance measures for each award, the Committee weights the performance measures as it considers appropriate, taking into account strategic priorities. The Committee's intention is to exercise appropriate judgement both when setting performance targets and assessing outcomes, in particular so that the experience of shareholders over time is taken into account. Performance is normally assessed over a three-year period commencing on 1 January in the year of grant. Shares are subject to a two-year holding period following the performance period, so vesting takes place on the fifth anniversary of grant. During the holding period, no further performance measures apply. Typically, 20% of the proportion of a PSP award linked to a performance measure will vest on achievement of the threshold level of performance and 100% will vest if the maximum level of performance is achieved in full. For relative measures (such as relative total shareholder return (TSR)) the threshold performance will be performance at or above median, and maximum performance will usually be set as achievement of performance at the upper quartile level of the peer group. Where a performance measure permits, there will be further vesting points between threshold and maximum vesting levels. The Committee may (acting fairly and reasonably) adjust or waive a performance target if an event occurs that causes it to believe that the performance target is no longer appropriate. Shares equivalent in value to the dividends that would have been paid on the vesting shares during the performance and holding periods will be awarded to the Director. The Committee has discretion to reduce or cancel any portion of an unvested award in certain circumstances (malus), including (i) serious misconduct by the individual; (ii) material misstatement or restatement of the results of the Group; or (iii) significant reputational damage to the Group. The Committee also has discretion to claw-back from individuals some or all of the award in certain circumstances, including (i) serious misconduct by the individual (for up to six years from the third anniversary of the date of grant); (ii) material misstatement or restatement of the results of the Group (for up to two years from the third anniversary of the date of grant); and (iii) significant reputational damage to the Group (for up to two years from the third anniversary of the date of grant).	The maximum market value of shares that may be awarded under the PSP in any year is equivalent to 650% of the participant's annual base pay at the date of grant.

UK Employee Share Plans

Share Incentive Plan (SIP)

Purpose and link to strategy	Operation	Maximum opportunity
Encouraging employee share ownership	The Company operates an HM Revenue & Customs (HMRC)-approved SIP whereby UK employees, including Executive Directors, may elect to save a regular amount to be used to purchase shares. The Company currently grants one matching share in respect of every four shares purchased by the participant.	Participants may contribute up to £150 per month from pre-tax pay or such other maximum amount as determined by the Company within the parameters of applicable legislation.

Save As You Earn Share Option Scheme (SAYE)

Purpose and link to strategy	Operation	Maximum opportunity
Encouraging employee share ownership	The Company operates an HMRC-approved SAYE whereby UK employees, including Executive Directors, may save a regular amount over three or five years and are granted options to purchase shares at the end of the saving period. A maximum discount of 20% to the market price prevailing at the date of the commencement of the scheme applies to the option price.	Participants may save up to £500 per month from post-tax pay or such other maximum amount as determined by the Company within the parameters of applicable legislation. The maximum opportunity available to participants in a non UK-based all-employee share scheme will be determined by the Company within the parameters of applicable legislation.

Historical LTI: AstraZeneca Investment Plan (AZIP)

The final grant under the AZIP took place in 2016. All extant AZIP awards have completed the relevant four year performance period and are now subject to a holding period before vesting. The AZIP holding period lasts for four years following the performance period, so that vesting takes place on the eighth anniversary of the start of the performance period. The holding period attached to the 2016 AZIP award will end on 1 January 2024. During the holding period, no further performance measures apply. Payout of an award is subject to continued employment as further described in the Treatment of LTI and Deferred Bonus Plan awards on cessation of employment section on page 165. The shares equivalent in value to the dividends that would have been paid on the vesting shares during the performance and holding periods will be awarded to the Director.

The Committee has discretion to reduce or cancel any portion of an unvested award in certain circumstances (malus), including (i) serious misconduct by the individual; (ii) material misstatement or restatement of the results of the Group; or (iii) significant reputational damage to the Group. The Committee has discretion to claw-back from individuals some or all of the award in certain circumstances, including (i) serious misconduct by the individual (for up to six years from the end of the performance period); (ii) material misstatement or restatement of the results of the Group (for up to two years from the end of the performance period); or (iii) significant reputational damage to the Group (for up to two years from the end of the performance period).

Differences in remuneration policy for other employees

The Company's approach to determining and reviewing the base pay of the Executive Directors and the employee population as a whole is the same. On an annual basis the base pay for individual roles are reviewed in the context of the external market. AstraZeneca participates in annual global compensation surveys, which provide benchmarking data for all roles within the organisation, ensuring a robust base pay review process for all roles. Employee base pay is reviewed through our annual review process. The Company seeks to provide an appropriate range of competitive benefits, including healthcare and pension, to all employees (including Executive Directors) in the context of their local market.

Employees globally may be eligible for LTI awards in the form of the PSP and/or restricted stock units depending on their level and market. The occupants of senior roles in the Company are currently eligible for PSP awards – these are the leaders who have the ability to directly influence the execution of the Company's strategic goals. A proportion of each Senior Executive Team (SET) member's annual bonus is deferred into shares under the DBP. An LTI award may be used for the same purpose as described above on the recruitment of employees, or, for employees other than Directors, for retention.

Remuneration Policy for Executive Directors *continued*

Remuneration scenarios for Executive Directors

The charts below illustrate how much the current Executive Directors could receive under different performance scenarios in 2021. Dividend equivalents payable in respect of PSP awards are not included in the scenarios. To compile the charts, the following assumptions have been made:

Minimum remuneration

> base pay is that applicable in 2021
> taxable benefits are those included in the Executive Directors' realised pay table for 2020, as set out in the table on page 138
> pension value is 11% of base pay

	Base pay £'000	Taxable benefits £'000	Pension £'000	Total £'000
Pascal Soriot (CEO)	1,327	121	146	1,594
Marc Dunoyer (CFO)	788	79	87	954

Remuneration for performance in line with the Company's expectations

> annual bonus payout is equivalent to 125% of 2021 base pay for Pascal Soriot and 100% of 2021 base pay for Marc Dunoyer
> PSP share award vesting at 325% of 2021 base pay for Pascal Soriot and 225% of 2021 base pay for Marc Dunoyer (representing 50% of the face value of the PSP award)

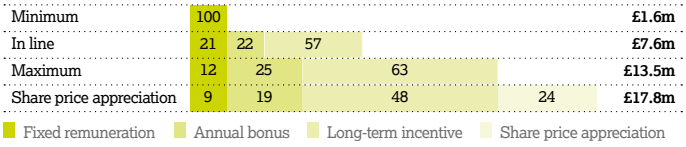
Maximum remuneration

> annual bonus payout equivalent to 250% of 2021 base pay for Pascal Soriot and 200% of 2021 base pay for Marc Dunoyer
> PSP share award vesting at 650% of 2021 base pay for Pascal Soriot and 450% of 2021 base pay for Marc Dunoyer (representing 100% of the face value of the PSP award)

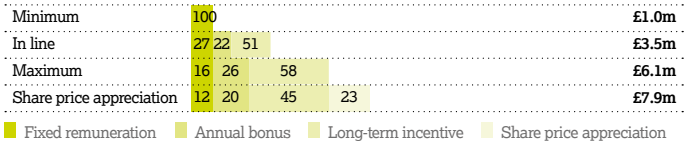
Share price appreciation

> the potential impact of share price appreciation on PSP award values in the maximum remuneration scenario is illustrated, assuming a 50% increase on the share price at grant

Pascal Soriot (%)



Marc Dunoyer (%)



Approach to recruitment remuneration for Executive Directors

On the recruitment of a new Executive Director, the Committee seeks to pay no more than is necessary to attract and retain the best candidate available, within the limits of our approved Remuneration Policy. The Committee will offer a remuneration package that it considers appropriate in the particular circumstances of the recruitment, giving due regard to the interests of the Company's shareholders and taking into account factors such as typical market practice, existing arrangements for the other Executive Directors, internal relativities and market positioning.

The pharmaceutical industry is global, and future Executive Directors might be recruited from organisations with pay structures and practices that differ from AstraZeneca's usual Remuneration Policy. The Committee believes that it is in the interests of shareholders for it to retain an element of flexibility in its approach to recruitment to enable it to attract the best candidates; however, this flexibility is limited.

The Committee may find it necessary to compensate a new recruit for forfeiture of entitlements as a consequence of the recruit leaving his or her previous employment to join AstraZeneca. There is no limit to the value of such buy-out award, however the Committee will rigorously consider the appropriate value so as not to pay more than the compensation being forfeited. The Committee will seek to offer a package weighted towards equity in the Company, and will usually seek to use the PSP as the primary vehicle for buy-out awards where possible; however, the precise nature of the compensation arrangement will depend on the type of entitlement being forfeited. The arrangement might therefore comprise a combination of cash, share awards granted under the PSP (subject to the Policy maximum), and other restricted shares. The Committee may introduce a one-off arrangement as permitted under Listing Rule 9.4.2 in order to deliver a restricted share award. Malus and claw-back provisions would normally apply to buy-out awards, for the same reasons as detailed under the DBP and PSP.

Restricted share awards will only be granted as part of recruitment arrangements to compensate for loss of remuneration opportunities suffered on leaving previous employment.

The Committee considers whether the lost incentives were subject to performance targets and their probability of vesting. The normal approach is to seek broadly to mirror the timing of vesting and application of performance targets of the compensation being forfeited. For example, a buy-out award may be granted without performance conditions where the foregone compensation was not subject to performance testing, however the Committee may apply appropriate performance measures if it considers it appropriate.

The Committee may allow a restricted share award to vest in tranches at different points. If no performance targets are attached to a compensatory award, it will vest in full if the individual remains in employment on the vesting date. On vesting, shares equivalent in value to the dividends that would have been paid during the vesting period will be awarded to the Director.

All other aspects of a new recruit's compensation opportunity will be subject to the maxima stated in the Policy. In the case of Group employees who are promoted internally to the position of Executive Director, the Committee intends to honour all remuneration arrangements entered into before the promotion.

The Company may reimburse the costs of financial planning, legal and tax advice and reasonable costs incurred on recruitment, including relocation support.

Service contracts for Executive Directors

Save as noted below, it is not intended that service contracts for new Executive Directors will contain terms that are materially different from those summarised below or contained in the Policy as set out in this Remuneration Policy Report. The contractual obligations below are applicable to each of the current Executive Directors unless stated otherwise. Copies of the Executive Directors' service contracts can be inspected at the Company's Registered Office.

Notice period	The service contracts of Executive Directors do not have a fixed term but the Company may terminate employment by giving not less than 12 months' written notice. The Company may agree on appointment that any notice given by the Company will not expire prior to the second anniversary of the commencement date of the Executive Director's appointment. Executive Directors may terminate their employment on 12 months' written notice.
Payments in lieu of notice	The Company may terminate an Executive Director's contract at any time with immediate effect and pay a sum in lieu of notice. This sum will consist of (i) the base pay that they would have been entitled to receive during the notice period and (ii) the cost to the Company of funding the benefit arrangements for this period, including the Company's contribution in respect of pension.
Garden leave	The Company has the right to place the Executive Director on 'garden leave'.
Summary termination	The Company may terminate employment summarily in particular defined circumstances such as gross misconduct, with no further payment.
Payments in lieu of holiday	If, on termination, the Executive Director has exceeded their accrued holiday entitlement, the value of this excess may be deducted by the Company from any sums payable. If the Executive Director has unused holiday entitlement, the Committee has discretion to require the Executive Director to take such unused holiday during any notice period or make a payment in lieu of it calculated in the same way as the value of any excess holiday.
Directors' and officers' liability insurance	Directors' and officers' liability insurance and an indemnity to the fullest extent permitted by law and the Company's Articles is provided for the duration of an Executive Director's employment and for a minimum of five years following termination.

Principles of payment for loss of office for Executive Directors

The Company does not make additional payments for loss of office, other than, as appropriate, payments in lieu of notice as described above or payments in respect of damages if the Company terminates an Executive Director's service contract in breach of contract (taking into account, as appropriate, the Director's responsibility to mitigate any losses). The Committee has discretion to award payments in certain circumstances, as set out on the following page, depending on the nature of the termination and the Executive Director's performance. The LTI plans are governed by plan rules, which define how individual awards under those plans should be treated upon termination of employment and corporate activity, including sale of a business outside the Group. The treatment of awards in these circumstances will be determined according to the rules and subject to Committee discretion. Aside from the reasons relating to corporate activity, generally, awards under LTI plans will only be allowed to vest for those Executive Directors who leave the Company in circumstances such as ill-health, injury, disability, redundancy or retirement, or any other reason the Committee considers appropriate, or where employment terminates by reason of the Executive Director's death (see the table on page 165 for further information). Awards that are allowed to vest will typically be pro-rated for time, subject to the Committee's discretion. In addition to any payment in lieu of notice, the individual components of remuneration and other payments which may be payable on loss of office are set out on the following pages, subject to the terms of any applicable bonus rules or share plan rules. No awards will vest where an individual has been dismissed for cause.

Remuneration Policy for Executive Directors *continued*

Annual bonus
At the discretion of the Committee, an Executive Director may receive a bonus for the performance year in which they leave the Company. Typically, this sum will reflect a bonus pro-rated for the part of the year in which they worked. This will depend on the circumstances, including an assessment of performance against the scorecard and the Executive Director's performance in the relevant period and the circumstances of their departure, and may be in such proportion of cash and/or shares as the Committee will determine. The deferred share element of previous bonuses granted, and any deferred share element of the bonus awarded in respect of the departing year, may still vest for the benefit of the departing Executive Director at the end of the period of deferral. The Committee has the discretion to accelerate and/or retain the deferral period and allow shares to vest for the benefit of the Executive Director on their departure and/or in accordance with the vesting schedule as the case may be.

LTI plans
The LTI plan rules envisage circumstances under which some, all or none of the shares held under LTI plans will vest in connection with departure. The exact timing and number of shares vesting will depend on the circumstances, including the reason for leaving (as set out in the table on page 165) and may be subject to Committee discretion, depending on what it considers to be fair and reasonable in the circumstances.

Restricted share awards
The treatment on termination will depend upon the terms of the individual Executive Director's awards on recruitment. The Committee has discretion to determine the treatment at the time of departure based on what it considers to be fair and reasonable in the circumstances.

Non-statutory redundancy payment
Executive Directors are not entitled to non-statutory redundancy payments.

Pension contributions and other benefits
Pension contributions and other benefits for Executive Directors will be payable up to the termination date or as part of a payment in lieu of notice as described on page 163.

Payments in relation to statutory rights
The amount considered reasonable to pay by the Committee in respect of statutory rights may be included in the overall termination payment.

Payments required by law
The Committee reserves the right to make any other payments in connection with an Executive Director's cessation of office or employment where the payments are made in good faith in discharge of an existing legal obligation (or by way of damages for breach of such an obligation) or by way of settlement of any claim arising in connection with the cessation of an Executive Director's office or employment.

Mitigation
The departing Executive Director will be required to mitigate their loss by using reasonable efforts to secure new employment.

Professional fees
The Company may pay an amount considered reasonable by the Committee in respect of fees for legal and tax advice, and outplacement support for the departing Executive Director.

Treatment of LTI and Deferred Bonus Plan awards on cessation of employment

Plan	Termination by mutual agreement (broadly in circumstances of ill-health, injury, disability, redundancy or retirement and in the case of death and certain corporate events e.g. sale of a business outside the Group)	Other leaver scenarios
Deferred Bonus Plan (Annual bonus)	Awards will vest at the end of the relevant deferral period, unless the Committee decides otherwise.	Ordinarily awards will lapse unless the Committee exercises its discretion to apply the treatment for leavers by mutual agreement.
PSP	Where cessation of employment occurs within three years of the date of grant, awards will vest, pro rata, to the time elapsed between the date of grant of the award and the date of cessation of employment, after the end of the performance period, to the extent that the performance target(s) measured over the performance period has been met. However, the Committee has discretion to permit the award to vest immediately on cessation of employment to the extent that the performance target(s) has, in the opinion of the Committee, been satisfied from the date of grant to the date of cessation of employment. However, if the Committee believes that exceptional circumstances warrant this, it may exercise its discretion to vest the award on another basis. Where cessation of employment occurs during any holding period, the award will vest in respect of all the shares that continue to be subject to the award as soon as practicable following the cessation of employment. However, the Committee has discretion to require the award to vest only at the end of the holding period.	Other than during a holding period, ordinarily awards will lapse unless the Committee exercises its discretion to preserve all or part of an award and apply the default treatment for leavers by mutual agreement as described in this table. This discretion will not be exercised in the case of dismissal for gross misconduct.
AZIP	The final grant under the AZIP took place in 2016. All extant AZIP awards have completed the relevant performance period and are now subject to a holding period before vesting. Death, ill-health, injury or disability: > in the holding period: the award will vest in respect of all the shares that continue to be subject to the award as soon as practicable following the cessation of employment. Redundancy, retirement or certain corporate events (e.g. sale of a business outside the Group): > in the holding period: the award will vest in respect of all shares that continue to be subject to the award at the earlier of the end of the holding period or the end of the period of 24 months from the date of cessation of employment. Where the Committee terminates an Executive Director's employment (other than for gross misconduct) during the holding period, the awards will vest on the same basis. In each case described above, the Committee has discretion to vest the award or part of the award on a different basis.	Ordinarily awards will lapse unless the Committee exercises its discretion to apply the default treatment for leavers by reason of redundancy or retirement described in this table.
Restricted shares	In relation to awards granted at the time of the Executive Director's recruitment to the Company in compensation for any awards or bonuses forfeited at his or her previous employer, the award will vest on the date his or her employment ceases. The Committee will, in its discretion, determine the proportion of shares which vests, and (unless exceptional circumstances apply) take into account the period elapsed between the date of grant and the date of cessation of employment.	Ordinarily awards will lapse unless the Committee exercises its discretion to preserve all or part of an award.

Remuneration Policy
continued

Remuneration Policy for Non-Executive Directors

Non-Executive Directors, including the Chairman, receive annual Board fees. With the exception of the Chairman, Non-Executive Directors receive additional fees for membership and chairmanship of Board Committees and for holding the position of senior independent Non-Executive Director. Non-Executive Directors are not eligible for performance-related bonuses or to participate in any of the Company's share-based incentive plans. No pension contributions are made on their behalf. The annual Board fees applicable to Non-Executive Directors are set out in the Annual Report on Remuneration. Changes to these fees in future years will be set out in the corresponding year's Annual Report on Remuneration. The remuneration of Non-Executive Directors (excluding the Chairman) is determined by the Chairman and the Executive Directors. The remuneration of the Chairman is determined by the other members of the Committee and the senior independent Non-Executive Director.

Annual Board fees

Purpose and link to strategy	Operation	Maximum opportunity
Intended to attract, retain and develop high-calibre individuals	Board fees for Non-Executive Directors are subject to periodic review and may be increased in the future to ensure that they remain sufficient to attract high-calibre individuals while remaining fair and proportionate. Although Non-Executive Directors currently receive their fees in cash, the Company may pay part or all of their fees in the form of shares. Non-Executive Directors are eligible to receive a base fee and additional fees where appropriate to reflect any additional time commitment or duties (e.g. being the Chairman of a Committee). The fee structure is set out in the Annual Report on Remuneration.	The aggregate ordinary remuneration of the Non-Executive Directors shall not exceed the maximum specified in Articles 88 and 89 of the Company's Articles, as approved by the Company's shareholders. As at the date of this Policy, the maximum aggregate remuneration is £2,250,000 per annum and any Non-Executive Director who serves on any Board Committee may be paid such extra remuneration as the Board may determine.

Benefits

Purpose and link to strategy	Operation	Maximum opportunity
Intended to attract and retain high-calibre individuals	The Company also provides directors' and officers' liability insurance and an indemnity to the fullest extent permitted by law and the Company's Articles and may also reimburse the costs of financial planning and tax advice.	The maximum amount payable in respect of these costs and cost of insurance will be the reimbursement of the Non-Executive Directors' benefits grossed up for any tax payable by the individual.

Other costs and expenses

Purpose and link to strategy	Operation	Maximum opportunity
Intended to reimburse individuals for legitimately incurred costs and expenses	In addition to the Chairman's fee, the office costs of the Chairman may be reimbursed. In 2021, this amounted to £73,000. The amount of office costs to be reimbursed each year will be determined at the discretion of the Committee, based on an assessment of the reasonable requirements of the Chairman. The Committee has the discretion to approve contributions by the Company to office costs of other Non-Executive Directors in circumstances where such payments are deemed proportionate and reasonable. The Company will pay for all travel (including travel to the Company's offices), hotel and other expenses reasonably incurred by Non-Executive Directors (and any associated tax thereon) in the course of the Company's business, for example, professional fees such as secretarial support, and reimbursement for domestic security arrangements such as lights and alarms following a security assessment. There are no contractual provisions for claw-back or malus of other costs and expenses.	The maximum amounts payable in respect of these costs and expenses will be the reimbursement of the Non-Executive Directors' costs and expenses grossed up for any tax payable by the individual.

Letters of appointment

None of the Non-Executive Directors has a service contract but each has a letter of appointment. The terms and conditions of appointment of Non-Executive Directors may be viewed on the Governance page of the AstraZeneca website, at www.astrazeneca.com. In accordance with the Company's Articles, following their appointment, all Directors must retire at each AGM and may present themselves for re-election. The Company is mindful of the director independence provisions of the 2018 UK Corporate Governance Code and, in this regard, a Non-Executive Director's overall tenure will not normally exceed nine years. The Chairman may terminate his appointment at any time, on three months' notice. None of the other Non-Executive Directors has a notice period or any provision in their letter of appointment giving them a right to compensation upon early termination of appointment.

On behalf of the Board

A C N Kemp
Company Secretary
11 February 2021

Financial Statements

Key

KJ Key Judgement

SE Significant Estimates

Preparation of the Financial Statements and Directors' Responsibilities

The Directors are responsible for preparing this Annual Report and Form 20-F Information and the Group and Parent Company Financial Statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare Financial Statements for each financial year. Under that law the Directors have prepared the Group Financial Statements in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and Parent Company Financial Statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law). Additionally, the Financial Conduct Authority's Disclosure Guidance and Transparency Rules require the Directors to prepare the Group Financial Statements in accordance with international financial reporting standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union. In preparing the Group Financial Statements, the Directors have also elected to comply with international financial reporting standards issued by the International Accounting Standards Board (IASB).

Under company law, the Directors must not approve the Financial Statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Parent Company and of their profit or loss for that period. In preparing each of the Group and Parent Company Financial Statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently
- make judgements and estimates that are reasonable and prudent
- for the Group Financial Statements, state whether they have been prepared in accordance with IFRSs as adopted by the EU
- for the Parent Company Financial Statements, state whether FRS 101 has been followed, subject to any material departures disclosed and explained in the Parent Company Financial Statements
- prepare the Financial Statements on the going concern basis unless it is inappropriate to presume that the Group and the Parent Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Parent Company's transactions and disclose with reasonable accuracy at any time the financial position of the Parent Company and enable them to ensure that its Financial Statements comply with the Companies Act 2006. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations, the Directors are also responsible for preparing a Directors' Report, Strategic Report, Directors' Remuneration Report, Corporate Governance Report and Audit Committee Report that comply with that law and those regulations.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on our website. Legislation in the UK governing the preparation and dissemination of Financial Statements may differ from legislation in other jurisdictions.

Directors' responsibility statement pursuant to DTR 4

The Directors confirm that to the best of our knowledge:

- the Financial Statements, prepared in accordance with the applicable set of accounting standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and the undertakings included in the consolidation taken as a whole
- the Directors' Report includes a fair review of the development and performance of the business and the position of the issuer and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face.

On behalf of the Board of Directors on 11 February 2021

Pascal Soriot
Director

Directors' Annual Report on Internal Controls over Financial Reporting

The Directors are responsible for establishing and maintaining adequate internal control over financial reporting. AstraZeneca's internal control over financial reporting is designed to provide reasonable assurance over the reliability of financial reporting and the preparation of consolidated Financial Statements in accordance with generally accepted accounting principles.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

The Directors assessed the effectiveness of AstraZeneca's internal control over financial reporting as at 31 December 2020 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework (2013). Based on this assessment, the Directors believe that, as at 31 December 2020, the internal control over financial reporting is effective based on those criteria.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the effectiveness of internal control over financial reporting as at 31 December 2020 and has issued an unqualified report thereon.

Independent auditors' report to the members of AstraZeneca PLC

Report on the audit of the financial statements

Opinion

In our opinion:

- AstraZeneca PLC's Group Financial Statements and Parent Company Financial Statements (the 'financial statements') give a true and fair view of the state of the Group's and of the Parent Company's affairs as at 31 December 2020 and of the Group's profit and the Group's cash flows for the year then ended;
- the Group Financial Statements have been properly prepared in accordance with International Accounting Standards in conformity with the requirements of the Companies Act 2006;
- the Parent Company Financial Statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework', and applicable law); and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual Report and Form 20-F Information 2020 (the 'Annual Report'), which comprise: the Consolidated Statement of Financial Position as at 31 December 2020; the Consolidated Statement of Comprehensive Income, the Consolidated Statement of Changes in Equity, and the Consolidated Statement of Cash Flows for the year then ended; the Group Accounting Policies; the Notes to the Group Financial Statements; the Company Balance Sheet as at 31 December 2020; the Company Statement of Changes in Equity for the year then ended; the Company Accounting Policies; and the Notes to the Company Financial Statements.

Our opinion is consistent with our reporting to the Audit Committee.

Separate opinion in relation to International Financial Reporting Standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union

As explained in the Group Accounting Policies to the Group Financial Statements, the Group, in addition to applying International Accounting Standards in conformity with the requirements of the Companies Act 2006, has also applied International Financial Reporting Standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

In our opinion, the Group Financial Statements have been properly prepared in accordance with International Financial Reporting Standards adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union.

Separate opinion in relation to International Financial Reporting Standards as issued by the International Accounting Standards Board

As also explained in the Group Accounting Policies to the Group Financial Statements, the Group has applied International Financial Reporting Standards as issued by the International Accounting Standards Board.

In our opinion, the Group Financial Statements have been properly prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ('ISAs (UK)') and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by the FRC's Ethical Standard were not provided to the Group.

Other than those disclosed in Note 30 to the financial statements, we have provided no non-audit services to the Group in the period under audit.

Our audit approach

Overview

Audit scope

- We identified 12 reporting components which required a full scope audit of their complete financial information, either due to their size or risk characteristics. These components are the principal operating units in the US, UK (two components), Sweden, China (two components), Japan, France, Germany and Brazil as well as the Parent Company and AstraZeneca Treasury.
- We also identified a further 15 reporting components which had one or more individual balances that were considered significant to the Group's Financial Statements. For these components our work was solely focussed on the audit of one or more of the following financial statement line items: revenue, accounts receivable, inventory, research and development expense, taxation and/or property, plant and equipment.
- We also identified four shared service centres where audit procedures were performed over certain shared service functions for transaction processing. Audit procedures were performed centrally in relation to various Group functions, including pensions, goodwill, intangible assets (excluding software), other investments and litigation matters, as well as the consolidation.
- The above procedures accounted for 87% of the Group's revenue and over 76% of the Group's absolute profit before tax.

Key audit matters

- Recognition and measurement of accruals for certain rebates in the US (Group)
- Assessment of the recoverability of the carrying value of intangible assets (product, marketing and distribution rights and other intangible assets) (Group)
- Recognition and measurement of litigation provisions and contingent liabilities in both the Group and the Parent Company (Group and Parent Company)
- Recognition and measurement of uncertain tax positions (Group)
- Valuation of the Group's defined benefit obligations (Group)
- Impact of COVID-19 (Group)

Materiality

- Overall Group materiality: $200m (2019: $140m) based on approximately 5% of profit before tax after adding back intangible asset impairment charges (Note 10), fair value movements and discount unwind on contingent consideration (Note 20) and the discount unwind on the Acerta Pharma put option liability (Note 3) and material legal settlements (Note 21).
- Overall Parent Company materiality: $100m (2019: $50m) based on approximately 0.5% of net assets as constrained by the allocation of overall Group materiality.
- Performance materiality: $150m (Group) and $75m (Parent Company).

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Capability of the audit in detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined in the Auditors' responsibilities for the audit of the financial statements section, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

Based on our understanding of the Group and the industry in which it operates, we identified that the principal risks of non-compliance with laws and regulations related to patent protection, product safety (including but not limited to the US Food and Drug Administration regulation), competition law (including but not limited to the Foreign Corrupt Practices Act) and tax legislation, and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the preparation of the financial statements such as the Companies Act 2006. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls), and determined that the principal risks were related to posting inappropriate journal entries to manipulate financial results and potential management bias in accounting estimates. The Group engagement team shared this risk assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the Group engagement team and/or component auditors included:

- Evaluation and testing of the operating effectiveness of management's controls designed to prevent and detect irregularities;
- Discussions with VP Group Internal Audit, the Deputy Chief Compliance Officer and the Group's General Counsel and Deputy General Counsels, including consideration of known or suspected instances of non-compliance with laws and regulations and fraud;
- Assessment of matters reported on the Group's whistleblowing helpline and the results of management's investigation of such matters;
- Challenging assumptions made by management in its significant accounting estimates, in particular in relation to the recognition and measurement of certain rebate accruals in the US, the impairment of intangible assets (excluding goodwill and software assets), the recognition and measurement of legal provisions and contingent liabilities, the recognition and measurement of uncertain tax positions, and the valuation of the defined benefit obligations (see related key audit matters below); and
- Identifying and testing the validity of journal entries, in particular any journal entries posted with unusual account combinations, journals posted by senior management and consolidation journals.

There are inherent limitations in the audit procedures described above. We are less likely to become aware of instances of non-compliance with laws and regulations that are not closely related to events and transactions reflected in the financial statements. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

This is not a complete list of all risks identified by our audit.

Impact of COVID-19 is a new key audit matter this year. The recognition and measurement of accruals for certain rebates in the US key audit matter also included the US returns accrual last year; in 2020 we determined that this does not involve significant management estimation. Otherwise, the key audit matters below are consistent with last year.

Key audit matter	How our audit addressed the key audit matter
Recognition and measurement of accruals for certain rebates in the US (Group) *Refer to Audit Committee Report, Group Accounting Policies and Notes 1 and 20 in the Group Financial Statements* In the US the Group sells to customers under various commercial and government mandated contracts and reimbursement arrangements that include rebates of which the most significant are Medicare Part D, Managed Care and Medicaid. Rebates provided to customers under these arrangements are accounted for as variable consideration, and recognised as a reduction in revenue, for which unsettled amounts are accrued. Management has determined an accrual of $3,126m to be necessary at 31 December 2020 (2019: $3,385m). There is significant measurement uncertainty involved in developing these accruals, as the reserves are based on assumptions developed using contractual and mandated terms with customers, historical experience, and market related information in the US. Changes in these estimates (individually or in combination) can have a significant financial impact.	We evaluated the design and tested the operating effectiveness of controls relating to the assumptions used to estimate the accruals for the Medicare Part D, Managed Care and Medicaid rebate arrangements. We determined that we could rely on these controls for the purposes of our audit. We obtained management's calculations for the accruals for the Medicare Part D, Managed Care and Medicaid rebate arrangements and assessed management's calculations. We: - developed an independent expectation of these accruals using the terms of the specific rebate programmes, third party information on prices and market conditions in the US and the historical trend of actual rebate claims paid; - compared the independent estimate to management's estimates recorded by the Group; - considered the historical accuracy of the Group's estimates in previous years and the effect of any adjustments to prior years' accruals in the current year's results; and - tested rebate claims processed by the Group, including evaluating those claims for consistency with the contractual and mandated terms of the Group's arrangements. Based on the procedures performed, we did not identify any material misstatements in the accrual. We also evaluated the disclosures in Note 1 and Note 20, which we considered appropriate.

Independent auditors' report to the members of AstraZeneca PLC *continued*

Key audit matter	How our audit addressed the key audit matter
Assessment of the recoverability of the carrying value of intangible assets (product, marketing and distribution rights and other intangible assets) (Group) *Refer to Audit Committee Report, Group Accounting Policies and Note 10 in the Group Financial Statements* The Group has product, marketing and distribution rights and other intangible assets (hereafter the intangible assets) totalling $20,627m at 31 December 2020 (2019: $20,601m). Those intangible assets under development and not available for use are tested annually for impairment and other intangible assets are tested when there is an indication of impairment. The recoverability of the carrying values of intangible assets is contingent on future cash flows and/or the outcome of research and development (R&D) activities. The determination of the recoverable amounts include significant estimates, which are highly sensitive and depend upon key assumptions including the probability of technical and regulatory success and amount and timing of projected future cash flows (in particular peak year sales and sales erosion curves). Future cash flows include the impact of COVID-19 if relevant. Changes in these assumptions could have an impact on the recoverable amount of intangible assets. During 2020, $240m (2019: $1,031m) of impairment charges (net of impairment reversals of $165m; 2019: $3m) were recorded (of which $55m (2019: $609m) was recorded in Research and development expenses and $185m (2019: $425m) within Selling, general and administrative costs) as a result of the impairment review conducted by management. There is no headroom in the recoverable amount calculation for those partially impaired assets and they are inherently sensitive to any variations in assumptions, which could give rise to future impairments.	We evaluated the design and tested the operating effectiveness of controls over management's assessment of the impairment of intangible assets. We determined that we could rely on these controls for the purposes of our audit. For those assets or cash generating units which we selected based on our risk assessment to be in scope for our audit we: > tested management's process for determining the recoverable amount; > evaluated the appropriateness of the methodology used in the impairment models; > tested the completeness and accuracy of the models as well as the underlying data used in the models, including reconciling the cash flows to the Board approved Long Range Plan (which includes the impact of COVID-19); and > evaluated the significant assumptions used by management in determining future cash flows, including the probability of technical and regulatory success, peak year sales and sales erosion curves, and considering the potential future impact of COVID-19 in the future cash flows. In evaluating the reasonableness of management's assumptions we: > compared significant assumptions (including management's probability of technical and regulatory success, peak year sales assumptions and sales erosion curves) to external data and benchmarks; and > performed a retrospective comparison of forecasted revenues and costs to actual past performance. We utilised our in-house valuation experts to assess the valuation techniques used and to assist with the evaluation of certain key assumptions for higher risk assets (primarily the probability of technical and regulatory success). As a result of our work, we determined that the net impairment charge of $240m recorded for intangible assets was reasonable. We considered the disclosures in Note 10 of the Group Financial Statements, including sensitivity analysis based on reasonably possible downsides. We are satisfied that these disclosures are appropriate.
Recognition and measurement of legal provisions and contingent liabilities in both the Group and the Parent Company (Group and Parent Company) *Refer to Audit Committee Report, Group Accounting Policies, Notes 21 and 29 in the Group Financial Statements* *Refer to Company Accounting Policies and Note 5 in the Parent Company Financial Statements* The Group is engaged in a number of legal proceedings, including patent litigation, product liability, commercial litigation, and government investigations/ proceedings. At 31 December 2020 the Group held provisions of $348m (2019: $642m) in respect of legal claims and settlements (together, legal provisions) and disclosed the more significant legal proceedings as contingent liabilities in Note 29 of the Group Financial Statements. The Parent Company is also named in two of these legal proceedings, as disclosed in Note 5 in the Parent Company Financial Statements. There is significant judgement by management when assessing the likelihood of a loss being incurred and in determining whether a reasonable estimate can be made for the loss or range of loss for each legal claim.	We evaluated the design and tested the operating effectiveness of controls in respect of the recognition and measurement of legal matters and related disclosures. We determined that we could rely on these controls for the purposes of our audit. We obtained and evaluated letters of audit inquiry with the Group's internal and external legal counsel. We tested the completeness of management's assessment of both the identification of legal claims and possible outcomes of each legal claim. This included assessment of whether the Parent Company was named as a party to these legal claims. We evaluated management's judgement that each of the claims set out in Note 29 represents a contingent liability and that for one matter management is unable to estimate the possible loss or range of possible losses at this stage. For the provisions recorded we consider them to be appropriate. We evaluated the disclosures in Notes 21 and 29 of the Group Financial Statements and Note 5 in the Parent Company Financial Statements and considered them to be appropriate.
Recognition and measurement of uncertain tax positions (Group) *Refer to Audit Committee Report, Group Accounting Policies and Note 29 in the Group Financial Statements* The Group operates in a complex multinational tax environment and is subject to a range of tax risks, leading to uncertain tax positions which arise in the normal course of business, including transaction related tax matters, transfer pricing arrangements and a number of audits and reviews with tax authorities, and in some cases is in dispute with tax authorities. At 31 December 2020 the Group recorded provisions of $1,014m (2019: $1,027m) in respect of these uncertain tax positions. As disclosed in Note 29, accruals can be built up over a long period of time but the ultimate resolution of tax exposures usually occurs at a point in time. Given the inherent uncertainties in management's assessments of the outcomes of these exposures, there could, in future periods, be adjustments to these accruals that have a material positive or negative effect on the results in any particular period.	We evaluated the design and tested the operating effectiveness of controls in respect of the identification, recognition and measurement of uncertain tax positions. We determined that we could rely on these controls for the purposes of our audit. We tested the completeness of management's assessment of both the identification of tax contingencies and the possible outcomes of each tax contingency. We also evaluated the status and results of tax audits and enquiries with the relevant tax authorities. With the assistance of our local and international tax specialists, we tested the information used in the calculation of the probability of different outcomes for tax contingencies and the determination of the liability for those tax contingencies by jurisdiction, including management's assessment of the technical merits of tax positions (including where relevant evaluating any advice received from the Group's external advisors) and estimates of the amount of tax benefit expected to be sustained. We noted that the assumptions and judgements that are required to determine the accruals mean that there is a range of possible outcomes. However, from the evidence obtained, we considered the level of provisioning to be acceptable in the context of the Group Financial Statements taken as a whole. We considered the disclosures in Note 29 of the Group Financial Statements. We are satisfied that these disclosures are appropriate.

Key audit matter	How our audit addressed the key audit matter
Valuation of the Group's defined benefit obligations (Group) *Refer to Audit Committee Report, Group Accounting Policies and Note 22 in the Group Financial Statements* The Group has defined benefit obligations of $13,870m at 31 December 2020 (2019: $12,412m), which is significant in the context of the overall balance sheet. The Group's most significant schemes are in the UK, the US and Sweden, which comprise 90% of the Group's defined benefit obligations. The valuation of pension plan obligations requires estimation in determining appropriate assumptions such as salary increases, mortality, discount rates and inflation levels. Movements in these assumptions can have a material impact on the determination of the defined benefit obligations. Management uses external actuaries to assist in determining these material assumptions.	We evaluated the design and tested the operating effectiveness of controls in respect of the determination of the Group's most significant defined benefit obligations. We determined that we could rely on these controls for the purposes of our audit. We used our actuarial experts to assess whether the assumptions used in calculating the defined benefit obligations for the UK, the US and Sweden were reasonable. We assessed whether salary increases (for the Sweden scheme) and mortality assumptions were consistent with the specifics of each plan and, where applicable, with relevant independently developed ranges considering national information. Additionally our actuarial experts evaluated whether the discount rates (for each scheme) and inflation rates (for the UK and Sweden schemes) used were consistent with independently developed ranges and in line with other companies' recent external reporting. We also assessed management's methodology used to determine the discount rate (for each scheme) and inflation assumptions (relevant to the UK and Sweden schemes) to ensure that this is in line with the requirements of IAS 19 and that any changes in methodologies were appropriate. We evaluated the calculations prepared by management's external actuaries to assess the impact of the assumptions used on the Group Financial Statements. Based on our procedures, we noted no exceptions and considered management's key assumptions to be within reasonable ranges. We assessed the appropriateness of the related disclosures in Note 22 of the Group Financial Statements and considered them to be reasonable.
Impact of COVID-19 (Group) *Refer to Audit Committee Report, Group Accounting Policies and Notes 2 and 20 in the Group Financial Statements* The directors have considered the impact of COVID-19 on the Group's operations (including the effects of any governmental or regulatory response to the pandemic), and mitigations to the risks identified. As regards the financial statements, we consider the key estimate impacted by COVID-19 to be the Group's intangible asset impairment assessment, as discussed in the key audit matter entitled 'Assessment of the recoverability of the carrying value of intangible assets'. The Group has entered into an arrangement with the University of Oxford for the global development, production and supply of the COVID-19 Vaccine AstraZeneca ('C19VAZ') vaccine. The Group has entered into a number of advanced sales agreements, grants and licensing arrangements in relation to the development, production and sale of C19VAZ for which the Group has recognised vaccine contract liabilities of $1,616m, deferred government grant income of $253m and government grant income of $161m. The Group has also entered into an agreement for the development of AZD7442 for which the Group has recognised grant income of $61m. In addition, management's way of working, including the operation of controls, has been impacted by COVID-19 as a result of a large number of employees working remotely and using technology enabled working practices. For example, this has meant virtual review meetings, electronic review processes (in place of hardcopy reviews) and some stock counts being performed using virtual technology tools.	We reviewed management's assessment of the impact of the uncertainty presented by the COVID-19 pandemic and considered its completeness. The key audit matter entitled "Assessment of the recoverability of the carrying value of intangible assets" sets out how our audit considered the impact of COVID-19 on the Group's annual impairment assessment. Based on our work undertaken across the Group and after considering the other areas identified in management's assessment, we did not identify any other material impacts of COVID-19 on the Group's key judgements and/or significant estimates. As regards the arrangements for the global development, production and supply of C19VAZ, we: > evaluated the design and tested the operating effectiveness of controls in place; > read the underlying contracts and management's accounting analysis; > vouched upfront payments received to bank statements and verified underlying transactions on a sample basis to supporting evidence; and > considered the appropriateness of the disclosures in the Annual Report. Based on the procedures performed we consider the accounting treatment and disclosures for C19VAZ and AZD7442 to be appropriate. We performed procedures to assess any control implications arising from the change in management's ways of working. We determined that we could rely on the controls for the purposes of our audit. We also increased the oversight of our component teams, using video conferencing and remote workpaper reviews to satisfy ourselves as to the sufficiency of audit work performed at the significant and material components.

Independent auditors' report to the members of AstraZeneca PLC *continued*

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the Group and the Parent Company, the accounting processes and controls, and the industry in which they operate.

In establishing the overall approach to the Group audit, we determined the type of work that needed to be performed by us, as the Group engagement team, or component auditors within PwC UK and other PwC network firms operating under our instruction. Where the work was performed by component auditors, we determined the level of involvement we needed to have in the audit work in these territories to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the Group Financial Statements as a whole.

The Group operates in over 100 countries and the size of operations within each territory varies. We identified 12 reporting components which, in our view, required a full scope audit of their complete financial information, due to their size or risk characteristics. These are the principal operating units in the US, UK (two components), Sweden, China (two components), Japan, France, Germany and Brazil as well as the Parent Company and AstraZeneca Treasury.

We also identified a further 15 reporting components which had one or more individual balances that were considered significant to the Group's Financial Statements. For these components our work was solely focussed on the audit of one or more of the following financial statement line items: revenue, accounts receivable, inventory, research and development expense, taxation and/or property, plant and equipment. We also identified four shared service centres where audit procedures were performed over certain shared service functions for transaction processing. Audit procedures were performed centrally in relation to various Group functions, including pensions, goodwill, intangible assets (excluding software), other investments and litigation matters, as well as the consolidation. Our Group engagement team's involvement in the audits of the reporting components was performed virtually and included regular meetings with component auditors, reviews of the component auditors' planned response to significant risks and the review of auditor working paper reviews for material reporting components. We attended meetings with local management alongside the component auditors for all full scope and other material components.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Financial statements – Group	Financial statements – Parent Company
Overall materiality	$200m (2019: $140m).	$100m (2019: $50m).
How we determined it	Approximately 5% of profit before tax after adding back intangible asset impairment charges (Note 10), fair value movements and discount unwind on contingent consideration (Note 20) and the discount unwind on the Acerta Pharma put option liability (Note 3) and material legal settlements (Note 21).	Approximately 0.5% of net assets as constrained by the allocation of overall Group materiality
Rationale for benchmark applied	The reported profit of the Group can fluctuate due to intangible asset impairment charges, fair value and discount unwind movements on contingent consideration and the Acerta Pharma put option liability, and material legal settlements. These amounts are prone to year on year volatility and are not necessarily reflective of the operating performance of the Group and as such they have been excluded from the benchmark amount.	We have considered the nature of the business of AstraZeneca PLC (being holding company investment activities) and have determined that net assets is an appropriate basis for the calculation of the overall materiality level.

For each component in the scope of our Group audit, we allocated a materiality that is less than our overall Group materiality. The range of materiality allocated across components was between $20m and $130m. Certain components were audited to a local statutory audit materiality that was also less than our overall Group materiality. We use performance materiality to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds overall materiality. Specifically, we use performance materiality in determining the scope of our audit and the nature and extent of our testing of account balances, classes of transactions and disclosures, for example in determining sample sizes. Our performance materiality was 75% of overall materiality, amounting to US$150m for the Group Financial Statements and US$75m for the Parent Company Financial Statements.

In determining the performance materiality, we considered a number of factors – the history of misstatements, risk assessment and aggregation risk, and the effectiveness of controls – and concluded that an amount at the upper end of our normal range was appropriate.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above $10m (Group audit) (2019: $7m) and $10m (Parent Company audit) (2019: $7m) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

Our evaluation of the directors' assessment of the Group's and the Parent Company's ability to continue to adopt the going concern basis of accounting included:

- agreeing the underlying cash flow projections to management approved forecasts, assessing how these forecasts are compiled, and assessing the accuracy of management's forecasts;
- evaluating the key assumptions within management's forecasts;
- considering liquidity and available financial resources;
- assessing whether the stress testing performed by management appropriately considered the principal risks facing the business; and
- evaluating the feasibility of management's mitigating actions in the stress testing scenarios.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Group's and the Parent Company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

However, because not all future events or conditions can be predicted, this conclusion is not a guarantee as to the Group's and the Parent Company's ability to continue as a going concern.

In relation to the Group's and the Parent Company's reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the

audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic Report and Directors' Report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on our work undertaken in the course of the audit, the Companies Act 2006 requires us also to report certain opinions and matters as described below.

Strategic Report and Directors' Report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic Report and Directors' Report for the year ended 31 December 2020 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the Group and Parent Company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic Report and Directors' Report.

Directors' Remuneration

In our opinion, the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

Corporate governance statement

The Listing Rules require us to review the directors' statements in relation to going concern, longer-term viability and that part of the corporate governance statement relating to the Parent Company's compliance with the provisions of the UK Corporate Governance Code specified for our review.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement, included within the Corporate Governance Report, is materially consistent with the financial statements and our knowledge obtained during the audit, and we have nothing material to add or draw attention to in relation to:

- The directors' confirmation that they have carried out a robust assessment of the emerging and principal risks;
- The disclosures in the Annual Report and Form 20-F Information 2020 that describe those principal risks, what procedures are in place to identify emerging risks and an explanation of how these are being managed or mitigated;
- The directors' statement in the financial statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them, and their identification of any material uncertainties to the Group's and Parent Company's ability to continue to do so over a period of at least twelve months from the date of approval of the financial statements;
- The directors' explanation as to their assessment of the Group's and Parent Company's prospects, the period this assessment covers and why the period is appropriate; and
- The directors' statement as to whether they have a reasonable expectation that the Parent Company will be able to continue in operation and meet its liabilities as they fall due over the period of its assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

Our review of the directors' statement regarding the longer-term viability of the Group was substantially less in scope than an audit and only consisted of making inquiries and considering the directors' process supporting their statement; checking that the statement is in alignment with the relevant provisions of the UK Corporate Governance Code; and considering whether the statement is consistent with the financial statements and our knowledge and understanding of the Group and Parent Company and their environment obtained in the course of the audit.

In addition, based on the work undertaken as part of our audit, we have concluded that each of the following elements of the corporate governance statement is materially consistent with the financial statements and our knowledge obtained during the audit:

- The directors' statement that they consider the Annual Report, taken as a whole, is fair, balanced and understandable, and provides the information necessary for the members to assess the Group's and Parent Company's position, performance, business model and strategy;
- The section of the Annual Report and Form 20-F Information 2020 that describes the review of effectiveness of risk management and internal control systems; and
- The section describing the work of the Audit Committee.

We have nothing to report in respect of our responsibility to report when the directors' statement relating to the Parent Company's compliance with the Code does not properly disclose a departure from a relevant provision of the Code specified under the Listing Rules for review by the auditors.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Preparation of the Financial Statements and Directors' Responsibilities, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements the directors are responsible for assessing the Group's and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or the Parent Company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Our audit testing might include testing complete populations of certain transactions and balances, possibly using data auditing techniques. However, it typically involves selecting a limited number of items for testing, rather than testing complete populations. We will often seek to target particular items for testing based on their size or risk characteristics. In other cases, we will use audit sampling to enable us to draw a conclusion about the population from which the sample is selected.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the Parent Company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not obtained all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the Parent Company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- a corporate governance statement has not been prepared by the Parent Company.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the Audit Committee, we were appointed by the members on 27 April 2017 to audit the financial statements for the year ended 31 December 2017 and subsequent financial periods. The period of total uninterrupted engagement is four years, covering the years ended 31 December 2017 to 31 December 2020.

Richard Hughes (Senior Statutory Auditor)
for and on behalf of
PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London
11 February 2021

Consolidated Statement of Comprehensive Income
for the year ended 31 December

	Notes	2020 $m	2019 $m	2018 $m
Product Sales	1	**25,890**	23,565	21,049
Collaboration Revenue	1	**727**	819	1,041
Total Revenue		**26,617**	24,384	22,090
Cost of sales		**(5,299)**	(4,921)	(4,936)
Gross profit		**21,318**	19,463	17,154
Distribution costs		**(399)**	(339)	(331)
Research and development expense	2	**(5,991)**	(6,059)	(5,932)
Selling, general and administrative costs	2	**(11,294)**	(11,682)	(10,031)
Other operating income and expense	2	**1,528**	1,541	2,527
Operating profit		**5,162**	2,924	3,387
Finance income	3	**87**	172	138
Finance expense	3	**(1,306)**	(1,432)	(1,419)
Share of after tax losses in associates and joint ventures	11	**(27)**	(116)	(113)
Profit before tax		**3,916**	1,548	1,993
Taxation	4	**(772)**	(321)	57
Profit for the period		**3,144**	1,227	2,050
Other comprehensive income:				
Items that will not be reclassified to profit or loss:				
Remeasurement of the defined benefit pension liability	22	**(168)**	(364)	(46)
Net gains/(losses) on equity investments measured at fair value through other comprehensive income		**938**	(28)	(171)
Fair value movements related to own credit risk on bonds designated as fair value through profit and loss		**(1)**	(5)	8
Tax on items that will not be reclassified to profit or loss	4	**(81)**	21	56
		688	(376)	(153)
Items that may be reclassified subsequently to profit or loss:				
Foreign exchange arising on consolidation	23	**443**	40	(450)
Foreign exchange arising on designated borrowings in net investment hedges	23	**573**	(252)	(520)
Fair value movements on cash flow hedges		**180**	(101)	(37)
Fair value movements on cash flow hedges transferred to profit and loss		**(254)**	52	111
Fair value movements on derivatives designated in net investment hedges	23	**8**	35	(8)
Gains/(costs) of hedging		**9**	(47)	(54)
Amortisation of loss on cash flow hedge		**–**	–	1
Tax on items that may be reclassified subsequently to profit or loss	4	**(39)**	38	51
		920	(235)	(906)
Other comprehensive income/(loss) for the period, net of tax		**1,608**	(611)	(1,059)
Total comprehensive income for the period		**4,752**	616	991
Profit attributable to:				
Owners of the Parent		**3,196**	1,335	2,155
Non-controlling interests	26	**(52)**	(108)	(105)
Total comprehensive income attributable to:				
Owners of the Parent		**4,804**	723	1,097
Non-controlling interests	26	**(52)**	(107)	(106)
Basic earnings per $0.25 Ordinary Share	5	**$2.44**	$1.03	$1.70
Diluted earnings per $0.25 Ordinary Share	5	**$2.44**	$1.03	$1.70
Weighted average number of Ordinary Shares in issue (millions)	5	**1,312**	1,301	1,267
Diluted weighted average number of Ordinary Shares in issue (millions)	5	**1,313**	1,301	1,267
Dividends declared and paid in the period	25	**3,668**	3,579	3,539

All activities were in respect of continuing operations.

$m means millions of US dollars.

Consolidated Statement of Financial Position
at 31 December

	Notes	2020 $m	2019 $m	2018 $m
Assets				
Non-current assets				
Property, plant and equipment	7	**8,251**	7,688	7,421
Right-of-use assets	8	**666**	647	–
Goodwill	9	**11,845**	11,668	11,707
Intangible assets	10	**20,947**	20,833	21,959
Investments in associates and joint ventures	11	**39**	58	89
Other investments	12	**1,108**	1,401	833
Derivative financial instruments	13	**171**	61	157
Other receivables	14	**720**	740	515
Deferred tax assets	4	**3,438**	2,718	2,379
		47,185	45,814	45,060
Current assets				
Inventories	15	**4,024**	3,193	2,890
Trade and other receivables	16	**7,022**	5,761	5,574
Other investments	12	**160**	849	849
Derivative financial instruments	13	**142**	36	258
Income tax receivable		**364**	285	207
Cash and cash equivalents	17	**7,832**	5,369	4,831
Assets held for sale	18	**–**	70	982
		19,544	15,563	15,591
Total assets		**66,729**	61,377	60,651
Liabilities				
Current liabilities				
Interest-bearing loans and borrowings	19	**(2,194)**	(1,822)	(1,754)
Lease liabilities	8	**(192)**	(188)	–
Trade and other payables	20	**(15,785)**	(13,987)	(12,841)
Derivative financial instruments	13	**(33)**	(36)	(27)
Provisions	21	**(976)**	(723)	(506)
Income tax payable		**(1,127)**	(1,361)	(1,164)
		(20,307)	(18,117)	(16,292)
Non-current liabilities				
Interest-bearing loans and borrowings	19	**(17,505)**	(15,730)	(17,359)
Lease liabilities	8	**(489)**	(487)	–
Derivative financial instruments	13	**(2)**	(18)	(4)
Deferred tax liabilities	4	**(2,918)**	(2,490)	(3,286)
Retirement benefit obligations	22	**(3,202)**	(2,807)	(2,511)
Provisions	21	**(584)**	(841)	(385)
Other payables	20	**(6,084)**	(6,291)	(6,770)
		(30,784)	(28,664)	(30,315)
Total liabilities		**(51,091)**	(46,781)	(46,607)
Net assets		**15,638**	14,596	14,044
Equity				
Capital and reserves attributable to equity holders of the Company				
Share capital	24	**328**	328	317
Share premium account		**7,971**	7,941	4,427
Capital redemption reserve		**153**	153	153
Merger reserve		**448**	448	448
Other reserves	23	**1,423**	1,445	1,440
Retained earnings	23	**5,299**	2,812	5,683
		15,622	13,127	12,468
Non-controlling interests	26	**16**	1,469	1,576
Total equity		**15,638**	14,596	14,044

The Financial Statements from pages 176 to 237 were approved by the Board and were signed on its behalf by

Pascal Soriot
Director
11 February 2021

Marc Dunoyer
Director

Consolidated Statement of Changes in Equity
for the year ended 31 December

	Share capital $m	Share premium account $m	Capital redemption reserve $m	Merger reserve $m	Other reserves $m	Retained earnings $m	Total attributable to owners $m	Non-controlling interests $m	Total equity $m
At 1 January 2018	317	4,393	153	448	1,428	8,221	14,960	1,682	16,642
Adoption of new accounting standards[1]	–	–	–	–	–	(91)	(91)	–	(91)
Profit for the period	–	–	–	–	–	2,155	2,155	(105)	2,050
Other comprehensive loss[2]	–	–	–	–	–	(1,058)	(1,058)	(1)	(1,059)
Transfer to other reserves[3]	–	–	–	–	12	(12)	–	–	–
Transactions with owners									
Dividends	–	–	–	–	–	(3,539)	(3,539)	–	(3,539)
Issue of Ordinary Shares	–	34	–	–	–	–	34	–	34
Share-based payments charge for the period (Note 28)	–	–	–	–	–	219	219	–	219
Settlement of share plan awards	–	–	–	–	–	(212)	(212)	–	(212)
Net movement	–	34	–	–	12	(2,538)	(2,492)	(106)	(2,598)
At 31 December 2018	317	4,427	153	448	1,440	5,683	12,468	1,576	14,044
Adoption of new accounting standards[4]	–	–	–	–	–	54	54	–	54
Profit for the period	–	–	–	–	–	1,335	1,335	(108)	1,227
Other comprehensive loss[2]	–	–	–	–	–	(612)	(612)	1	(611)
Transfer to other reserves[3]	–	–	–	–	5	(5)	–	–	–
Transactions with owners									
Dividends	–	–	–	–	–	(3,579)	(3,579)	–	(3,579)
Issue of Ordinary Shares	11	3,514	–	–	–	–	3,525	–	3,525
Share-based payments charge for the period (Note 28)	–	–	–	–	–	259	259	–	259
Settlement of share plan awards	–	–	–	–	–	(323)	(323)	–	(323)
Net movement	11	3,514	–	–	5	(2,871)	659	(107)	552
At 31 December 2019	328	7,941	153	448	1,445	2,812	13,127	1,469	14,596
Profit for the period	**–**	**–**	**–**	**–**	**–**	**3,196**	**3,196**	**(52)**	**3,144**
Other comprehensive income[2]	**–**	**–**	**–**	**–**	**–**	**1,608**	**1,608**	**–**	**1,608**
Transfer to other reserves[3, 5]	**–**	**–**	**–**	**–**	**(22)**	**1,423**	**1,401**	**(1,401)**	**–**
Transactions with owners									
Dividends	**–**	**–**	**–**	**–**	**–**	**(3,668)**	**(3,668)**	**–**	**(3,668)**
Issue of Ordinary Shares	**–**	**30**	**–**	**–**	**–**	**–**	**30**	**–**	**30**
Share-based payments charge for the period (Note 28)	**–**	**–**	**–**	**–**	**–**	**277**	**277**	**–**	**277**
Settlement of share plan awards	**–**	**–**	**–**	**–**	**–**	**(349)**	**(349)**	**–**	**(349)**
Net movement	**–**	**30**	**–**	**–**	**(22)**	**2,487**	**2,495**	**(1,453)**	**1,042**
At 31 December 2020	**328**	**7,971**	**153**	**448**	**1,423**	**5,299**	**15,622**	**16**	**15,638**

[1] The Group adopted IFRS 15 'Revenue from Customers' from 1 January 2018.
[2] Included within Other comprehensive income of $1,608m (2019: loss of $611m, 2018: loss of $1,059m) is a gain of $9m (2019: charge of $47m, 2018: charge of $54m), relating to Costs of hedging.
[3] Amounts charged or credited to other reserves relate to exchange adjustments arising on goodwill.
[4] The Group adopted IFRIC 23 'Uncertainty over Income Tax Treatments' from 1 January 2019. The cumulative effect of initially applying the interpretation was recognised as a decrease to income tax payable of $51m and to trade and other payables of $3m, and a corresponding adjustment to the opening balance of Retained earnings of $54m.
[5] The non-controlling interests reserve relating to the minority shareholders of Acerta Pharma, totalling $1,401m, has been reclassified into Retained earnings in 2020 (see Note 26).

Consolidated Statement of Cash Flows
for the year ended 31 December

	Notes	2020 $m	2019 $m	2018 $m
Cash flows from operating activities				
Profit before tax		**3,916**	1,548	1,993
Finance income and expense	3	**1,219**	1,260	1,281
Share of after tax losses of associates and joint ventures	11	**27**	116	113
Depreciation, amortisation and impairment		**3,149**	3,762	3,753
Increase in trade and other receivables		**(739)**	(898)	(523)
Increase in inventories		**(621)**	(316)	(13)
Increase/(decrease) in trade and other payables and provisions		**1,721**	868	(103)
Gains on disposal of intangible assets	2	**(1,030)**	(1,243)	(1,885)
Fair value movements on contingent consideration arising from business combinations	20	**(272)**	(614)	(495)
Non-cash and other movements	17	**(276)**	378	(290)
Cash generated from operations		**7,094**	4,861	3,831
Interest paid		**(733)**	(774)	(676)
Tax paid		**(1,562)**	(1,118)	(537)
Net cash inflow from operating activities[1]		**4,799**	2,969	2,618
Cash flows from investing activities				
Payment of contingent consideration from business combinations	20	**(822)**	(709)	(349)
Purchase of property, plant and equipment		**(961)**	(979)	(1,043)
Disposal of property, plant and equipment		**106**	37	12
Purchase of intangible assets		**(1,645)**	(1,481)	(328)
Disposal of intangible assets		**951**	2,076	2,338
Movement in profit-participation liability	2	**40**	150	–
Purchase of non-current asset investments		**(119)**	(13)	(102)
Disposal of non-current asset investments		**1,381**	18	24
Movement in short-term investments, fixed deposits and other investing instruments		**745**	194	405
Payments to associates and joint ventures	11	**(8)**	(74)	(187)
Interest received		**47**	124	193
Net cash (outflow)/inflow from investing activities		**(285)**	(657)	963
Net cash inflow before financing activities		**4,514**	2,312	3,581
Cash flows from financing activities				
Proceeds from issue of share capital		**30**	3,525	34
Issue of loans		**2,968**	500	2,971
Repayment of loans		**(1,609)**	(1,500)	(1,400)
Dividends paid		**(3,572)**	(3,592)	(3,484)
Hedge contracts relating to dividend payments		**(101)**	4	(67)
Repayment of obligations under leases		**(207)**	(186)	–
Movement in short-term borrowings		**288**	(516)	(98)
Net cash outflow from financing activities		**(2,203)**	(1,765)	(2,044)
Net increase in Cash and cash equivalents in the period		**2,311**	547	1,537
Cash and cash equivalents at the beginning of the period		**5,223**	4,671	3,172
Exchange rate effects		**12**	5	(38)
Cash and cash equivalents at the end of the period	17	**7,546**	5,223	4,671

[1] In 2020, $1,062m of Net cash inflow from operating activities related to *COVID-19 Vaccine AstraZeneca*-related activities (see Note 17).

Group Accounting Policies

Basis of accounting and preparation of financial information

The Consolidated Financial Statements have been prepared under the historical cost convention, modified to include revaluation to fair value of certain financial instruments as described below, in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and International Financial Reporting Standards (IFRSs) adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the EU. The Consolidated Financial Statements also comply fully with IFRSs as issued by the International Accounting Standards Board (IASB).

The Consolidated Financial Statements are presented in US dollars, which is the Company's functional currency.

In preparing their individual financial statements, the accounting policies of some overseas subsidiaries do not conform with IASB issued IFRSs. Therefore, where appropriate, adjustments are made in order to present the Consolidated Financial Statements on a consistent basis.

UK-adopted international accounting standards

On 31 December 2020 EU-adopted IFRS was brought into UK law and became UK-adopted international accounting standards, with future changes to IFRS being subject to endorsement by the UK Endorsement Board. The Consolidated Financial Statements will transition to UK-adopted international accounting standards for financial periods beginning 1 January 2021.

IFRS 3

An amendment to IFRS 3 'Business Combinations' relating to the definition of a business was endorsed by the EU in April 2020 with an effective date of 1 January 2020, which the Group has adopted from the effective date.

The change in definition of a business within IFRS 3 introduces an optional concentration test to perform a simplified assessment of whether an acquired set of activities and assets is or is not a business on a transaction by transaction basis. This change is expected to result in more consistency in accounting in the pharmaceutical industry for substantially similar transactions that, under the previous definition, may have been accounted for in different ways despite limited differences in substance.

The change would not have resulted in a different accounting treatment for any transactions undertaken during the prior year when compared with the previous version of IFRS 3.

IFRS 9, IFRS 7

The replacement of benchmark interest rates such as LIBOR and other interbank offered rates (IBORs) is a priority for global regulators and is expected to be largely completed in 2021. To prepare for this, the Group early adopted the Phase 1 amendments to IFRS 9 'Financial Instruments' and IFRS 7 'Financial Instruments: Disclosures' in 2019. These amendments provide relief from applying specific hedge accounting requirements to hedge relationships directly affected by IBOR reform and have the effect that the reform should generally not cause hedge accounting to terminate. There was no financial impact from the early adoption of these amendments. Further amendments (Phase 2) were issued on 27 August 2020 and the Group will apply these in 2021.

The Group has one IFRS 9 designated hedge relationship that is impacted by IBOR reform: our euro 300m cross currency interest rate swap in a fair value hedge relationship with euro 300m of our euro 750m 0.875% 2021 non-callable bond. This swap references three month USD LIBOR and uncertainty arising from the Group's exposure to IBOR reform will cease when the swap matures in 2021.

The implications on the wider business of IBOR reform have been assessed and the Group is currently preparing to move to the new benchmark rates in 2021.

Basis for preparation of Financial Statements on a going concern basis

The Group has considerable financial resources available. As at 31 December 2020, the Group has $12.1bn in financial resources (cash and cash equivalent balances of $7.8bn, $0.2bn of liquid fixed income securities and undrawn committed bank facilities of $4.1bn, of which $3.4bn is available until April 2024, $0.7bn is available until November 2021 (with a one-year extension option, exercisable by the Group), with only $2.4bn of borrowings due within one year). In addition, to support the financing of the acquisition of Alexion Pharmaceuticals, Inc., the Group entered into committed bank facilities totalling $17.5bn during December 2020. The facilities are intended to cover the financing of the cash portion of the acquisition consideration and associated acquisition costs and to refinance the existing term loan and revolving credit facilities of Alexion. All the facilities contain no financial covenants and were undrawn at 31 December 2020.

The Directors have considered the impact of COVID-19 on AstraZeneca's operations (including the effects of any governmental or regulatory response to the pandemic), and mitigations to these risks. Overall, the impact of these items would heighten certain risks, such as those relating to the delivery of the pipeline or launch of new medicines, the execution of AstraZeneca's commercial strategy, the manufacturing and supply of medicines and reliance on third-party goods and services. The Company is continuously monitoring, and mitigating where possible, impacts of these risks.

The Group's revenues are largely derived from sales of medicines covered by patents, which provide a relatively high level of resilience and predictability to cash inflows, although government price interventions in response to budgetary constraints are expected to continue to adversely affect revenues in many of the mature markets. The Group, however, anticipates new revenue streams from both recently launched medicines and products in development, and the Group has a wide diversity of customers and suppliers across different geographic areas.

Consequently, the Directors believe that, overall, the Group is well placed to manage its business risks successfully. Accordingly, they continue to adopt the going concern basis in preparing the Annual Report and Financial Statements.

Estimates and judgements

The preparation of the Financial Statements in conformity with generally accepted accounting principles requires management to make estimates and judgements that affect the reported amounts of assets and liabilities at the date of the Financial Statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The accounting policy descriptions set out the areas where judgements and estimates need exercising, the most significant of which include the following Key Judgements KJ and Significant Estimates SE:

- revenue recognition – see Revenue Accounting Policy on page 181 KJ and Note 1 on page 187 SE
- expensing of internal development expenses – see Research and Development Policy on page 182 KJ
- impairment reviews of Intangible assets – see Note 10 on page 199 SE
- useful economic life of Intangible assets – see Research and Development Policy on page 182 KJ and Note 10 on page 200 SE
- business combinations and Goodwill (and Contingent consideration arising from business combinations) – see Business Combinations and Goodwill Policy on page 184 KJ, Note 10 on page 200 KJ, and Note 20 on page 208 SE
- litigation liabilities – see Litigation and Environmental Liabilities within Note 29 on page 229 KJ
- operating segments – see Note 6 on page 193 KJ
- employee benefits – see Note 22 on page 216 SE
- taxation – see Taxation Policy on page 183 KJ and Note 29 on page 232. KJ SE

AstraZeneca has assessed the impact of the uncertainty presented by the COVID-19 pandemic on the Financial Statements, specifically considering the impact on key judgements and significant estimates along with several other areas of increased risk.

A detailed assessment has been performed, focusing on the following areas:

- recoverable value of goodwill, intangible assets and property, plant and equipment
- impact on key assumptions used to estimate contingent consideration liabilities
- key assumptions used in estimating the Group's defined benefit pension obligations
- basis for estimating clinical trial accruals
- key assumptions used in estimating rebates and chargebacks for US Product Sales
- valuations of unlisted equity investments
- expected credit losses associated with changes in credit risk relating to trade and other receivables
- net realisable value of inventories
- fair value of certain financial instruments
- recoverability of deferred tax assets
- effectiveness of hedge relationships.

No material accounting impacts relating to the areas assessed above were recognised in the year.

The Group will continue to monitor these areas of increased judgement, estimation and risk for material changes.

Financial risk management policies are detailed in Note 27 to the Financial Statements from page 219.

AstraZeneca's management considers the following to be the most important accounting policies in the context of the Group's operations.

Revenue

Revenue comprises Product Sales and Collaboration Revenue.

Product Sales are revenues arising from contracts with customers. Collaboration Revenue arises from other contracts, however, the recognition and measurement principles of IFRS 15 'Revenue from Contracts with Customers' are applied as set out below.

Revenue excludes inter-company revenues and value-added taxes.

Product Sales

Product Sales represent net invoice value less estimated rebates, returns and chargebacks, which are considered to be variable consideration and include significant estimates. Sales are recognised when the control of the goods has been transferred to a third party. This is usually when title passes to the customer, either on shipment or on receipt of goods by the customer, depending on local trading terms. In markets where returns are significant, estimates of returns are accounted for at the point revenue is recognised. Revenue is not recognised in full until it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur.

Rebates are amounts payable or credited to a customer, usually based on the quantity or value of Product Sales to the customer for specific products in a certain period. Product sales rebates, which relate to Product Sales that occur over a period of time, are normally issued retrospectively.

At the time Product Sales are invoiced, rebates and deductions that the Group expects to pay, are estimated. These rebates typically arise from sales contracts with government payers, third-party managed care organisations, hospitals, long-term care facilities, group purchasing organisations and various state programmes.

For the markets where returns are significant, we estimate the quantity and value of goods which may ultimately be returned at the point of sale. Our returns accruals are based on actual experience over the preceding 12 months for established products together with market-related information such as estimated stock levels at wholesalers and competitor activity which we receive via third-party information services. For newly launched products, we use rates based on our experience with similar products or a predetermined percentage.

When a product faces generic competition, particular attention is given to the possible levels of returns and, in cases where the circumstances are such that the level of Product Sales are considered highly probable to reverse, revenues are only recognised when the right of return expires, which is generally on ultimate prescription of the product to patients.

The methodology and assumptions used to estimate rebates and returns are monitored and adjusted regularly in the light of contractual and legal obligations, historical trends, past experience and projected market conditions. Once the uncertainty associated with returns is resolved, revenue is adjusted accordingly.

Under certain collaboration agreements which include a profit sharing mechanism, our recognition of Product Sales depends on which party acts as principal in sales to the end customer. In the cases where AstraZeneca acts as principal, we record 100% of sales to the end customer.

Contracts relating to the supply of *COVID-19 Vaccine AstraZeneca* during the COVID-19 pandemic include conditions whereby payments are receivable from customers in advance of the delivery of product. Such amounts are held on the balance sheet as contract liabilities until the related revenue is recognised, generally upon product delivery.

Certain of these contracts contain further provisions that restrict the use of inventory manufactured in specified supply chains to specified customers, resulting in an enforceable right to payment as the activities are performed. Under IFRS 15, such contracts require revenue to be recognised over time using an appropriate and reasonably measurable method to measure progress. Revenue is recognised on these contracts based on the proportion of product delivered compared to the total contracted volumes.

Collaboration Revenue

Collaboration Revenue includes income from collaborative arrangements where either the Group has sold certain rights associated with those products, but retains a significant ongoing economic interest or has acquired a significant interest from a third party. Significant interest can include ongoing supply of finished goods, participation in profit share arrangements or direct interest from sales of medicines.

These arrangements may include development arrangements, commercialisation arrangements and collaborations. Income may take the form of upfront fees, milestones, profit sharing and royalties and includes profit share income arising from sales made as principal by a collaboration partner.

KJ Timing of recognition of clinical and regulatory milestones is considered to be a key judgement. There can be significant uncertainty over whether it is highly probable that there would not be a significant reversal of revenue in respect of specific milestones if these are recognised before they are triggered due to them being subject to the actions of third parties. In general, where the triggering of a milestone is subject to the decisions of third parties (e.g. the acceptance or approval of a filing by a regulatory authority), the Group does not consider that the threshold for recognition is met until that decision is made.

Where Collaboration Revenue arises from the licensing of the Group's own intellectual property, the licences we grant are typically rights to use intellectual property which do not change during the period of the licence and therefore related non-conditional revenue is recognised at the point the license is granted and variable consideration as soon as recognition criteria are met. Those licences are generally unique and therefore when there are other performance obligations in the contract, the basis of allocation of the consideration makes use of the residual approach as permitted by IFRS 15.

These arrangements typically involve the receipt of an upfront payment, which the contract attributes to the license of the intangible assets, and ongoing receipts, which the contract attributes to the sale of the product we manufacture. In cases where the transaction has two or more components, we account for

the delivered item (for example, the transfer of title to the intangible asset) as a separate unit of accounting and record revenue on delivery of that component, provided that we can make a reasonable estimate of the fair value of the undelivered component.

Where non-contingent amounts are payable over one year from the effective date of a contract, an assessment is made as to whether a significant financing component exists, and if so, the fair value of this component is deferred and recognised over the period to the expected date of receipt.

Where control of a right to use an intangible asset passes at the outset of an arrangement, revenue is recognised at the point in time control is transferred. Where the substance of an arrangement is that of a right to access rights attributable to an intangible asset, revenue is recognised over time, normally on a straight-line basis over the life of the contract.

Where the fair market value of the undelivered component (for example, a manufacturing agreement) exceeds the contracted price for that component, we defer an appropriate element of the upfront consideration and amortise this over the performance period. However, where the fair market value of the undelivered component is equal to or lower than the contracted price for that component, we treat the whole of the upfront amount as being attributable to the delivered intangible assets and recognise that part of the revenue upon delivery. No element of the contracted revenue related to the undelivered component is ordinarily allocated to the sale of the intangible asset. This is because the contracted revenue relating to the undelivered component is contingent on future events (such as sales) and cannot be recognised until either receipt of the amount is highly probable or where the consideration is received for a licence of intellectual property, on the occurrence of the related sales.

Where the Group provides ongoing services, revenue in respect of this element is recognised over the duration of those services. Where the arrangement meets the definition of a licence agreement, sales milestones and sales royalties are recognised when achieved by applying the royalty exemption under IFRS 15. All other milestones and sales royalties are recognised when considered it is highly probable there will not be a significant reversal of income. The determination requires estimates to be made in relation to future Product Sales.

Where Collaboration Revenue is recorded and there is a related Intangible asset that is licensed as part of the arrangement, an appropriate amount of that Intangible asset is charged to Cost of sales based on an allocation of cost or value to the rights that have been licenced.

Cost of sales

Cost of sales are recognised as the associated revenue is recognised. Cost of sales include manufacturing costs, royalties payable on revenues recognised, movements in provisions for inventories, inventory write-offs and impairment charges in relation to manufacturing assets. Cost of sales also includes co-collaborator profit shares arising from collaborations, and foreign exchange gains and losses arising from business trading activities.

Research and development

Research expenditure is charged to profit and loss in the year in which it is incurred.

KJ Internal development expenditure is capitalised only if it meets the recognition criteria of IAS 38 'Intangible Assets'. This is considered a key judgement. Where regulatory and other uncertainties are such that the criteria are not met, the expenditure is charged to profit and loss and this is almost invariably the case prior to approval of the drug by the relevant regulatory authority. Where, however, recognition criteria are met, Intangible assets are capitalised and amortised on a straight-line basis over their useful economic lives from product launch. At 31 December 2020, no amounts have met the recognition criteria.

Payments to in-license products and compounds from third parties for new research and development projects (in process research and development) generally take the form of upfront payments, milestones and royalty payments. Where payments made to third parties represent consideration for future research and development activities, an evaluation is made as to the nature of the payments. Such payments are expensed if they represent compensation for sub-contracted research and development services not resulting in a transfer of intellectual property. By contrast, payments are capitalised if they represent compensation for the transfer of identifiable intellectual property developed at the risk of the third party. Development milestone payments relating to identifiable intellectual property are capitalised as the milestone is triggered. Any upfront or milestone payments for research activities where there is no associated identifiable intellectual property are expensed. Assets capitalised are amortised, on a straight-line basis, over their useful economic lives from product launch.

KJ The determination of useful economic life is considered to be a key judgement. On product launch, the Group makes a judgement as to the expected useful economic life with reference to the expiry of associated patents for the product, expectation around the competitive environment specific to the product and our detailed long-term risk-adjusted sales projections compiled annually across the Group and approved by the Board. The useful economic life can extend beyond patent expiry dependent upon the nature of the product and the complexity of the development and manufacturing process. Significant sales can often be achieved post patent expiration.

Intangible assets

Intangible assets are stated at cost less amortisation and impairments. Intangible assets relating to products in development are subject to impairment testing annually. All Intangible assets are tested for impairment when there are indications that the carrying value may not be recoverable. The determination of the recoverable amounts include key estimates which are highly sensitive to, and depend upon, key assumptions as detailed in Note 10 to the Financial Statements from page 198.

Impairment reviews have been carried out on all Intangible assets that are in development (and not being amortised), all major intangible assets acquired during the year and all other intangible assets that have had indications of impairment during the year. Recoverable amount is determined as the higher of value in use or fair value less costs to sell using a discounted cash flow calculation, where the products' expected cash flows are risk-adjusted over their estimated remaining useful economic life. The determination of the recoverable amounts include significant estimates which are highly sensitive and depend upon key assumptions as detailed in Note 10 to the Financial Statements from page 198. Sales forecasts and specific allocated costs (which have both been subject to appropriate senior management review and approval) are risk-adjusted and discounted using appropriate rates based on our post-tax weighted average cost of capital or for fair value less costs to sell, a required rate of return for a market participant. Our weighted average cost of capital reflects factors such as our capital structure and our costs of debt and equity.

Any impairment losses are recognised immediately in profit. Intangible assets relating to products which fail during development (or for which development ceases for other reasons) are also tested for impairment and are written down to their recoverable amount (which is usually nil).

If, subsequent to an impairment loss being recognised, development restarts or other facts and circumstances change indicating that the impairment is less or no longer exists, the value of the asset is re-estimated and its carrying value is increased to the recoverable amount, but not exceeding the original value, by recognising an impairment reversal in operating profit.

Government grants

Government grants are recognised in the Consolidated Statement of Comprehensive Income so as to match with the related expenses that they are intended to compensate. Where grants are received in advance of the related expenses, they are initially recognised in the Consolidated Statement of Financial Position under Trade and other payables as deferred income and released to net off against the related expenditure when incurred.

Each contract is assessed to determine whether there are both grant elements and supply of product which need to be separated. In each case, the contracts set out the specified terms for the supply of the product and the provisions for funding for certain costs, primarily research and development associated with the IP. It is considered whether there are any conditions for the funding to be refunded. The consideration in the contract is allocated between the grant and supply elements. The standalone selling price for the supply of products is determined by reference to observed prices with other customers. The amount allocated as a government grant is determined by reference to the specific agreed costs and activities identified in the contract as not directly attributable to the supply of product. Government grants are recorded as an offset to the relevant expense in the Income Statement and are capped to match the relevant costs incurred.

Joint arrangements and associates

The Group has arrangements over which it has joint control and which qualify as joint operations or joint ventures under IFRS 11 'Joint Arrangements'. For joint operations, the Group recognises its share of revenue that it earns from the joint operations and its share of expenses incurred. The Group also recognises the assets associated with the joint operations that it controls and the liabilities it incurs under the joint arrangement. For joint ventures and associates, the Group recognises its interest in the joint venture or associate as an investment and uses the equity method of accounting.

Employee benefits

The Group accounts for pensions and other employee benefits (principally healthcare) under IAS 19 'Employee Benefits' and recognises all actuarial gains and losses immediately through Other comprehensive income. In respect of defined benefit plans, obligations are measured at discounted present value while plan assets are measured at fair value. Given the extent of the assumptions used to determine these values, these are considered to be significant estimates. The operating and financing costs of such plans are recognised separately in profit, current service costs are spread systematically over the lives of employees and financing costs are recognised in full in the periods in which they arise. Remeasurements of the net defined benefit pension liability, including actuarial gains and losses, are recognised immediately in Other comprehensive income.

Where the calculation results in a surplus to the Group, the recognised asset is limited to the present value of any available future refunds from the plan or reductions in future contributions to the plan. Payments to defined contribution plans are recognised in profit as they fall due.

Taxation

The current tax payable is based on taxable profit for the year. Taxable profit differs from reported profit because taxable profit excludes items that are either never taxable or tax deductible or items that are taxable or tax deductible in a different period. The Group's current tax assets and liabilities are calculated using tax rates that have been enacted or substantively enacted by the reporting date.

KJ Deferred tax is provided using the balance sheet liability method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the asset can be utilised. This requires judgements to be made in respect of the availability of future taxable income.

No deferred tax asset or liability is recognised in respect of temporary differences associated with investments in subsidiaries and branches where the Group is able to control the timing of reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

The Group's Deferred tax assets and liabilities are calculated using tax rates that are expected to apply in the period when the liability is settled or the asset realised based on tax rates that have been enacted or substantively enacted by the reporting date.

Accruals for tax contingencies require management to make judgements of potential exposures in relation to tax audit issues. Tax benefits are not recognised unless the tax positions will probably be accepted by the tax authorities. This is based upon management's interpretation of applicable laws and regulations and the expectation of how the tax authority will resolve the matter. Once considered probable of not being accepted, management reviews each material tax benefit and reflects the effect of the uncertainty in determining the related taxable result.

Accruals for tax contingencies are measured using either the most likely amount or the expected value amount depending on which method the entity expects to better predict the resolution of the uncertainty.

Further details of the estimates and assumptions made in determining our recorded liability for transfer pricing contingencies and other tax contingencies are included in Note 29 to the Financial Statements from page 232.

Share-based payments

All plans have been classified as equity settled after assessment. The grant date fair value of employee share plan awards is calculated using a Monte Carlo model. In accordance with IFRS 2 'Share-based Payment', the resulting cost is recognised in profit over the vesting period of the awards, being the period in which the services are received. The value of the charge is adjusted to reflect expected and actual levels of awards vesting, except where the failure to vest is as a result of not meeting a market condition. Cancellations of equity instruments are treated as an acceleration of the vesting period and any outstanding charge is recognised in profit immediately.

Property, plant and equipment

The Group's policy is to write off the difference between the cost of each item of Property, plant and equipment and its residual value over its estimated useful life on a straight-line basis. Assets under construction are not depreciated.

Reviews are made annually of the estimated remaining lives and residual values of individual productive assets, taking account of commercial and technological obsolescence as well as normal wear and tear. It is impractical to calculate average asset lives exactly. However, the total lives range from approximately 10 to 50 years for buildings, and three to 15 years for plant and equipment. All items of Property, plant and equipment are tested for impairment when there are indications that the carrying value may not be recoverable. Any impairment losses are recognised immediately in operating profit.

Borrowing costs

The Group has no borrowing costs with respect to the acquisition or construction of qualifying assets. All other borrowing costs are recognised in profit as incurred and in accordance with the effective interest rate method.

Leases

Accounting policy applied from 1 January 2019 (IFRS 16)

The Group's lease arrangements are principally for property, most notably a portfolio of office premises and employee accommodation, and for a global car fleet, utilised primarily by our sales and marketing teams.

The lease liability and corresponding right-of-use asset arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments, less any lease incentives receivable
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date

- the exercise price of a purchase option if the Group is reasonably certain to exercise that option
- payments of penalties for terminating the lease, if the lease term reflects the Group exercising that option, and
- amounts expected to be payable by the Group under residual value guarantees.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs.

Judgements made in calculating the lease liability include assessing whether arrangements contain a lease and determining the lease term. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. Property leases will often include an early termination or extension option to the lease term. Fleet management policies vary by jurisdiction and may include renewal of a lease until a measurement threshold, such as mileage, is reached. Extension and termination options have been considered when determining the lease term, along with all facts and circumstances that may create an economic incentive to exercise an extension option, or not exercise a termination option. Extension periods (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

The lease payments are discounted using incremental borrowing rates, as in the majority of leases held by the Group the interest rate implicit in the lease is not readily identifiable. Calculating the discount rate is an estimate made in calculating the lease liability. This rate is the rate that the Group would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions. To determine the incremental borrowing rate, the Group uses a risk-free interest rate adjusted for credit risk, adjusting for terms specific to the lease including term, country and currency.

The Group is exposed to potential future increases in variable lease payments that are based on an index or rate, which are initially measured as at the commencement date, with any future changes in the index or rate excluded from the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Lease payments are allocated between principal and finance cost. The finance cost is charged to the Consolidated Statement of Comprehensive Income over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Payments associated with short-term leases of Property, plant and equipment and all leases of low-value assets are recognised on a straight-line basis as an expense in the Consolidated Statement of Comprehensive Income. Short-term leases are leases with a lease term of 12 months or less. Low-value leases are those where the underlying asset value, when new, is $5,000 or less and includes IT equipment and small items of office furniture.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices.

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. It is impractical to calculate average asset lives exactly. However, the total lives range from approximately 10 to 50 years for buildings, and three to 15 years for motor vehicles and other assets.

There are no material lease agreements under which the Group is a lessor.

Accounting policy applied until 1 January 2019 (IAS 17)

Leases are classified as finance leases if they transfer substantively all the risks and rewards incidental to ownership, otherwise they are classified as operating leases. Assets and liabilities arising on finance leases are initially recognised at fair value or, if lower, the present value of the minimum lease payments. The discount rate used in calculating the present value of the minimum lease payments is the interest rate implicit in the lease. Finance charges under finance leases are allocated to each reporting period so as to produce a constant periodic rate of interest on the remaining balance of the finance liability. Rentals under operating leases are charged to profit and loss on a straight-line basis.

Business combinations and goodwill

In assessing whether an acquired set of assets and activities is a business or an asset, management will first elect whether to apply an optional concentration test to simplify the assessment. Where the concentration test is applied, the acquisition will be treated as the acquisition of an asset if substantially all of the fair value of the gross assets acquired (excluding cash and cash equivalents, deferred tax assets, and related goodwill) is concentrated in a single asset or group of similar identifiable assets.

Where the concentration test is not applied, or is not met, a further assessment of whether the acquired set of assets and activities is a business will be performed.

KJ The determination of whether an acquired set of assets and activities is a business or an asset can be judgemental, particularly if the target is not producing outputs. Management uses a number of factors to make this determination, which are primarily focused on whether the acquired set of assets and activities include substantive processes that mean the set is capable of being managed for the purpose of providing a return. Key determining factors include the stage of development of any assets acquired, the readiness and ability of the acquired set to produce outputs and the presence of key experienced employees capable of conducting activities required to develop or manufacture the assets. Typically, the specialised nature of many pharmaceutical assets and processes is such that until assets are substantively ready for production and promotion, there are not the required processes for a set of assets and activities to meet the definition of a business in IFRS 3.

On the acquisition of a business, fair values are attributed to the identifiable assets and liabilities. Attributing fair values is a judgement. Contingent liabilities are also recorded at fair value unless the fair value cannot be measured reliably, in which case the value is subsumed into goodwill. Where the Group fully acquires, through a business combination, assets that were previously held in joint operations, the Group has elected not to uplift the book value of the existing interest in the asset held in the joint operation to fair value at the date full control is taken. Where fair values of acquired contingent liabilities cannot be measured reliably, the assumed contingent liability is not recognised but is disclosed in the same manner as other contingent liabilities.

Where not all of the equity of a subsidiary is acquired, the non-controlling interest is recognised either at fair value or at the non-controlling interest's proportionate share of the net assets of the subsidiary, on a case-by-case basis. Put options over non-controlling interests are recognised as a financial liability, with a corresponding entry in either Retained earnings or against non-controlling interest reserves on a case-by-case basis.

The timing and amount of future contingent elements of consideration is considered a significant estimate. Contingent consideration, which may include development and launch milestones, revenue threshold milestones and

revenue-based royalties, is fair valued at the date of acquisition using decision-tree analysis with key inputs including probability of success, consideration of potential delays and revenue projections based on the Group's internal forecasts. Unsettled amounts of consideration are held at fair value within payables with changes in fair value recognised immediately in profit.

Goodwill is the difference between the fair value of the consideration and the fair value of net assets acquired.

Goodwill arising on acquisitions is capitalised and subject to an impairment review, both annually and when there is an indication that the carrying value may not be recoverable.

The Group's policy up to and including 1997 was to eliminate Goodwill arising upon acquisitions against reserves. Under IFRS 1 'First-time Adoption of International Financial Reporting Standards' and IFRS 3 'Business Combinations', such Goodwill will remain eliminated against reserves.

Subsidiaries

A subsidiary is an entity controlled, directly or indirectly, by AstraZeneca PLC. Control is regarded as the exposure or rights to the variable returns of the entity when combined with the power to affect those returns.

The financial results of subsidiaries are consolidated from the date control is obtained until the date that control ceases.

Inventories

Inventories are stated at the lower of cost and net realisable value. The first in, first out or an average method of valuation is used. For finished goods and work in progress, cost includes directly attributable costs and certain overhead expenses (including depreciation). Selling expenses and certain other overhead expenses (principally central administration costs) are excluded. Net realisable value is determined as estimated selling price less all estimated costs of completion and costs to be incurred in selling and distribution.

Write-downs of inventory occur in the general course of business and are recognised in Cost of sales for launched or approved products and in Research and development expense for products in development.

Assets held for sale

Non-current assets are classified as assets held for sale when their carrying amount is to be recovered principally through a sale transaction and a sale is considered highly probable. A sale is usually considered highly probable only when the appropriate level of management has committed to the sale.

Assets held for sale are stated at the lower of carrying amount and fair value less costs to sell. Where there is a partial transfer of a non-current asset to held for sale, an allocation of value is made between the current and non-current portions of the asset based on the relative value of the two portions, unless there is a methodology that better reflects the asset to be disposed of.

Assets held for sale are not depreciated or amortised.

Trade and other receivables

Financial assets included in Trade and other receivables are recognised initially at fair value. The Group holds the Trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest rate method, less any impairment losses.

Trade receivables that are subject to debt factoring arrangements are derecognised if they meet the conditions for derecognition detailed in IFRS 9 'Financial Instruments'.

Trade and other payables

Financial liabilities included in Trade and other payables are recognised initially at fair value. Subsequent to initial recognition they are measured at amortised cost using the effective interest rate method. Contingent consideration payables are held at fair value within Level 3 of the fair value hierarchy as defined in Note 12.

Financial instruments

The Group's financial instruments include Lease liabilities, Trade and other receivables and payables, liabilities for Contingent consideration and put options under business combinations, and rights and obligations under employee benefit plans which are dealt with in specific accounting policies.

The Group's other financial instruments include:

- Cash and cash equivalents
- Fixed deposits
- Other investments
- Bank and other borrowings
- Derivatives

Cash and cash equivalents

Cash and cash equivalents comprise cash in hand, current balances with banks and similar institutions, and highly liquid investments with maturities of three months or less when acquired. They are readily convertible into known amounts of cash and are held at amortised cost under the hold to collect classification, where they meet the hold to collect 'solely payments of principal and interest' test criteria under IFRS 9. Those not meeting these criteria are held at fair value through profit and loss. Cash and cash equivalents in the Statement of Cash Flows include unsecured bank overdrafts at the balance sheet date where balances often fluctuate between a cash and overdraft position.

Fixed deposits

Fixed deposits, principally comprising funds held with banks and other financial institutions, are initially measured at fair value, plus direct transaction costs, and are subsequently measured at amortised cost using the effective interest rate method at each reporting date. Changes in carrying value are recognised in the Consolidated Statement of Comprehensive Income.

Other investments

Investments are classified as fair value through profit or loss (FVPL), unless the Group makes an irrevocable election at initial recognition for certain non-current equity investments to present changes in Other comprehensive income (FVOCI). If this election is made, there is no subsequent reclassification of fair value gains and losses to profit and loss following the derecognition of the investment.

Bank and other borrowings

The Group uses derivatives, principally interest rate swaps, to hedge the interest rate exposure inherent in a portion of its fixed interest rate debt. In such cases the Group will either designate the debt as fair value through profit and loss when certain criteria are met or as the hedged item under a fair value hedge.

If the debt instrument is designated as fair value through profit or loss, the debt is initially measured at fair value (with direct transaction costs being included in profit as an expense) and is remeasured to fair value at each reporting date with changes in carrying value being recognised in profit (along with changes in the fair value of the related derivative), with the exception of changes in the fair value of the debt instrument relating to own credit risk which are recorded in Other comprehensive income in accordance with IFRS 9. Such a designation has been made where this significantly reduces an accounting mismatch which would result from recognising gains and losses on different bases.

If the debt is designated as the hedged item under a fair value hedge, the debt is initially measured at fair value (with direct transaction costs being amortised over the life of the debt) and is remeasured for fair value changes in respect of the hedged risk at each reporting date with changes in carrying value being recognised in profit (along with changes in the fair value of the related derivative).

If the debt is designated in a cash flow hedge, the debt is measured at amortised cost (with gains or losses taken to profit and direct transaction costs being amortised over the life of the debt). The related derivative is remeasured for fair value changes at each reporting date with the portion of the gain or loss on the derivative that is determined to be an effective hedge recognised in Other comprehensive income. The amounts that have been recognised in Other comprehensive income

are reclassified to profit in the same period that the hedged forecast cash flows affect profit. The reclassification adjustment is included in Finance expense in the Consolidated Statement of Comprehensive Income.

Other interest-bearing loans are initially measured at fair value (with direct transaction costs being amortised over the life of the loan) and are subsequently measured at amortised cost using the effective interest rate method at each reporting date. Changes in carrying value are recognised in the Consolidated Statement of Comprehensive Income.

Derivatives

Derivatives are initially measured at fair value (with direct transaction costs being included in profit as an expense) and are subsequently remeasured to fair value at each reporting date. Changes in carrying value are recognised in the Consolidated Statement of Comprehensive Income.

Foreign currencies

Foreign currency transactions, being transactions denominated in a currency other than an individual Group entity's functional currency, are translated into the relevant functional currencies of individual Group entities at average rates for the relevant monthly accounting periods, which approximate to actual rates.

Monetary assets and liabilities arising from foreign currency transactions are retranslated at exchange rates prevailing at the reporting date. Exchange gains and losses on loans and on short-term foreign currency borrowings and deposits are included within Finance expense. Exchange differences on all other foreign currency transactions are recognised in Operating profit in the individual Group entity's accounting records.

Non-monetary items arising from foreign currency transactions are not retranslated in the individual Group entity's accounting records.

In the Consolidated Financial Statements, income and expense items for Group entities with a functional currency other than US dollars are translated into US dollars at average exchange rates, which approximate to actual rates, for the relevant accounting periods. Assets and liabilities are translated at the US dollar exchange rates prevailing at the reporting date. Exchange differences arising on consolidation are recognised in Other comprehensive income.

If certain criteria are met, non-US dollar denominated loans or derivatives are designated as net investment hedges of foreign operations. Exchange differences arising on retranslation of net investments, and of foreign currency loans which are designated in an effective net investment hedge relationship, are recognised in Other comprehensive income in the Consolidated Financial Statements. Foreign exchange derivatives hedging net investments in foreign operations are carried at fair value. Effective fair value movements are recognised in Other comprehensive income, with any ineffectiveness taken to profit. Gains and losses accumulated in the translation reserve will be recycled to profit and loss when the foreign operation is sold.

Litigation and environmental liabilities

AstraZeneca is involved in legal disputes, the settlement of which may involve cost to the Group. Provision is made where an adverse outcome is probable and associated costs, including related legal costs, can be estimated reliably. In other cases, appropriate disclosures are included. Determining the timing of recognition of when an adverse outcome is probable is considered a key judgement, refer to Note 29 to the Financial Statements on page 229.

Where it is considered that the Group is more likely than not to prevail, or in the rare circumstances where the amount of the legal liability cannot be estimated reliably, legal costs involved in defending the claim are charged to the Consolidated Statement of Comprehensive Income as they are incurred.

Where it is considered that the Group has a valid contract which provides the right to reimbursement (from insurance or otherwise) of legal costs and/or all or part of any loss incurred or for which a provision has been established, the best estimate of the amount expected to be received is recognised as an asset only when it is virtually certain.

AstraZeneca is exposed to environmental liabilities relating to its past operations, principally in respect of soil and groundwater remediation costs. Provisions for these costs are made when there is a present obligation and where it is probable that expenditure on remedial work will be required and a reliable estimate can be made of the cost. Provisions are discounted at the relevant risk free rate where the effect is material.

Impairment

The carrying values of non-financial assets, other than Inventories and Deferred tax assets, are reviewed at least annually to determine whether there is any indication of impairment. For Goodwill, Intangible assets under development and for any other assets where such indication exists, the asset's recoverable amount is estimated based on the greater of its value in use and its fair value less cost to sell. In assessing the recoverable amount, the estimated future cash flows, adjusted for the risks specific to each asset, are discounted to their present value using a discount rate that reflects current market assessments of the time value of money, the general risks affecting the pharmaceutical industry and other risks specific to each asset. For the purpose of impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash flows of other assets. Impairment losses are recognised immediately in the Consolidated Statement of Comprehensive Income.

International accounting transition

On transition to using adopted IFRSs in the year ended 31 December 2005, the Group took advantage of several optional exemptions available in IFRS 1 'First-time Adoption of International Financial Reporting Standards'. The major impacts which are of continuing importance are detailed below:

- Business combinations – IFRS 3 'Business Combinations' has been applied from 1 January 2003, the date of transition, rather than being applied fully retrospectively. As a result, the combination of Astra and Zeneca is still accounted for as a merger, rather than through purchase accounting. If purchase accounting had been adopted, Zeneca would have been deemed to have acquired Astra.
- Cumulative exchange differences – the Group chose to set the cumulative exchange difference reserve at 1 January 2003 to nil.

Applicable accounting standards and interpretations issued but not yet adopted

At the date of authorisation of these financial statements, the following amendments were in issue but not yet adopted by the Group:

- amendments to IAS 1 'Presentation of Financial Instruments', effective for periods beginning on or after 1 January 2021 – not endorsed by the UK Endorsement Board (UKEB).
- amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4, IFRS 16 in relation to Interest rate benchmark reform – phase 2, effective for periods beginning on or after 1 January 2021 – endorsed by the UKEB on 5 January 2021.

The above amendments and interpretations are not expected to have a significant impact on the Group's net results.

1 Revenue

Product Sales

	2020					2019					2018				
	Emerging Markets $m	US $m	Europe $m	Rest of World $m	Total $m	Emerging Markets $m	US $m	Europe $m	Rest of World $m	Total $m	Emerging Markets $m	US $m	Europe $m	Rest of World $m	Total $m
Oncology:															
Tagrisso	**1,208**	**1,566**	**748**	**806**	**4,328**	762	1,268	474	685	3,189	347	869	314	330	1,860
Imfinzi	**158**	**1,185**	**370**	**329**	**2,042**	30	1,041	179	219	1,469	6	564	27	36	633
Lynparza	**264**	**876**	**435**	**201**	**1,776**	133	626	287	152	1,198	51	345	190	61	647
Calquence	**6**	**511**	**2**	**3**	**522**	2	162	–	–	164	–	62	–	–	62
Koselugo	**–**	**38**	**–**	**–**	**38**	–	–	–	–	–	–	–	–	–	–
Zoladex	**561**	**5**	**140**	**182**	**888**	492	7	135	179	813	409	8	133	202	752
Faslodex	**180**	**55**	**221**	**124**	**580**	198	328	229	137	892	154	537	221	116	1,028
Iressa	**221**	**14**	**12**	**21**	**268**	286	17	70	50	423	286	26	109	97	518
Arimidex	**147**	**–**	**3**	**35**	**185**	152	–	28	45	225	132	–	31	49	212
Casodex	**133**	**–**	**3**	**36**	**172**	127	–	16	57	200	113	1	20	67	201
Others	**28**	**–**	**4**	**19**	**51**	29	–	5	60	94	30	–	8	77	115
	2,906	**4,250**	**1,938**	**1,756**	**10,850**	2,211	3,449	1,423	1,584	8,667	1,528	2,412	1,053	1,035	6,028
Cardiovascular, Renal and Metabolism:															
Farxiga	**686**	**569**	**507**	**197**	**1,959**	471	537	373	162	1,543	336	591	315	149	1,391
Brilinta	**461**	**732**	**342**	**58**	**1,593**	462	710	351	58	1,581	326	588	348	59	1,321
Onglyza	**201**	**166**	**58**	**45**	**470**	176	230	70	51	527	172	223	89	59	543
Bydureon	**4**	**382**	**53**	**9**	**448**	11	459	66	13	549	8	475	81	20	584
Byetta	**8**	**37**	**14**	**9**	**68**	12	68	19	11	110	8	74	29	15	126
Other Diabetes	**7**	**25**	**13**	**2**	**47**	1	40	9	2	52	(1)	34	5	1	39
Lokelma	**5**	**57**	**4**	**10**	**76**	–	13	1	–	14	–	–	–	–	–
Crestor	**748**	**92**	**129**	**211**	**1,180**	806	104	148	220	1,278	841	170	203	219	1,433
Seloken/Toprol-XL	**782**	**13**	**16**	**10**	**821**	686	37	25	12	760	641	39	19	13	712
Atacand	**175**	**10**	**35**	**23**	**243**	160	12	30	19	221	157	13	70	20	260
Others	**126**	**–**	**57**	**8**	**191**	193	(1)	59	20	271	207	(1)	71	24	301
	3,203	**2,083**	**1,228**	**582**	**7,096**	2,978	2,209	1,151	568	6,906	2,695	2,206	1,230	579	6,710
Respiratory & Immunology:															
Symbicort	**567**	**1,022**	**694**	**438**	**2,721**	547	829	678	441	2,495	495	862	773	431	2,561
Pulmicort	**798**	**71**	**73**	**54**	**996**	1,190	110	81	85	1,466	995	116	90	85	1,286
Fasenra	**12**	**603**	**203**	**131**	**949**	5	482	118	99	704	1	218	32	46	297
Daliresp/Daxas	**4**	**190**	**22**	**1**	**217**	4	184	26	1	215	5	155	28	1	189
Bevespi	**1**	**44**	**3**	**–**	**48**	–	42	–	–	42	–	33	–	–	33
Breztri	**14**	**5**	**–**	**9**	**28**	–	–	–	2	2	–	–	–	–	–
Others	**203**	**6**	**176**	**13**	**398**	241	6	204	16	467	148	32	306	59	545
	1,599	**1,941**	**1,171**	**646**	**5,357**	1,987	1,653	1,107	644	5,391	1,644	1,416	1,229	622	4,911
Other:															
Nexium	**757**	**169**	**71**	**495**	**1,492**	748	218	63	454	1,483	690	306	235	471	1,702
Synagis	**–**	**47**	**325**	**–**	**372**	–	46	312	–	358	1	287	377	–	665
FluMist	**1**	**70**	**219**	**5**	**295**	–	20	93	–	113	1	15	91	3	110
Losec/Prilosec	**152**	**6**	**20**	**5**	**183**	179	10	49	25	263	161	7	70	34	272
Seroquel XR/IR	**55**	**17**	**29**	**16**	**117**	50	34	88	19	191	118	108	107	28	361
Others	**6**	**55**	**58**	**9**	**128**	12	108	64	9	193	53	119	67	51	290
	971	**364**	**722**	**530**	**2,587**	989	436	669	507	2,601	1,024	842	947	587	3,400
Product Sales	**8,679**	**8,638**	**5,059**	**3,514**	**25,890**	8,165	7,747	4,350	3,303	23,565	6,891	6,876	4,459	2,823	21,049

SE Rebates and chargebacks in the US

The major market where estimates are seen as significant is the US. When invoicing Product Sales in the US, we estimate the rebates and chargebacks we expect to pay. The adjustment in respect of prior year net US Product Sales revenue in 2020 was 3.5% (2019: 3.6%; 2018: 3.2%). The most significant of these relate to the Medicaid and state programmes with an adjustment in respect of prior year net US Product Sales revenue in 2020 of 1.1% (2019: 1.3%; 2018: 2.6%) and Managed Care and Medicare of 1.5% (2019: 1.9%; 2018: 1.2%).

These values demonstrate the level of sensitivity; further meaningful sensitivity is not able to be provided due to the large volume of variables that contribute to the overall rebates, chargebacks, returns and other revenue accruals.

1 Revenue *continued*

Collaboration Revenue

	2020 $m	2019 $m	2018 $m
Royalty income	**62**	62	49
Global co-development and commercialisation of *Lynparza* and *Koselugo* with MSD	**460**	610	790
Transfer of rights to *Zoladex* in the US and Canada to TerSera	**35**	–	35
Enhertu: share of gross profits	**94**	–	–
Roxadustat: share of gross profits	**30**	–	–
Licence agreement for *Crestor* in Spain with Almirall	**–**	39	61
Co-development and commercialisation of MEDI8897 with Sanofi	**–**	34	–
Grant of authorised generic rights to various medicines in Japan	**–**	19	41
Other collaboration revenue	**46**	55	65
	727	819	1,041

Substantially all Collaboration Revenue relates to performance obligations satisfied in prior periods.

2 Operating profit

Operating profit includes the following significant items:

Selling, general and administrative costs

In 2020, Selling, general and administrative costs includes a credit of $51m (2019: credit of $516m; 2018: credit of $482m) resulting from changes in the fair value of contingent consideration arising from the acquisition of the diabetes alliance from BMS. These adjustments reflect revised estimates for future sales performance for the products acquired and, as a result, revised estimates for future royalties payable.

In 2020, Selling, general and administrative costs also includes a credit of $143m (2019: credit of $58m; 2018: credit of $32m) resulting from changes in the fair value of contingent consideration arising from the acquisition of Almirall's respiratory business. These adjustments reflect revised estimates for future sales performance for the products acquired and, as a result, revised estimates for future milestones payable.

In 2020, Selling, general and administrative costs also includes a credit of $9m (2019: charge of $610m; 2018: credit of $219m) relating to a number of legal proceedings including settlements in various jurisdictions in relation to several marketed products.

In 2020, there were no changes in estimates of cash flows arising from the put option over the non-controlling interest in Acerta Pharma, and therefore no charge or credit to Selling, general and administrative costs (2019: charge of $172m; 2018: credit of $113m).

Research and development expense: Government grants

During the year $222m of government grants were recognised within Operating profit. Substantially all of the grants recognised relate to funding for research and development and related expenses for *COVID-19 Vaccine AstraZeneca* ($161m) and AZD7442 ($61m). Historically, AstraZeneca did not receive any substantial government grants prior to the commencement of these programmes.

Other operating income and expense

	2020 $m	2019 $m	2018 $m
Royalties			
Income	**149**	146	96
Amortisation	**(2)**	(4)	(4)
Gains on disposal of intangible assets	**1,030**	1,243	1,885
Net gains/(losses) on disposal of other non-current assets	**25**	(21)	(8)
Impairment of property, plant and equipment	**(12)**	–	–
Legal settlements[1]	**–**	–	374
Other income[2]	**406**	285	277
Other expense	**(68)**	(108)	(93)
Other operating income and expense	**1,528**	1,541	2,527

[1] Primarily driven by a $352m settlement of legal action in Canada in relation to a patent infringement of *Losec*/*Prilosec*.
[2] Other income in 2020 includes $107m of payments from Allergan in respect of the development of brazikumab (2019: $nil; 2018: $nil).

Royalty amortisation relates to intangible assets recorded in respect of income streams acquired with MedImmune.

Gains on disposal of intangible assets in 2020 includes $350m on disposal of global rights excluding US, India and Japan to established hypertension medicines to Atnahs Pharma, $400m on disposal of rights in over 70 countries to *Atacand* to Cheplapharm and $120m on the sale of an FDA Priority Review Voucher.

Gains on disposal of intangible assets in 2019 includes $515m on disposal of US rights to *Synagis* to Sobi, $243m on disposal of rights to *Losec* globally excluding China, Japan, the US and Mexico to Cheplapharm, $181m on disposal of rights to *Arimidex* and *Casodex* in Europe and certain additional countries to Juvisé Pharmaceuticals and $213m on disposal of commercialisation rights to *Seroquel* and *Seroquel XR* in Europe, Russia, US and Canada to Cheplapharm.

As part of the total consideration received in respect of the agreement to sell US rights to *Synagis* in 2019, $150m related to the rights to participate in the future cash flows from the US profits or losses for nirsevimab. A further $40m has been received in 2020. The total amount has been recognised as a financial liability as the Group has not fully transferred the risks and rewards of the underlying cash flows arising from nirsevimab to Sobi. This liability is presented in Other payables within Non-current liabilities. The associated cash flow is presented within Investing Activities as the Group has received the cash in exchange for agreeing to transfer future cash flows relating to an intangible asset.

Gains on disposal of intangible assets in 2018 includes $695m on the disposal of Europe rights to *Nexium*, $527m on the disposal of rights to *Seroquel* in the UK, China and other international markets, $210m from the sale of rights to *Atacand* in Europe to Cheplapharm, milestone receipts of $172m from the disposal of the anaesthetics portfolio outside the US to Aspen and $139m from the sale of the global rights to *Alvesco*, *Omnaris* and *Zetonna* to Covis.

Restructuring costs

The tables below show the costs that have been charged in respect of restructuring programmes by cost category and type. Severance provisions are detailed in Note 21.

	2020 $m	2019 $m	2018 $m
Cost of sales	**53**	73	432
Research and development expense	**35**	101	94
Selling, general and administrative costs	**162**	173	181
Other operating income and expense	**1**	–	(10)
Total charge	**251**	347	697

	2020 $m	2019 $m	2018 $m
Severance costs	**26**	137	41
Accelerated depreciation and impairment[1]	**17**	(67)	259
Other	**208**	277	397
Total charge	**251**	347	697

[1] Included within accelerated depreciation and impairment in 2019 is a credit relating to the impairment reversal of two manufacturing sites in Colorado, US. Refer to Note 7 for further details.

Other costs are those incurred in designing and implementing the Group's various restructuring initiatives, including costs of decommissioning sites impacted by changes to our global footprint, temporary lease costs during relocation, internal project costs and external consultancy fees.

Financial instruments

Included within Operating profit are the following net gains and losses on financial instruments:

	2020 $m	2019 $m	2018 $m
Losses on forward foreign exchange contracts	**(86)**	(112)	(100)
Gains on receivables and payables	**89**	66	43
Total	**3**	(46)	(57)

Impairment charges

Details of impairment charges for 2020, 2019 and 2018 are included in Notes 7 and 10.

3 Finance income and expense

	2020 $m	2019 $m	2018 $m
Finance income			
Returns on fixed deposits and equity securities	**1**	1	10
Returns on short-term deposits	**40**	122	86
Fair value gains on debt and interest rate swaps	**4**	7	–
Discount unwind on other long-term assets	**6**	20	6
Interest income on income tax balances	**36**	22	36
Total	**87**	172	138
Finance expense			
Interest on debt and commercial paper	**(669)**	(698)	(673)
Interest on overdrafts, lease liabilities and other financing costs[1]	**(67)**	(74)	(68)
Net interest on post-employment defined benefit plan net liabilities (Note 22)	**(37)**	(53)	(52)
Net exchange losses	**(34)**	(30)	(51)
Discount unwind on contingent consideration arising from business combinations (Note 20)	**(278)**	(356)	(416)
Discount unwind on other long-term liabilities[2]	**(219)**	(213)	(154)
Fair value losses on debt and interest rate swaps	**–**	–	(2)
Interest expense on income tax balances	**(2)**	(8)	(3)
Total	**(1,306)**	(1,432)	(1,419)
Net finance expense	**(1,219)**	(1,260)	(1,281)

[1] Comparative figures in 2018 included finance leases recognised under IAS 17.
[2] Included within Discount unwind on other long-term liabilities is $151m relating to the Acerta Pharma put option liability (2019: $136m; 2018: $133m), see Note 20 for further details.

3 Finance income and expense *continued*

Financial instruments

Included within finance income and expense are the following net gains and losses on financial instruments:

	2020 $m	2019 $m	2018 $m
Interest and fair value adjustments in respect of debt designated at fair value through profit or loss, net of derivatives	**(8)**	(12)	(11)
Interest and changes in carrying values of debt designated as hedged items in fair value hedges, net of derivatives	**(6)**	(10)	(28)
Interest and fair value changes on fixed and short-term deposits, equity securities, other derivatives and tax balances	**42**	110	96
Interest on debt, overdrafts, lease liabilities and commercial paper held at amortised cost	**(660)**	(662)	(619)

Fair value gain of $33m (2019: loss of $5m; 2018: loss of $13m) on interest rate fair value hedging instruments and $32m fair value loss (2019: gain of $8m; 2018: gain of $10m) on the related hedged items have been included within Interest and changes in carrying values of debt designated as hedged items, net of derivatives. All fair value hedge relationships were effective during the year.

Fair value gain of $2m (2019: gain of $4m; 2018: loss of $13m) on derivatives related to debt instruments designated at fair value through profit or loss and $3m fair value loss (2019: loss of $4m; 2018: gain of $13m) on debt instruments designated at fair value through profit or loss have been included within Interest and fair value adjustments in respect of debt designated at fair value through profit or loss, net of derivatives.

4 Taxation

Taxation recognised in the Consolidated Statement of Comprehensive Income is as follows:

	2020 $m	2019 $m	2018 $m
Current tax expense			
Current year	**981**	1,243	711
Adjustment to prior years	**(10)**	66	38
Total	**971**	1,309	749
Deferred tax expense			
Origination and reversal of temporary differences	**(178)**	(875)	(644)
Adjustment to prior years	**(21)**	(113)	(162)
Total	**(199)**	(988)	(806)
Taxation recognised in the profit for the period	**772**	321	(57)

Taxation relating to components of Other comprehensive income is as follows:

	2020 $m	2019 $m	2018 $m
Current and deferred tax			
Items that will not be reclassified to profit or loss:			
Remeasurement of the defined benefit liability	**36**	81	37
Net (gains)/losses on equity investments measured at fair value through other comprehensive income	**(180)**	(60)	30
Deferred tax charge/(credit) relating to change of tax rates	**63**	–	(11)
Total	**(81)**	21	56
Items that may be reclassified subsequently to profit or loss:			
Foreign exchange arising on consolidation	**(61)**	34	69
Foreign exchange arising on designated borrowings in net investment hedges	**22**	4	–
Deferred tax credit relating to change of tax rates	**–**	–	(18)
Total	**(39)**	38	51
Taxation relating to components of other comprehensive income	**(120)**	59	107

The reported tax rate in the year was 20%.

The income tax paid for the year was $1,562m which was 40% of Profit before Tax.

Taxation has been provided at current rates on the profits earned for the periods covered by the Group Financial Statements. The 2020 prior period current tax adjustment relates mainly to net reductions in provisions for tax contingencies and tax accrual to tax return adjustments. The 2019 prior period current tax adjustment relates mainly to net increases in provisions for tax contingencies and tax accrual to tax return adjustments. The 2018 prior period current tax adjustments relate mainly to net reductions in provisions for tax contingencies and tax accrual to tax return adjustments.

The 2020 prior period deferred tax adjustments relate mainly to tax accrual to return adjustments offset by net increases in provisions for tax contingencies. The 2019 and 2018 prior period deferred tax adjustments relate mainly to tax accrual to return adjustments.

To the extent that dividends remitted from overseas subsidiaries, joint ventures and associates are expected to result in additional taxes, appropriate amounts have been provided for. No deferred tax has been provided for unremitted earnings of Group companies overseas as these are considered permanently employed in the business of these companies. Unremitted earnings may be liable to overseas taxes and/or UK taxation (after allowing for double tax relief) if distributed as dividends. The aggregate amount of temporary differences associated with investments in subsidiaries and branches for which Deferred tax liabilities have not been recognised totalled approximately $5,742m at 31 December 2020 (2019: $4,902m; 2018: $8,144m).

Factors affecting future tax charges

As a group with worldwide operations, AstraZeneca is subject to several factors that may affect future tax charges, principally the levels and mix of profitability in different jurisdictions, transfer pricing regulations, tax rates imposed and tax regime reforms.

Details of the material tax exposures and items currently under audit, negotiation and review are set out in Note 29.

Tax reconciliation to UK statutory rate

The table below reconciles the UK statutory tax charge to the Group's total tax charge/(credit):

	2020 $m	2019 $m	2018 $m
Profit before tax	**3,916**	1,548	1,993
Notional taxation charge at UK corporation tax rate of 19%	**744**	294	379
Differences in effective overseas tax rates	**(49)**	(49)	18
Deferred tax charge/(credit) relating to change in tax rates[1]	**138**	39	(334)
Unrecognised deferred tax asset[2]	**3**	(16)	7
Items not deductible for tax purposes	**36**	92	167
Items not chargeable for tax purposes	**(4)**	(13)	(6)
Other items[3]	**(65)**	21	(164)
Adjustments in respect of prior periods[4]	**(31)**	(47)	(124)
Total tax charge/(credit) for the year	**772**	321	(57)

1 The 2020 item relates to the increase in the 2020 substantively enacted Dutch Corporate Income Tax rate (debit of $151m) and other (debit of $5m). In 2020, it was substantively enacted that the planned reduction in the Dutch Corporate Income Tax rate to 21.7% from 25% effective 1 January 2021 would not take place. In addition, the planned reduction in the UK corporation tax rate to 17% was not enacted with the corporation tax rate remaining at 19% (credit of $18m). The 2019 item relates to the increase in the 2019 substantively enacted Dutch Corporate Income Tax rate (debit of $66m) and other (credit of $27m). In 2019, it was substantively enacted that the Dutch Corporate Income Tax rate for the year ended 31 December 2020 would increase from 22.55% to 25% and effective 1 January 2021 would increase from 20.5% to 21.7%. The 2018 item relates to the 2018 reduction in the Dutch and Swedish Corporate Income Tax rates (credit of $297m) and other (credit of $37m).

2 The 2020 item includes a $22m credit arising on recognition of previously unrecognised deferred tax assets. The 2019 item includes a $27m credit arising on recognition of previously unrecognised deferred tax assets.

3 Other items in 2020 relate to a net credit of $65m relating to the release of tax contingencies following the expiry of the relevant statute of limitations partially offset by a provision for transfer pricing and other contingencies. Other items in 2019 relate to a charge of $309m relating to collaboration and divestment activity, a credit of $70m relating to internal transfers of intellectual property and a net credit of $218m relating to the release of tax contingencies following the expiry of the relevant statute of limitations and on the conclusion of tax authority review partially offset by a provision for transfer pricing and other contingencies. Other items in 2018 relate to a credit of $188m relating to the release of tax contingencies following the expiry of the relevant statute of limitations and on the conclusion of tax authority review partially offset by a provision for transfer pricing and other contingencies (charge $24m).

4 Further details explaining the adjustments in respect of prior periods is set out on page 190.

AstraZeneca is domiciled in the UK but operates in other countries where the tax rates and laws are different to those in the UK. The impact on differences in effective overseas tax rates on the Group's overall tax charge is noted above. Profits arising from our manufacturing operation in Puerto Rico are granted special status and are taxed at a reduced rate compared with the normal rate of tax in that territory under a tax incentive grant continuing until 2031.

Deferred tax

The total movement in the net deferred tax balance in the year was $292m. The movements are as follows:

	Intangibles, property, plant & equipment[1] $m	Pension and post-retirement benefits $m	Elimination of unrealised profit on inventory $m	Untaxed reserves[2] $m	Losses and tax credits carried forward $m	Accrued expenses and other $m	Total $m
Net deferred tax balance at 1 January 2018	(3,852)	509	831	(600)	906	400	(1,806)
Net adjustment to the opening balance of Retained earnings	–	–	–	–	–	12	12
Income statement	401	(15)	179	(4)	129	116	806
Other comprehensive income	56	26	–	–	–	31	113
Equity	–	–	–	–	–	12	12
Exchange	27	(25)	(30)	47	(27)	(36)	(44)
Net deferred tax balance at 31 December 2018	(3,368)	495	980	(557)	1,008	535	(907)
Income statement	1,055	(9)	312	(63)	(480)	173	988
Other comprehensive income	34	79	–	–	–	(30)	83
Equity	–	–	–	–	–	12	12
Exchange	14	(4)	1	22	18	1	52
Net deferred tax balance at 31 December 2019	(2,265)	561	1,293	(598)	546	691	228
Income statement	**(226)**	**(64)**	**444**	**(92)**	**136**	**1**	**199**
Other comprehensive income	**(78)**	**101**	**–**	**(1)**	**–**	**72**	**94**
Equity	**–**	**–**	**–**	**–**	**–**	**(16)**	**(16)**
Exchange	**(58)**	**58**	**70**	**(110)**	**32**	**23**	**15**
Net deferred tax balance at 31 December 2020[3]	**(2,627)**	**656**	**1,807**	**(801)**	**714**	**771**	**520**

1 Includes deferred tax on contingent consideration liabilities in respect of intangibles.

2 Untaxed reserves relate to taxable profits where the tax liability is deferred to later periods.

3 The US includes a net deferred tax asset of $201m as at 31 December 2020, which has been recognised on the basis of sufficient forecast future taxable profits against which the deductible temporary differences can be utilised.

4 Taxation *continued*

The net deferred tax balance, before the offset of balances within countries, consists of:

	Intangibles, property, plant & equipment $m	Pension and post-retirement benefits $m	Elimination of unrealised profit on inventory $m	Untaxed reserves $m	Losses and tax credits carried forward $m	Accrued expenses and other $m	Total $m
Deferred tax assets at 31 December 2018	1,071	521	1,287	–	1,103	913	4,895
Deferred tax liabilities at 31 December 2018	(4,439)	(26)	(307)	(557)	(95)	(378)	(5,802)
Net deferred tax balance at 31 December 2018	(3,368)	495	980	(557)	1,008	535	(907)
Deferred tax assets at 31 December 2019	1,091	591	1,543	–	608	959	4,792
Deferred tax liabilities at 31 December 2019	(3,356)	(30)	(250)	(598)	(62)	(268)	(4,564)
Net deferred tax balance at 31 December 2019	(2,265)	561	1,293	(598)	546	691	228
Deferred tax assets at 31 December 2020	**1,061**	**690**	**2,286**	**–**	**852**	**1,130**	**6,019**
Deferred tax liabilities at 31 December 2020	**(3,688)**	**(34)**	**(479)**	**(801)**	**(138)**	**(359)**	**(5,499)**
Net deferred tax balance at 31 December 2020	**(2,627)**	**656**	**1,807**	**(801)**	**714**	**771**	**520**

Analysed in the Consolidated Statement of Financial Position, after offset of balances within countries, as:

	2020 $m	2019 $m	2018 $m
Deferred tax assets	**3,438**	2,718	2,379
Deferred tax liabilities	**(2,918)**	(2,490)	(3,286)
Net deferred tax balance	**520**	228	(907)

Unrecognised deferred tax assets

Deferred tax assets (DTA) of $428m (2019: $441m; 2018: $444m) have not been recognised in respect of deductible temporary differences because it is not probable that future taxable profit will be available against which the Group can utilise the benefits therefrom.

	2020 Temporary differences $m	**2020 Unrecognised DTA $m**	2019 Temporary differences $m	2019 Unrecognised DTA $m	2018 Temporary differences $m	2018 Unrecognised DTA $m
Trading and capital losses expiring:						
Within 10 years	**2**	**–**	33	9	4	1
More than 10 years	**–**	**–**	1	–	4	1
Indefinite	**234**	**63**	218	62	175	51
	236	**63**	252	71	183	53
Tax credits and State tax losses expiring:						
Within 10 years		**36**		44		40
More than 10 years		**255**		259		281
Indefinite		**74**		67		70
		365		370		391
Total		**428**		441		444

5 Earnings per $0.25 Ordinary Share

	2020	2019	2018
Profit for the year attributable to equity holders ($m)	**3,196**	1,335	2,155
Basic earnings per Ordinary Share	**$2.44**	$1.03	$1.70
Diluted earnings per Ordinary Share	**$2.44**	$1.03	$1.70
Weighted average number of Ordinary Shares in issue for basic earnings (millions)	**1,312**	1,301	1,267
Dilutive impact of share options outstanding (millions)	**1**	–	–
Diluted weighted average number of Ordinary Shares in issue (millions)	**1,313**	1,301	1,267

The earnings figures used in the calculations above are post-tax.

6 Segment information

The Group has reviewed its assessment of reportable segments under IFRS 8 'Operating Segments' and concluded that the Group continues to have one reportable segment.

KJ This determination is considered to be a Key Judgment and this judgement has been taken with reference to the following factors:

1 The level of integration across the different functions of the Group's pharmaceutical business:
AstraZeneca is engaged in a single business activity of pharmaceuticals and the Group does not have multiple operating segments. AstraZeneca's pharmaceuticals business consists of the discovery and development of new products, which are then manufactured, marketed and sold. All of these functional activities take place (and are managed) globally on a highly integrated basis. These individual functional areas are not managed separately.

2 The identification of the Chief Operating Decision Maker (CODM) and the nature and extent of the financial information reviewed by the CODM:
The SET, established and chaired by the CEO, is the vehicle through which he exercises the authority delegated to him from the Board for the management, development and performance of our business. It is considered that the SET is AstraZeneca's chief operating decision making body (as defined by IFRS 8). The operation of the SET is principally driven by the management of the Commercial operations, R&D, manufacturing and supply. All significant operating decisions are taken by the SET. While members of the SET have responsibility for implementation of decisions in their respective areas, operating decision making is at SET level as a whole. Where necessary, these are implemented through cross-functional sub-committees that consider the Group-wide impact of a new decision. For example, product launch decisions would be initially considered by the SET and, on approval, passed to an appropriate sub team for implementation. The impacts of being able to develop, produce, deliver and commercialise a wide range of pharmaceutical products drive the SET decision making process.

In assessing performance, the SET reviews financial information on an integrated basis for the Group as a whole, substantially in the form of, and on the same basis as, the Group's IFRS Financial Statements. The high upfront cost of discovering and developing new products, coupled with the relatively insignificant and stable unit cost of production, means that there is not the clear link that exists in many manufacturing businesses between the revenue generated on an individual product sale and the associated cost and hence margin generated on a product. Consequently, the profitability of individual drugs or classes of drugs is not considered a key measure of performance for the business and is not monitored by the SET. The focus of additional financial information reviewed is at brand sales level within specific geographies. Expenditure analysis is completed for the science units, operations and enabling functions; there is no allocation of these centrally managed group costs to the individual product brands. SET members' bonus continues to be derived from the Group scorecard outcome as discussed in our Directors Remuneration Report.

3 How resources are allocated:
Resources are allocated on a Group-wide basis according to need. In particular, capital expenditure, in-licensing, and R&D resources are allocated between activities on merit, based on overall therapeutic considerations and strategy under the aegis of the Group's Early Stage Product Committees and a single Late Stage Product Committee.

Geographic areas

The following table shows information for Total Revenue by geographic area and material countries. The additional tables show the Operating profit and Profit before tax made by companies located in that area, together with Non-current assets, Total assets, assets acquired, net operating assets, and Property, plant and equipment owned by the same companies. Product Sales by geographic market are included in the area/country where the legal entity resides and from which those sales were made.

	Total Revenue		
	2020 $m	2019 $m	2018 $m
UK	**1,741**	1,822	2,390
Continental Europe			
France	**653**	578	617
Germany	**937**	704	592
Italy	**431**	396	426
Spain	**398**	359	396
Sweden	**1,026**	834	477
Others	**1,391**	1,291	1,312
	4,836	4,162	3,820
The Americas			
Canada	**596**	466	483
US	**8,955**	8,047	7,240
Others	**761**	814	806
	10,312	9,327	8,529
Asia, Africa & Australasia			
Australia	**282**	266	313
China	**5,345**	4,867	3,778
Japan	**2,567**	2,522	1,952
Others	**1,534**	1,418	1,308
	9,728	9,073	7,351
Total Revenue	**26,617**	24,384	22,090

Total Revenue outside of the UK totalled $24,876m for the year ended 31 December 2020 (2019: $22,562m; 2018: $19,700m).

6 Segment information *continued*

	Operating profit/(loss)			Profit/(loss) before tax		
	2020 $m	2019 $m	2018 $m	**2020 $m**	2019 $m	2018 $m
UK	**824**	466	(66)	**518**	93	(514)
Continental Europe	**2,838**	1,502	3,671	**2,356**	1,006	3,179
The Americas	**758**	(8)	(757)	**297**	(474)	(1,171)
Asia, Africa & Australasia	**742**	964	539	**745**	923	499
Continuing operations	**5,162**	2,924	3,387	**3,916**	1,548	1,993

	Non-current assets[1,2]			Total assets		
	2020 $m	2019 $m	2018 $m	**2020 $m**	2019 $m	2018 $m
UK	**7,900**	6,874	4,828	**17,851**	15,302	13,573
Continental Europe	**15,821**	15,245	14,529	**19,738**	18,182	17,119
The Americas	**18,501**	19,663	22,191	**23,640**	23,380	26,381
Asia, Africa & Australasia	**1,354**	1,253	976	**5,500**	4,513	3,578
Continuing operations	**43,576**	43,035	42,524	**66,729**	61,377	60,651

	Assets acquired[3]			Net operating assets[4]		
	2020 $m	2019 $m	2018 $m	**2020 $m**	2019 $m	2018 $m
UK	**1,611**	2,255	556	**5,244**	4,206	3,471
Continental Europe	**505**	386	530	**10,242**	9,201	8,913
The Americas	**286**	236	356	**15,697**	15,929	18,598
Asia, Africa & Australasia	**116**	120	105	**607**	1,432	1,037
Continuing operations	**2,518**	2,997	1,547	**31,790**	30,768	32,019

[1] Non-current assets exclude Deferred tax assets and Derivative financial instruments.
[2] The Group has revised the presentation of Non-current assets in 2019 previously disclosed as $42,746m to $43,035m. This is due to omission of $289m of these assets from the prior year disclosure.
[3] Included in Assets acquired are those assets that are expected to be used during more than one period (Property, plant and equipment, Goodwill and Intangible assets).
[4] Net operating assets exclude short-term investments, cash, short-term borrowings, loans, Derivative financial instruments, retirement benefit obligations and non-operating receivables and payables.

	Property, plant and equipment		
	2020 $m	2019 $m	2018 $m
UK	**2,227**	1,920	1,605
Sweden	**1,755**	1,488	1,456
US	**2,662**	2,758	2,844
Rest of the world	**1,607**	1,522	1,516
Continuing operations	**8,251**	7,688	7,421

Geographic markets

The table below shows Product Sales in each geographic market in which customers are located.

	2020 $m	2019 $m	2018 $m
UK	**611**	458	469
Continental Europe	**4,446**	3,891	4,388
The Americas	**10,004**	9,032	8,177
Asia, Africa & Australasia	**10,829**	10,184	8,015
Continuing operations	**25,890**	23,565	21,049

Product Sales are recognised when control of the goods has been transferred to a third party. In general, this is upon delivery of the products to wholesalers. One wholesaler (2019: one; 2018: one) individually represented greater than 10% of Product Sales. The value of Product Sales to this wholesaler was $3,321m (2019: $3,078m; 2018: $2,704m).

7 Property, plant and equipment

	Land and buildings $m	Plant and equipment $m	Assets in course of construction $m	Total property, plant and equipment $m
Cost				
At 1 January 2018	5,023	7,183	2,433	14,639
Capital expenditure	25	99	910	1,034
Transfer of assets into use	429	594	(1,023)	–
Disposals and other movements	50	(427)	(14)	(391)
Exchange adjustments	(161)	(353)	(129)	(643)
At 31 December 2018	5,366	7,096	2,177	14,639
Capital expenditure	8	48	940	996
Transfer of assets into use	403	620	(1,023)	–
Disposals and other movements	(236)	(324)	(11)	(571)
Exchange adjustments	(9)	(57)	3	(63)
At 31 December 2019	5,532	7,383	2,086	15,001
Capital expenditure	**10**	**42**	**874**	**926**
Transfer of assets into use	**137**	**462**	**(599)**	**–**
Disposals and other movements	**(48)**	**(615)**	**(18)**	**(681)**
Exchange adjustments	**220**	**466**	**135**	**821**
At 31 December 2020	**5,851**	**7,738**	**2,478**	**16,067**
Depreciation and impairment				
At 1 January 2018	2,231	4,793	–	7,024
Depreciation charge for the year	202	412	–	614
Impairment charge	150	98	43	291
Disposals and other movements	10	(336)	(43)	(369)
Exchange adjustments	(89)	(253)	–	(342)
At 31 December 2018	2,504	4,714	–	7,218
Depreciation charge for the year	209	438	–	647
Impairment (reversal)/charge	(67)	14	–	(53)
Disposals and other movements	(120)	(313)	–	(433)
Exchange adjustments	(21)	(45)	–	(66)
At 31 December 2019	2,505	4,808	–	7,313
Depreciation charge for the year	**227**	**462**	**–**	**689**
Impairment (reversal)/charge	**(1)**	**2**	**12**	**13**
Disposals and other movements	**(42)**	**(606)**	**(12)**	**(660)**
Exchange adjustments	**137**	**324**	**–**	**461**
At 31 December 2020	**2,826**	**4,990**	**–**	**7,816**
Net book value				
At 31 December 2018	2,862	2,382	2,177	7,421
At 31 December 2019	3,027	2,575	2,086	7,688
At 31 December 2020	**3,025**	**2,748**	**2,478**	**8,251**

Impairment charges in 2019 were recognised for Land and buildings and Plant and equipment as a result of the announcement of the closure of the Wedel manufacturing site and the cessation of specific operations in Algeria. These charges were recognised in Cost of sales in 2019. Impairment reversals were recognised in 2019 of $23m in relation to the Longmont, Colorado manufacturing site (sold in March 2019) and the Boulder, Colorado manufacturing site of $70m (sold in May 2020). These assets had been fully impaired during 2018.

Included within other movements in 2019 is a transfer of $70m from Land and buildings to Assets held for sale in relation to the Boulder manufacturing site.

	2020 $m	2019 $m	2018 $m
The net book value of land and buildings comprised:			
Freeholds	**2,583**	2,657	2,567
Leaseholds	**442**	370	295

8 Leases

Right-of-use assets

	Land and buildings $m	Motor vehicles $m	Other $m	Total right-of-use assets $m
Cost				
At 1 January 2019	–	–	–	–
Opening balance	580	124	18	722
Additions	85	85	3	173
Disposals and other movements	(44)	(7)	1	(50)
Exchange adjustments	6	–	–	6
At 31 December 2019	627	202	22	851
Additions	**87**	**89**	**15**	**191**
Disposals and other movements	**–**	**(27)**	**(2)**	**(29)**
Exchange adjustments	**21**	**8**	**1**	**30**
At 31 December 2020	**735**	**272**	**36**	**1,043**
Depreciation and impairment				
At 1 January 2019	–	–	–	–
Depreciation charge for the year	130	70	7	207
Impairment charge	4	–	–	4
Disposals and other movements	(3)	(6)	1	(8)
Exchange adjustments	1	–	–	1
At 31 December 2019	132	64	8	204
Depreciation charge for the year	**131**	**75**	**9**	**215**
Disposals and other movements	**(24)**	**(26)**	**(4)**	**(54)**
Exchange adjustments	**8**	**4**	**–**	**12**
At 31 December 2020	**247**	**117**	**13**	**377**
Net book value				
At 31 December 2019	495	138	14	647
At 31 December 2020	**488**	**155**	**23**	**666**

Lease Liability

	2020 $m	2019 $m	2018 $m
The present value of lease liabilities is as follows:			
Within one year	**(192)**	(188)	–
Later than one year and not later than five years	**(389)**	(368)	–
Later than five years	**(100)**	(119)	–
Total lease liabilities	**(681)**	(675)	–

Prior to 2019, the Group only recognised lease assets and lease liabilities in relation to leases that were classified as ‘finance leases’ under IAS 17 ‘Leases’. The assets were presented within Property, plant and equipment and the liabilities within Interest-bearing loans and borrowings. Initial adoption of IFRS 16 on 1 January 2019 resulted in the recognition of Right-of-use assets of $722m and Lease liabilities of $720m. The weighted average incremental borrowing rate applied to the Lease liabilities on 1 January 2019 was 3%.

The interest expense on lease liabilities included within finance costs was $21m (2019: $22m). The expense relating to short-term leases was $2m (2019: $1m). The expense relating to leases of Low-value assets that are not shown above as short-term leases was $1m (2019: $1m). The income relating to variable lease payments not included in lease liabilities was $1m (2019: $nil). Income recognised from subleasing was $7m (2019: $4m).

The total cash outflow for leases in 2020 was $228m (2019: $208m).

Prior to adoption of IFRS 16 on 1 January 2019, total rentals under operating leases charged to profit were as follows:

	2018 $m
Operating leases	188

Prior to adoption of IFRS 16 on 1 January 2019, the future minimum lease payments under operating leases that had an initial or remaining term in excess of one year at 31 December 2019 were as follows:

	2018 $m
Not later than one year	188
Later than one year and not later than five years	360
Later than five years	136
Total future minimum lease payments	684

9 Goodwill

	2020 $m	2019 $m	2018 $m
Cost			
At 1 January	**11,982**	12,022	12,143
Exchange and other adjustments	**182**	(40)	(121)
At 31 December	**12,164**	11,982	12,022
Amortisation and impairment losses			
At 1 January	**314**	315	318
Exchange and other adjustments	**5**	(1)	(3)
At 31 December	**319**	314	315
Net book value			
At 31 December	**11,845**	11,668	11,707

Goodwill is tested for impairment at the operating segment level, this being the level at which goodwill is monitored for internal management purposes. As detailed in Note 6, the Group does not have multiple operating segments and is engaged in a single business activity of pharmaceuticals.

Recoverable amount is determined on a fair value less costs to sell basis using the market value of the Company's outstanding Ordinary Shares. Our market capitalisation is compared to the book value of the Group's net assets and this indicates a significant surplus at 31 December 2020 (and 31 December 2019 and 31 December 2018). No goodwill impairment was identified.

10 Intangible assets

	Product, marketing and distribution rights $m	Other intangibles $m	Software development costs $m	Total $m
Cost				
At 1 January 2018	42,913	2,636	1,911	47,460
Additions – separately acquired	476	–	37	513
Transferred to assets held for sale (Note 18)	(2,486)	–	–	(2,486)
Disposals	(630)	–	(16)	(646)
Exchange and other adjustments	(1,137)	(110)	(93)	(1,340)
At 31 December 2018	39,136	2,526	1,839	43,501
Additions – separately acquired	1,835	99	67	2,001
Disposals	(35)	–	(151)	(186)
Exchange and other adjustments	(282)	24	26	(232)
At 31 December 2019	40,654	2,649	1,781	45,084
Additions – separately acquired	**1,454**	**2**	**136**	**1,592**
Disposals	**(970)**	**(66)**	**(636)**	**(1,672)**
Exchange and other adjustments	**1,539**	**57**	**7**	**1,603**
At 31 December 2020	**42,677**	**2,642**	**1,288**	**46,607**
Amortisation and impairment losses				
At 1 January 2018	17,658	2,004	1,610	21,272
Amortisation for year	2,016	69	80	2,165
Impairment charges	711	–	–	711
Impairment reversals	(28)	–	–	(28)
Transferred to assets held for sale (Note 18)	(1,504)	–	–	(1,504)
Disposals	(294)	–	(13)	(307)
Exchange and other adjustments	(652)	(38)	(77)	(767)
At 31 December 2018	17,907	2,035	1,600	21,542
Amortisation for year	1,808	52	68	1,928
Impairment charges	1,034	–	2	1,036
Impairment reversals	(3)	–	–	(3)
Disposals	(29)	–	(147)	(176)
Exchange and other adjustments	(112)	10	26	(76)
At 31 December 2019	20,605	2,097	1,549	24,251
Amortisation for year	**1,872**	**59**	**61**	**1,992**
Impairment charges	**405**	**–**	**–**	**405**
Impairment reversals	**(165)**	**–**	**–**	**(165)**
Disposals	**(899)**	**(66)**	**(636)**	**(1,601)**
Exchange and other adjustments	**746**	**38**	**(6)**	**778**
At 31 December 2020	**22,564**	**2,128**	**968**	**25,660**
Net book value				
At 31 December 2018	21,229	491	239	21,959
At 31 December 2019	20,049	552	232	20,833
At 31 December 2020	**20,113**	**514**	**320**	**20,947**

Other intangibles consist mainly of research and device technologies.

Included within Additions – separately acquired are amounts of $835m (2019: $1,093m; 2018: $211m), relating to deferred payments and other non-cash consideration for the acquisition of Product, marketing and distribution rights, which are not reflected in the current year Consolidated Statement of Cash Flows. Disposals include amounts related to fully depreciated assets that are no longer in use by the Group.

Amortisation charges are recognised in profit as follows:

	Product, marketing and distribution rights $m	Other intangibles $m	Software development costs $m	Total $m
Year ended 31 December 2018				
Cost of sales	187	–	–	187
Research and development expense	–	33	–	33
Selling, general and administrative costs	1,829	32	80	1,941
Other operating income and expense	–	4	–	4
Total	2,016	69	80	2,165
Year ended 31 December 2019				
Cost of sales	87	–	–	87
Research and development expense	–	29	–	29
Selling, general and administrative costs	1,721	19	68	1,808
Other operating income and expense	–	4	–	4
Total	1,808	52	68	1,928
Year ended 31 December 2020				
Cost of sales	**66**	**–**	**–**	**66**
Research and development expense	**–**	**29**	**–**	**29**
Selling, general and administrative costs	**1,806**	**28**	**61**	**1,895**
Other operating income and expense	**–**	**2**	**–**	**2**
Total	**1,872**	**59**	**61**	**1,992**

Net impairment charges/(reversals) are recognised in profit as follows:

	Product, marketing and distribution rights $m	Other intangibles $m	Software development costs $m	Total $m
Year ended 31 December 2018				
Research and development expense	539	–	–	539
Selling, general and administrative costs	144	–	–	144
Total	683	–	–	683
Year ended 31 December 2019				
Research and development expense	609	–	–	609
Selling, general and administrative costs	425	–	2	427
Other operating income and expense	(3)	–	–	(3)
Total	1,031	–	2	1,033
Year ended 31 December 2020				
Research and development expense	**55**	**–**	**–**	**55**
Selling, general and administrative costs	**185**	**–**	**–**	**185**
Total	**240**	**–**	**–**	**240**

Impairment charges and reversals

Intangible assets under development and not available for use are tested annually for impairment and other intangible assets are tested when there is an indication of impairment loss or reversal. Where testing is required, the recoverable amount of the assets is estimated in order to determine the extent of the impairment loss or reversal. Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the Cash Generating Unit (CGU) to which it belongs. The Group considers that as the intangible assets are linked to individual products and that product cash flows are considered to be largely independent of other product cash flows, the CGU for intangibles is at the product level. Group level budgets and forecasts include forecast capital investment and operational impacts related to sustainability projects, and form the basis for the value in use models used for impairment testing.

An asset's recoverable amount is determined as the higher of an asset's or CGU's fair value less costs to sell or value in use, in both cases using discounted cash flow calculations where the assets' expected post-tax cash flows are risk-adjusted over their estimated remaining period of expected economic benefit. Where the value in use approach is used, the risk-adjusted cash flows are discounted using AstraZeneca's post-tax weighted average cost of capital (7% for 2020, 2019 and 2018), with reference to comparable companies. There is no material difference in the approach taken to using pre-tax cash flows and a pre-tax rate compared to post-tax cash flows and a post-tax rate, as required by IAS 36. Where fair value less costs to sell is used to determine recoverable value, the discount rate is assessed with reference to a market participant; this is not usually materially different to the AstraZeneca post-tax weighted average cost of capital rate of 7%.

SE The estimates used in calculating the recoverable amount are considered significant estimates, highly sensitive and depend on assumptions specific to the nature of the Group's activities including:

> outcome of R&D activities
> probability of technical and regulatory success
> market volume, share and pricing (to derive peak year sales)
> amount and timing of projected future cash flows
> sales erosion curves following patent expiry.

10 Intangible assets *continued*

For assets held at fair value less costs to sell, we make appropriate adjustments to reflect market participant assessments.

In 2020, the Group recorded impairment charges of $350m in respect of launched products, including *Duaklir* ($200m, revised carrying amount of $210m) under fair value less costs to sell, *Bydureon* ($102m, revised carrying amount of $581m) under value in use model, and other launched products totalling $48m. The fair value less costs to sell valuation model for *Duaklir* is based on discounted cash flows, and is categorised at Level 3 in the fair value hierarchy. Key assumptions in this model are forecast future revenue and costs of production. As these assets have been impaired in the current year, there is limited headroom in the recoverable amount calculation and they are inherently sensitive to any changes in assumptions, which could give rise to future impairments.

Impairment charges recorded against products in development totalled $55m.

In 2019, the Group recorded impairment charges of $425m in respect of launched products *Bydureon* ($154m, revised carrying amount of $747m) under value in use model, *Qtern* ($89m, revised carrying amount of $233m) under value in use model, *Eklira*/*Tudorza* ($84m, revised carrying amount of $192m) under value in use model, *FluMist* ($52m, revised carrying amount of $172m) under fair value less costs to sell and $46m relating to other launched products. Impairment charges recorded against products in development related to *Epanova* ($533m) and other intangible assets ($76m).

In 2018, the Group recorded impairment charges of $144m in respect of launched products *Eklira*/*Tudorza* ($114m, revised carrying value of $396m) and *Movantik* ($30m, revised carrying value of $59m). Impairment charges recorded against products in development related to MEDI0680 ($470m) and other intangible assets ($95m).

The impairments recorded on launched products were a consequence of revised market volume, share and price assumptions. Impairments recorded on products in development were a consequence of failed or poor performing trials, with the individual assets being fully impaired.

The Group has performed an assessment on assets which have had impairments recorded in previous periods to determine if any reversals of impairments were required. Impairment reversals of $165m were recorded in 2020 in respect of launched products, including *FluMist* ($147m, revised carrying amount of $300m, driven by expanded vaccination efforts increasing global demand), and other launched products of $18m.

No impairment reversals were recorded against products in development in 2020 (2019: $3m; 2018: $28m).

Sensitivities

When launched products, such as the ones detailed above, are partially impaired, the carrying values of these assets in future periods are particularly sensitive to changes in forecast assumptions, including those assumptions set out above, as the asset is impaired down to its recoverable amount.

Assets that are particularly sensitive to variations in valuation assumptions include Ardea (carrying value of $1,172m) and *Bydureon* (carrying value of $581m). The Ardea valuation is particularly sensitive to variations in the probability of technical and regulatory success (PTRS) assumptions. Sensitivities performed at the year end on the Ardea asset included reducing the PTRS by five percentage points. Applying this sensitivity would result in an impairment charge against the Ardea intangible asset of approximately $140m. If revenue projections for *Bydureon* were to fall by 15% over the forecast period, this would result in a further impairment charge of approximately $110m.

SE Were the useful economic lives to be adjusted to reduce them all by one year, the net book value would be reduced by $526m. If the useful economic lives were to be extended by one year, the net book value would increase by $275m.

Significant assets

	Carrying value $m	Remaining amortisation period
Intangible assets arising from the acquisition of Acerta Pharma	5,781	12 years
Intangible assets arising from the acquisition of ZS Pharma	2,746	11 years
Enhertu intangible assets acquired from Daiichi Sankyo	1,651	13 years
Intangible assets arising from the acquisition of Ardea[1]	1,172	Not amortised
Other intangible assets acquired from Daiichi Sankyo[1]	1,060	Not amortised
Farxiga/*Forxiga* intangible assets acquired from BMS	952	6 years
Intangible assets arising from the restructuring of a historical joint venture with MSD	797	1 to 9 years
Intangible assets arising from the acquisition of Pearl Therapeutics	765	8 to 9 years
RSV franchise assets arising from the acquisition of MedImmune	764	5 years
Bydureon intangible assets acquired from BMS	581	10 years
Respiratory intangible assets acquired from Almirall and Actavis	527	4 to 18 years
Onglyza intangible assets acquired from BMS	462	3 years
Roxadustat intangible assets acquired from FibroGen	444	9 years
Other diabetes intangible assets acquired from BMS	391	2 to 5 years
Monalizumab intangible assets acquired from Innate Pharma[1]	344	Not amortised

[1] Assets in development are not amortised but are tested annually for impairment.

The acquisition of intangible assets relating to DS-1062 in 2020 was assessed under the optional concentration test in IFRS 3 and was determined to be an asset acquisition, as substantially all of the value of the gross assets acquired was concentrated in a single asset.

KJ In assessing whether the intangible assets and associated processes acquired from Daiichi Sankyo in 2019 were a business, we determined that they were not at a stage of readiness to be able to obtain regulatory approval and manufacture and commercialise at scale. The transaction was treated as an asset acquisition.

11 Investments in associates and joint ventures

	2020 $m	2019 $m	2018 $m
At 1 January	**58**	89	103
Additions	**8**	74	187
Share of after tax losses	**(27)**	(116)	(113)
Unrecognised profit on transactions with joint ventures	**–**	–	(64)
Exchange and other adjustments	**–**	11	(24)
At 31 December	**39**	58	89

On 23 February 2018, AstraZeneca entered into an agreement with a consortium of investors to form a new, US domiciled standalone company called Viela Bio. This agreement was to divest a number of assets in MedImmune's non-core inflammation and autoimmunity portfolio to Viela Bio, including MEDI-551, which is an advanced Phase IIb/III asset, and a number of other clinical and pre-clinical assets. AstraZeneca contributed $142m in initial funds and held an initial 45% interest in the joint venture. Consideration was $142m and a restricted disposal gain of $63m was recognised in Other operating income in 2018. Viela Bio completed an IPO on 7 October 2019 with AstraZeneca investing $8m. After the IPO, AstraZeneca's holding was reduced to 29%. In May 2020, Viela Bio completed a follow-on financing reducing AstraZeneca's holding to 26.7% with one member on a board size of seven. Given the shareholding and board representation, the investment continues to be treated as an associate. During the year the Group provided transitional research and development services to Viela Bio, comprising $3m (2019: $13m) of services provided directly by the Group and $15m (2019: $24m) of passed-through third-party costs incurred by the Group on behalf of Viela Bio. At the end of the year, the Group had an outstanding unsecured receivable of $2m (2019: $6m) settleable in cases on customary terms against which no credit loss provision has been made.

On 27 November 2017, AstraZeneca entered into a joint venture agreement with Chinese Future Industry Investment Fund (FIIF), to discover, develop and commercialise potential new medicines to help meet unmet medical needs globally, and to bring innovative new medicines to patients in China more quickly. The agreement resulted in the formation of a joint venture entity based in China, Dizal (Jiangsu) Pharmaceutical Co., Limited (Dizal). AstraZeneca contributed $55m in initial funds and held an initial 48% interest in the joint venture. The joint venture entity purchased exclusive rights from AstraZeneca in 2017 to develop and commercialise three potential medicines currently in pre-clinical development in the areas of oncology, cardiovascular and metabolic diseases, and respiratory, resulting in a disposal gain of $28m for AstraZeneca recognised in Other operating income. An additional contribution of $25m was made in 2019. In July 2020, Dizal completed a follow-on financing reducing AstraZeneca's holding to 30.3% with two members on a board size of seven. Given the shareholding and board representation, the investment continues to be treated as an associate.

On 1 December 2015, AstraZeneca entered into a joint venture agreement with Fujifilm Kyowa Kirin Biologics Co., Ltd. to develop a biosimilar using the combined capabilities of the two parties. The agreement resulted in the formation of a joint venture entity based in the UK, Centus Biotherapeutics Limited. AstraZeneca contributed $45m in cash to the joint venture entity and has a 50% interest in the joint venture. Additional contributions were made of $10m in 2016, $20m in 2017, $27m in 2018, $20m in 2019 and $7.5m in 2020.

On 30 April 2014, AstraZeneca entered into a joint venture agreement with Samsung Biologics Co., Ltd. to develop a biosimilar using the combined capabilities of the two parties. The agreement resulted in the formation of a joint venture entity based in the UK, Archigen Biotech Limited. Since its establishment, AstraZeneca has contributed $131m in cash to the joint venture entity and has a 50% interest in the joint venture. At the end of the year Archigen had net assets of $1m, of which AstraZeneca's share is $0.4m, and the investment is held at $nil value.

All investments are accounted for using the equity method. At 31 December 2020, unrecognised losses in associates and joint ventures totalled $56m (2019: $3m; 2018: $nil) which have not been recognised due to the investment carrying value reaching $nil value.

Aggregated summarised financial information for the associate and joint venture entities is set out below:

	2020 $m	2019 $m	2018 $m
Non-current assets	**324**	298	260
Current assets	**552**	447	233
Total liabilities	**(105)**	(89)	(71)
Net assets	**771**	656	422
Amount attributable to AstraZeneca	**38**	64	104
Exchange adjustments	**1**	(6)	(15)
Carrying value of investments in associates and joint ventures	**39**	58	89

12 Other investments

	2020 $m	2019 $m	2018 $m
Non-current investments			
Equity securities at fair value through Other comprehensive income	**1,108**	1,339	833
Fixed income securities at fair value through profit and loss	**–**	62	–
Total	**1,108**	1,401	833
Current investments			
Fixed income securities at fair value through profit and loss	**118**	811	809
Fixed deposits	**42**	38	40
Total	**160**	849	849

Other investments held at fair value through Other comprehensive income include equity securities which are not held for trading and which the Group has irrevocably elected at initial recognition to recognise in this category. Other investments held at fair value through profit and loss comprise fixed income securities that the Group holds to sell.

The fair value of listed investments is based on year end quoted market prices. Fixed deposits are held at amortised cost with carrying value being a reasonable approximation of fair value given their short-term nature.

Fair value hierarchy

The table below analyses equity securities and bonds, contained within Other investments and carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities
- Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)
- Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

	2020 FVPL $m	2020 FVOCI $m	2019 FVPL $m	2019 FVOCI $m	2018 FVPL $m	2018 FVOCI $m
Level 1	**118**	**891**	873	1,112	809	667
Level 2	**–**	**–**	–	–	–	–
Level 3	**–**	**217**	–	227	–	166
Total	**118**	**1,108**	873	1,339	809	833

During 2020, AstraZeneca sold a proportion of its equity portfolio receiving consideration of $1,381m, a large proportion of which related to the disposal of its full holding in Moderna. All related gains were accounted through Other comprehensive income.

Equity securities that are analysed at Level 3 include investments in private biotech companies. In the absence of specific market data, these unlisted investments are held at fair value based on the cost of investment and adjusting as necessary for impairments and revaluations on new funding rounds, which approximates to fair value. Movements in Level 3 investments are detailed below:

	2020 FVOCI $m	2019 FVOCI $m	2018 FVOCI $m
At 1 January	**227**	166	675
Additions	**96**	5	79
Revaluations	**63**	56	(147)
Transfers out	**(103)**	2	(434)
Disposals	**(86)**	(5)	(6)
Impairments and exchange adjustments	**20**	3	(1)
At 31 December	**217**	227	166

Assets are transferred in or out of Level 3 on the date of the event or change in circumstances that caused the transfer.

13 Derivative financial instruments

	Non-current assets $m	Current assets $m	Current liabilities $m	Non-current liabilities $m	Total $m
Interest rate swaps related to instruments designated at fair value through profit and loss	40	–	–	–	40
Cross currency swaps designated in a net investment hedge	–	213	–	(4)	209
Cross currency swaps designated in a cash flow hedge	101	–	–	–	101
Cross currency swaps designated in a fair value hedge[1]	16	–	–	–	16
Other derivatives	–	45	(27)	–	18
31 December 2018	157	258	(27)	(4)	384

	Non-current assets $m	Current assets $m	Current liabilities $m	Non-current liabilities $m	Total $m
Interest rate swaps related to instruments designated at fair value through profit and loss	43	–	–	–	43
Cross currency swaps designated in a net investment hedge	4	–	–	(1)	3
Cross currency swaps designated in a cash flow hedge	4	–	–	(17)	(13)
Cross currency swaps designated in a fair value hedge[1]	10	–	–	–	10
Other derivatives	–	36	(36)	–	–
31 December 2019	61	36	(36)	(18)	43

	Non-current assets $m	Current assets $m	Current liabilities $m	Non-current liabilities $m	Total $m
Interest rate swaps related to instruments designated at fair value through profit and loss	**45**	**–**	**–**	**–**	**45**
Cross currency swaps designated in a net investment hedge	**19**	**–**	**–**	**(2)**	**17**
Cross currency swaps designated in a cash flow hedge	**107**	**43**	**–**	**–**	**150**
Cross currency swaps designated in a fair value hedge[1]	**–**	**43**	**–**	**–**	**43**
Forward FX designated in a cash flow hedge[2]	**–**	**8**	**(3)**	**–**	**5**
Other derivatives	**–**	**48**	**(30)**	**–**	**18**
31 December 2020	**171**	**142**	**(33)**	**(2)**	**278**

[1] Cross currency swaps designated in a fair value hedge refers to a cross currency interest rate swap that hedges a designated euro 300m portion of our euro 750m 0.875% 2021 non-callable bond against exposure to movements in the euro:US dollar exchange rate.
[2] Forward FX designated in a cash flow hedge relates to contracts hedging anticipated CNY, EUR, JPY and SEK transactions occurring in Q1 2021.

All derivatives are held at fair value and fall within Level 2 of the fair value hierarchy as defined in Note 12. None of the derivatives have been reclassified in the year.

The fair value of interest rate swaps and cross currency swaps is estimated using appropriate zero coupon curve valuation techniques to discount future contractual cash flows based on rates at the current year end.

The fair value of forward foreign exchange contracts and currency options are estimated by cash flow accounting models using appropriate yield curves based on market forward foreign exchange rates at the year end. The majority of forward foreign exchange contracts for existing transactions had maturities of less than one month from year end.

The interest rates used to discount future cash flows for fair value adjustments, where applicable, are based on market swap curves at the reporting date, and were as follows:

	2020	2019	2018
Derivatives	**(0.5)% to 2.4%**	(0.5)% to 2.7%	(0.4)% to 3.2%

14 Non-current other receivables

	2020 $m	2019 $m	2018 $m
Prepayments	**395**	392	461
Accrued income	**56**	10	–
Other receivables	**269**	338	54
Non-current other receivables	**720**	740	515

Prepayments include $121m (2019: $125m; 2018: $146m) in relation to our research collaboration with Moderna. Other receivables include $nil (2019: $118m; 2018: $nil) of outstanding payments relating to the out-licence of *Duaklir* and *Tudorza* to Circassia in 2017 and $56m (2019: $53m; 2018: $nil) owed by FibroGen for promotional activity in China pursuant to the roxadustat collaboration.

The 2018 balance included a prepayment of $114m which represented the long-term element of minimum contractual royalties payable to Shionogi under the global licence agreement for *Crestor*, which was renegotiated in December 2013. The resulting modified royalty structure, which included fixed minimum and maximum payments in years until 2020, resulted in the Group recognising liabilities, and corresponding prepayments, for the discounted value of total minimum payments. At 31 December 2019 the prepayment was reported in amounts due within one year (see Note 16).

15 Inventories

	2020 $m	2019 $m	2018 $m
Raw materials and consumables	**1,262**	830	794
Inventories in process	**1,331**	1,272	1,450
Finished goods and goods for resale	**1,431**	1,091	646
Inventories	**4,024**	3,193	2,890

The Group recognised $3,110m (2019: $2,708m; 2018: $2,659m) of inventories as an expense within Cost of sales during the year.

Inventory write-offs in the year amounted to $149m (2019: $231m; 2018: $208m).

16 Current trade and other receivables

	2020 $m	2019 $m	2018 $m
Amounts due within one year			
Trade receivables	**3,829**	3,606	3,033
Less: Amounts provided for doubtful debts (Note 27)	**(23)**	(21)	(38)
	3,806	3,585	2,995
Other receivables	**1,278**	1,083	1,143
Prepayments	**1,735**	865	871
Government grants receivable	**53**	–	–
Accrued income	**150**	228	492
	7,022	5,761	5,501
Amounts due after more than one year			
Prepayments	**–**	–	73
	–	–	73
Trade and other receivables	**7,022**	5,761	5,574

Trade receivables includes $1,250m (2019: $892m; 2018: $724m) measured at FVOCI classified 'hold to collect and sell' as they are due from customers that the Group has the option to factor.

All other financial assets included within current Trade and other receivables are held at amortised cost with carrying value being a reasonable approximation of fair value.

17 Cash and cash equivalents

	2020 $m	2019 $m	2018 $m
Cash at bank and in hand	**1,182**	755	893
Short-term deposits	**6,650**	4,614	3,938
Cash and cash equivalents	**7,832**	5,369	4,831
Unsecured bank overdrafts	**(286)**	(146)	(160)
Cash and cash equivalents in the cash flow statement	**7,546**	5,223	4,671

The Group holds $nil (2019: $1m; 2018: $86m) of Cash and cash equivalents which is required to meet insurance solvency, capital and security requirements.

AstraZeneca invests in constant net asset value funds and low volatility net asset value funds with same day access for subscription and redemption. These investments fail the 'solely payments of principal and interest' test criteria under IFRS 9. They are therefore measured at fair value through profit and loss, although the fair value will be materially the same as amortised cost.

Non-cash and other movements, within operating activities in the Consolidated Statement of Cash Flows, includes:

	2020 $m	2019 $m	2018 $m
Net (gains)/losses on disposal of non-current assets	**(25)**	21	8
Changes in fair value of put option (Acerta Pharma)	**–**	172	(113)
Share-based payments charge for the period	**277**	259	219
Settlement of share plan awards	**(349)**	(323)	(212)
Pension contributions	**(172)**	(175)	(174)
Pension charges recorded in operating profit	**84**	59	128
Long-term provision charges recorded in operating profit	**66**	506	63
Non-cash intangible additions	**(120)**	–	–
Foreign exchange and other	**(37)**	(141)	(209)
Total operating activities non-cash and other movements	**(276)**	378	(290)

Activities related to *COVID-19 Vaccine AstraZeneca* increased Net cash inflow from operating activities by $1,062m in the year. The movement primarily related to changes in working capital balances including Vaccine contract liabilities, Deferred government grant income, Trade payables, Prepayments, Government grants receivables and Inventory.

18 Assets held for sale

There were no assets held for sale at year end (2019: $70m; 2018: $982m). In 2019, Assets held for sale comprised tangible assets relating to the Boulder Manufacturing Centre, which was subsequently sold in May 2020. In 2018, Assets held for sale comprised intangible assets relating to the US rights to RSV franchise assets (specifically *Synagis*) arising from the acquisition of MedImmune and to US rights to certain respiratory assets acquired from Almirall and Actavis (including *Tudorza*), which were subsequently sold in January 2019.

19 Interest-bearing loans and borrowings

		Repayment dates	**2020 $m**	2019 $m	2018 $m
Current liabilities					
Bank overdrafts		On demand	**286**	146	160
Other short-term borrowings excluding overdrafts			**84**	8	–
Bank collateral			**288**	71	384
Lease liabilities			**192**	188	–
1.95% Callable bond	US dollars	2019	**–**	–	999
2.375% Callable bond	US dollars	2020	**–**	1,597	–
0.25% Callable bond	euros	2021	**614**	–	–
0.875% Non-callable bond	euros	2021	**919**	–	–
Other loans (including commercial paper)		Within one year	**3**	–	211
Total			**2,386**	2,010	1,754
Non-current liabilities					
Lease liabilities			**489**	487	–
2.375% Callable bond	US dollars	2020	**–**	–	1,594
0.25% Callable bond	euros	2021	**–**	559	570
0.875% Non-callable bond	euros	2021	**–**	837	854
Floating rate notes	US dollars	2022	**250**	250	250
2.375% Callable bond	US dollars	2022	**996**	996	994
7% Guaranteed debentures	US dollars	2023	**339**	335	325
Floating rate notes	US dollars	2023	**400**	400	400
3.5% Callable bond	US dollars	2023	**847**	846	845
0.75% Callable bond	euros	2024	**1,102**	1,003	1,022
3.375% Callable bond	US dollars	2025	**1,985**	1,983	1,980
0.7% Callable bond	US dollars	2026	**1,192**	–	–
3.125% Callable bond	US dollars	2027	**744**	743	743
1.25% Callable bond	euros	2028	**973**	885	903
4% Callable bond	US dollars	2029	**993**	992	992
1.375% Callable bond	US dollars	2030	**1,291**	–	–
5.75% Non-callable bond	pounds sterling	2031	**475**	457	443
6.45% Callable bond	US dollars	2037	**2,722**	2,721	2,721
4% Callable bond	US dollars	2042	**988**	987	987
4.375% Callable bond	US dollars	2045	**980**	980	979
4.375% Callable bond	US dollars	2048	**737**	737	736
2.125% Callable bond	US dollars	2050	**486**	–	–
Other loans	US dollars		**5**	19	21
Total			**17,994**	16,217	17,359
Total interest-bearing loans and borrowings[1,2]			**20,380**	18,227	19,113

[1] All loans and borrowings above are unsecured.
[2] The floating rate notes which will be repaid beyond 2021 are expected to be impacted by the change in LIBOR reference rates.

	Total loans and borrowings 2020 $m	Total loans and borrowings 2019 $m	Total loans and borrowings 2018 $m
At 1 January	**18,227**	19,113	17,807
Adoption of new accounting standards – Lease liabilities	**–**	720	–
Changes from financing cash flows			
Issue of loans	**2,968**	500	2,971
Repayment of loans	**(1,609)**	(1,500)	(1,400)
Movement in short-term borrowings	**288**	(516)	(98)
Repayment of obligations under leases	**(207)**	(186)	–
Total changes in cash flows arising on financing activities	**1,440**	(1,702)	1,473
Movement in overdrafts	**138**	(13)	8
New lease liabilities	**174**	173	–
Exchange	**363**	(62)	(177)
Other movements	**38**	(2)	2
At 31 December	**20,380**	18,227	19,113

19 Interest-bearing loans and borrowings *continued*

Set out below is a comparison by category of carrying values and fair values of all the Group's interest-bearing loans and borrowings:

	Instruments in a fair value hedge relationship[1] $m	Instruments designated at fair value[2] $m	Instruments designated in cash flow hedge $m	Amortised cost $m	Total carrying value $m	Fair value $m
2018						
Overdrafts	–	–	–	160	160	160
Loans due within one year	–	–	–	1,594	1,594	1,587
Loans due after more than one year	346	325	2,495	14,193	17,359	17,841
Total at 31 December 2018	346	325	2,495	15,947	19,113	19,588
2019						
Overdrafts	–	–	–	146	146	146
Lease liabilities due within one year	–	–	–	188	188	188
Lease liabilities due after more than one year	–	–	–	487	487	487
Loans due within one year	–	–	–	1,676	1,676	1,684
Loans due after more than one year	339	335	2,447	12,609	15,730	18,044
Total at 31 December 2019	339	335	2,447	15,106	18,227	20,549
2020						
Overdrafts	**–**	**–**	**–**	**286**	**286**	**286**
Lease liabilities due within one year	**–**	**–**	**–**	**192**	**192**	**192**
Lease liabilities due after more than one year	**–**	**–**	**–**	**489**	**489**	**489**
Loans due within one year	**371**	**–**	**614**	**923**	**1,908**	**1,922**
Loans due after more than one year	**–**	**339**	**2,075**	**15,091**	**17,505**	**20,936**
Total at 31 December 2020	**371**	**339**	**2,689**	**16,981**	**20,380**	**23,825**

[1] Instruments designated as hedged items in a fair value hedge relationship relate to a designated euro 300m portion of our euro 750m 0.875% 2021 non-callable bond. The accumulated amount of fair value hedge adjustments to the bond is a loss of $44m.
[2] Instruments designated at fair value through profit or loss include the US dollar 7% guaranteed debentures repayable in 2023.

The fair value of fixed-rate publicly traded debt is based on year end quoted market prices; the fair value of floating rate debt is nominal value, as mark to market differences would be minimal given the frequency of resets. The carrying value of loans designated at fair value through profit or loss is the fair value; this falls within the Level 1 valuation method as defined in Note 12. For loans designated in a fair value hedge relationship, carrying value is initially measured at fair value and remeasured for fair value changes in respect of the hedged risk at each reporting date. All other loans are held at amortised cost. Fair values, as disclosed in the table above, are all determined using the Level 1 valuation method as defined in Note 12, with the exception of overdrafts and lease liabilities, where fair value approximates to carrying values.

A loss of $1m was made during the year on the fair value of bonds designated at fair value through profit or loss, due to decreased credit risk. A gain of $29m has been made on these bonds since designation due to increased credit risk. Under IFRS 9, the Group records the component of fair value changes relating to the component of own credit risk through Other comprehensive income. Changes in credit risk had no material effect on any other financial assets and liabilities recognised at fair value in the Group Financial Statements. The change in fair value attributable to changes in credit risk is calculated as the change in fair value not attributable to market risk. The amount payable at maturity on bonds designated at fair value through profit or loss is $287m.

The interest rates used to discount future cash flows for fair value adjustments, where applicable, are based on market swap curves at the reporting date, and were as follows:

	2020	2019	2018
Loans and borrowings	**(0.5)% to 0.1%**	(0.5)% to 1.6%	(0.4)% to 2.4%

20 Trade and other payables

	2020 $m	2019 $m	2018 $m
Current liabilities			
Trade payables	**2,350**	1,774	1,720
Value-added and payroll taxes and social security	**390**	323	204
Rebates, chargebacks, returns and other revenue accruals	**4,772**	4,410	4,043
Clinical trial accruals	**699**	736	993
Other accruals	**3,905**	4,026	3,951
Collaboration Revenue contract liabilities	**12**	28	92
Vaccine contract liabilities	**1,616**	–	–
Deferred government grant income	**253**	–	–
Contingent consideration	**647**	897	867
Other payables	**1,141**	1,793	971
Total	**15,785**	13,987	12,841
Non-current liabilities			
Accruals	**56**	34	7
Collaboration Revenue contract liabilities	**38**	50	78
Contingent consideration	**2,676**	3,242	4,239
Acerta Pharma put option liability (Note 26)	**2,297**	2,146	1,838
Other payables	**1,017**	819	608
Total	**6,084**	6,291	6,770

Included within Rebates, chargebacks, returns and other revenue accruals are contract liabilities of $77m (2019: $97m; 2018: $126m). The revenue recognised in the year for contract liabilities is $101m, comprising $73m relating to other revenue accruals and $28m Collaboration Revenue contract liabilities. The most significant market where Rebates, chargebacks, returns and other revenue accruals are seen relates to the US where the liability at 31 December 2020 amounted to $3,126m (2019: $3,385m; 2018: $3,266m).

Trade payables includes $248m (2019: $492m; 2018: $166m) due to suppliers that have signed up to a supply chain financing programme, under which the suppliers can elect on an invoice-by-invoice basis to receive a discounted early payment from the partner bank rather than being paid in line with the agreed payment terms. If the option is taken, the Group's liability is assigned by the supplier to be due to the partner bank rather than the supplier. The value of the liability payable by the Group remains unchanged. The Group assesses the arrangement against indicators to assess if debts which vendors have sold to the funder under the supplier financing scheme continue to meet the definition of trade payables or should be classified as borrowings. At 31 December 2020, the payables met the criteria of Trade payables.

Vaccine contract liabilities relate to amounts received from customers, primarily government bodies, in advance of supply of product. Substantially all of the vaccine contract liabilities are expected to be recognised as revenue during the next financial year.

Deferred government grant income relates to government grants received or receivable but for which the related expenses have not been incurred.

Included within current Other payables are liabilities to Daiichi Sankyo totalling $146m (2019: $795m; 2018: $nil) resulting from the collaboration agreement in relation to *Enhertu* entered into in March 2019 and $324m (2019: $nil; 2018: $nil) in relation to DS-1062 entered into in July 2020. Additionally, included within non-current Other payables are liabilities totalling $100m (2019: $241m; 2018: $nil) as a result of the *Enhertu* collaboration agreement and $323m (2019: $nil; 2018: $nil) as a result of the DS-1062 collaboration agreement.

On 5 November 2020, *Calquence* received marketing approval in the EU, which removed all remaining conditionality in respect of the Acerta Pharma put and call options regarding the non-controlling interest (see Note 26). Based on the latest assessment of the expected timing and amount of the Acerta Pharma put option redemption, no remeasurement was required in 2020. In 2019, remeasurement of the liability resulted in an increase (2018: decrease) in the liability for the year before the effect of interest costs, with the remeasurement taken to Selling, general and administrative costs (see Note 2). In October 2019, an amendment to the share purchase and option agreement (SPOA) with the sellers of Acerta Pharma (originally entered into in December 2015) came into effect, changing certain terms of the SPOA on both the timing and also reducing the maximum consideration that would be required to be made to acquire the remaining outstanding shares of Acerta Pharma if the options are exercised. The payments would be made in similar annual instalments commencing at the earliest from 2022 through to 2024, subject to the options being exercised. The changes to the terms have been reflected in the assumptions used to calculate the amortised cost of the option liability as at 31 December 2020 of $2,297m (2019: $2,146m; 2018: $1,838m). Interest arising from amortising the liability is included within Finance Expense (see Note 3). Upon exercise of the option, the associated cash flows will be disclosed as financing activities within the Consolidated Statement of Cash Flows.

With the exception of Contingent consideration payables of $3,323m (2019: $4,139m; 2018: $5,106m) which are held at fair value within Level 3 of the fair value hierarchy as defined in Note 12, all other financial liabilities are held at amortised cost with carrying value being a reasonable approximation of fair value.

20 Trade and other payables *continued*

Contingent consideration

	2020 $m	2019 $m	2018 $m
At 1 January	**4,139**	5,106	5,534
Settlements	**(822)**	(709)	(349)
Revaluations	**(272)**	(614)	(495)
Discount unwind (Note 3)	**278**	356	416
At 31 December	**3,323**	4,139	5,106

Contingent consideration arising from business combinations is fair valued using decision-tree analysis, with key inputs including the probability of success, consideration of potential delays and the expected levels of future revenues.

Revaluations of Contingent consideration are recognised in Selling, general and administrative costs and include a decrease of $51m in 2020 (2019: $516m; 2018: $482m) based on revised milestone probabilities, and revenue and royalty forecasts, relating to the acquisition of BMS's share of the Global Diabetes Alliance. Discount unwind on the liability is included within Finance expense (see Note 3).

The discount rate used for the Contingent consideration balances range from 7% to 9%. The most significant Contingent consideration balance is the Global Diabetes Alliance and this is discounted at 8%.

Management has identified that reasonably possible changes in certain key assumptions, including the likelihood of achieving successful trial results, obtaining regulatory approval, the projected market share of the therapy area and expected pricing for launched products, may cause the calculated fair value of the above Contingent consideration to vary materially in future years.

SE The Contingent consideration balance relating to BMS's share of Global Diabetes Alliance of $2,932m (2019: $3,300m; 2018: $3,983m) would increase/decrease by $293m with an increase/decrease in sales of 10% as compared with the current estimates.

The maximum development and sales milestones payable under outstanding Contingent consideration arrangements arising on business combinations are as follows:

Acquisitions	Year	Nature of contingent consideration	Maximum future milestones $m
Spirogen	2013	Milestones	180
Amplimmune	2013	Milestones	150
Pearl Therapeutics	2013	Milestones	140
Almirall[1]	2014	Milestones and royalties	420

[1] These contingent consideration liabilities have been designated as the hedge instrument in a net investment hedge of foreign currency risk arising on the Group's underlying US dollar net investments held in non-US dollar denominated subsidiaries. Exchange differences on the retranslation of the contingent consideration liability are recognised in Other comprehensive income to the extent that the hedge is effective. Any ineffectiveness is taken to profit.

The amount of royalties payable under the arrangements is inherently uncertain and difficult to predict, given the direct link to future sales and the range of outcomes. The maximum amount of royalties payable in each year is with reference to net sales.

21 Provisions

	Severance $m	Environmental $m	Employee benefits $m	Legal $m	Other provisions $m	Total $m
At 1 January 2018	358	59	126	654	271	1,468
Charge for year	94	65	1	11	30	201
Cash paid	(152)	(24)	(9)	(232)	(28)	(445)
Reversals	(58)	–	–	(230)	(28)	(316)
Exchange and other movements	(16)	(3)	1	(5)	6	(17)
At 31 December 2018	226	97	119	198	251	891
Charge for year	158	31	18	618	236	1,061
Cash paid	(115)	(39)	(13)	(147)	(24)	(338)
Reversals	(30)	(1)	–	(28)	(17)	(76)
Exchange and other movements	2	8	6	1	9	26
At 31 December 2019	241	96	130	642	455	1,564
Transfers in[1]	**–**	**–**	**–**	**–**	**258**	**258**
Charge for year	**116**	**34**	**15**	**16**	**95**	**276**
Cash paid	**(62)**	**(30)**	**(48)**	**(295)**	**(56)**	**(491)**
Reversals	**(89)**	**–**	**(2)**	**(14)**	**(27)**	**(132)**
Exchange and other movements	**8**	**–**	**33**	**(1)**	**45**	**85**
At 31 December 2020	**214**	**100**	**128**	**348**	**770**	**1,560**

[1] The Group revised its presentation of certain provisions ($258m) in 2020, which cover third-party liability and other risks (including incurred but not yet reported claims) to present this within current Other provisions. This balance has historically been presented within current Other payables. Upon review of the balances, the claims are considered to be uncertain as to timing and amount and therefore treatment as a provision is deemed more appropriate. The prior year comparatives have not been restated as the change in presentation on the financial statement line items impacted is not considered to be material.

	2020 $m	2019 $m	2018 $m
Due within one year	**976**	723	506
Due after more than one year	**584**	841	385
Total	**1,560**	1,564	891

Severance provisions arise from global restructuring initiatives which involve rationalisation of the global supply chain, the sales and marketing organisation, IT and business support infrastructure, and R&D. Employee costs in connection with the initiatives are recognised in severance provisions. Final severance costs are often subject to the completion of the requisite consultations on the areas impacted. AstraZeneca endeavours to support employees affected by restructuring initiatives to seek alternative roles within the organisation. Where the employee is successful, any severance provisions will be released.

Details of the environmental and legal provisions totalling $100m (2019: $96m; 2018: $97m) and $348m (2019: $642m; 2018: $198m), respectively, and ongoing matters are provided in Note 29. The legal issues are often subject to substantial uncertainties with regard to the timing and final amounts of any payments. As such, once established these provisions remain in Provisions until settlement is reached and uncertainty resolved, with no transfer to Trade and other payables prior to payment. A significant proportion of the total legal provision relates to matters settled in previous periods. These uncertainties can also cause reversal in previously established provisions once final settlement is reached.

Employee benefit provisions include the Deferred Bonus Plan. Further details are included in Note 28.

Other provisions comprise amounts relating to specific contractual or constructive obligations and disputes. The majority of other provisions relates to amounts associated with long-standing product liability settlements that arose prior to the merger of Astra and Zeneca. Given the nature of the provision the amounts are expected to be settled over many years.

No provision has been released or applied for any purpose other than that for which it was established.

22 Post-retirement and other defined benefit schemes

Background

This section predominantly covers defined benefit arrangements like post retirement pension and medical plans which make up the vast bulk of the Group's liabilities. However, it also incorporates other benefits which fall under IAS 19 rules and which require an actuarial valuation, including but not limited to: Lump Sum plans, Long Service Awards and defined contribution pension plans which have some defined benefit characteristics (e.g. a minimum guaranteed level of benefit).

The Group and most of its subsidiaries offer retirement plans which cover the majority of employees in the Group. The Group's policy is to provide defined contribution (DC) orientated pension provision to its employees unless otherwise compelled by local regulation. As a result, many of these retirement plans are DC, where the Group contribution and resulting charge is fixed at a set level or is a set percentage of employees' pay.

However, several plans, mainly in the UK, the US and Sweden, are defined benefit (DB), where benefits are based on employees' length of service and linked to their salary. The major defined benefit plans are largely legacy arrangements as they have been closed to new entrants since 2000, apart from the collectively bargained Swedish plan (which is still open to employees born before 1979). During 2010, following consultation with its UK employees' representatives, the Group introduced a freeze on pensionable pay at 30 June 2010 levels for defined benefit members of the UK Pension Fund. The number of active members in the Fund continues to decline and is now 579 employees. In November 2017, the Group closed the qualified and non-qualified US defined benefit pension plans to future accrual (and removed any salary link) from 31 December 2017.

The major defined benefit plans are funded through separate, fiduciary-administered assets. The cash funding of the plans, which may from time to time involve special Group payments, is designed, in consultation with independent qualified actuaries, to ensure that the assets are sufficient to meet future obligations as and when they fall due. The funding level is monitored rigorously by the Group and by local fiduciaries, who take into account the strength of the Group's covenant, local regulation, cash flows, and the solvency and maturity of the relevant pension scheme.

Financing principles

Ninety per cent of the Group's total defined benefit obligations (or 77% of net obligations) at 31 December 2020 are in schemes within the UK, the US and Sweden. In these countries, the pension obligations are funded in line with the Group's financing principles. There were no fundamental changes to these principles during 2020. The Group believes:

- in funding the benefits it promises to employees (when compatible with local regulation and best practice) and in meeting its obligations
- that the pension arrangements should be considered in the context of its broader capital structure. In general, it does not believe in committing excessive capital for funding when the Group might use the capital elsewhere to reinvest in the wider business, nor does it wish to generate surpluses
- in taking some measured and rewarded risks with the investments underlying the funding, subject to a long-term plan to reduce those risks when opportunities arise
- that holding certain investments may cause volatility in the funding position. However, the Group would not wish to amend its contribution level for relatively small deviations in funding level, because it is expected that there will be short-term volatility, but it is prepared to react appropriately to more significant deviations
- that proactive engagement with local Fiduciary Bodies is necessary and helpful to provide robust oversight and input in relation to funding and investment strategy and to facilitate liability management exercises appropriate to each pension plan
- in considering the use of alternative methods of providing security that do not require immediate cash funding but help mitigate exposure of the pension arrangement to the credit risk of the Group.

These principles are appropriate at the present date but they are kept under ongoing review and, should circumstances change, these principles may be subject to change.

22 Post-retirement and other defined benefit schemes *continued*

The Group has developed a long-term funding framework to implement these principles. This framework targets either full funding on a low-risk funding measure or buy-out with an external insurer as the pension funds mature, with affordable long-term de-risking of investment strategy along the way. Unless local regulation dictates otherwise, this framework determines the cash contributions payable to the pension funds. A key element of this funding framework is the investment strategy used to grow existing assets and hedge against changes in liability values. The Group provides regular input to local fiduciary boards with the aim of ensuring that an appropriate investment return is targeted over the long term in a risk-controlled manner.

UK

The UK defined benefit pension fund represents approximately 61% of the Group's defined benefit obligations at 31 December 2020. The financing principles are modified in light of the UK regulatory requirements (summarised below) and resulting discussions with the Pension Fund Trustee.

Role of Trustees and Regulation

The UK Pension Fund is governed and administered by a corporate Trustee which is legally separate from the Group. The Trustee Directors are comprised of representatives appointed by both the employer and employees and include an independent professional Trustee Director. The Trustee Directors are required by law to act in the interest of all relevant beneficiaries and are responsible in particular for investment strategy and the day-to-day administration of the benefits. They are also responsible for jointly agreeing with the employer the level of contributions due to the UK Pension Fund (see below).

The UK pensions market is regulated by The Pensions Regulator whose statutory objectives and regulatory powers are described on its website, www.thepensionsregulator.gov.uk.

Funding requirements

UK legislation requires that pension schemes are funded prudently. On a triennial basis, the Trustee and the Group must agree on a set of assumptions used to value the liabilities as a part of an actuarial valuation. Together with the asset valuation, this facilitates the calculation of a funding level and of the contributions required (if any) to ensure the UK Pension Fund is fully funded over an appropriate time-period and on a suitably prudent measure. The technical provisions assumptions used to value the liabilities for the triennial actuarial valuation are usually set more prudently than the assumptions used to prepare an accounting valuation of the liabilities, which are set under IAS 19 rules to be a 'best estimate'.

The last full actuarial valuation of the AstraZeneca Pension Fund was carried out by a qualified actuary as at 31 March 2019. Following discussions between the Group and Trustee, it was finalised and submitted to the Pensions Regulator in June 2020, ahead of the statutory deadline. The next actuarial valuation is due to take place as at 31 March 2022, with a likely timescale for completion in early to mid-2023.

Certain aspects of the triennial actuarial valuation are governed by a long-term funding agreement, effective since October 2016 and which sets out a path to full funding on a low-risk measure. Under this agreement, if a deficit exists, the Group will grant a charge in favour of the Trustee over certain land and buildings on the Cambridge Biomedical Campus, effective upon practical completion of the site, or from 2022 (whichever is earlier). This charge is not currently in force. When effective, the charge would only crystallise in the event of the Group's insolvency. This charge will provide long-term security in respect of future UK Pension Fund contributions and will be worth up to £350m.

In relation to deficit recovery contributions, a lump sum contribution of £51m ($65m) was made in March 2020, with a further £39m contribution due before 31 March 2021. In addition, a contribution of £28m ($36m) was also made in March 2020, with a further contribution of £29m due before 31 March 2021, in relation to part payment of the deferred contribution explained below.

During 2017, the Group provided a letter of credit to the Trustee, to underwrite the deferral of an additional deficit recovery contribution of approximately £126m which was due in 2017. This contribution will be paid in five instalments (with interest added each year) from March 2018 to March 2022 and to date, three instalments have been paid. The letter of credit underwriting these payments will reduce in value as each annual payment is made.

Under the funding assumptions used to set the statutory funding target, the key assumptions from the actuarial valuation as at 31 March 2019 (shown as a single-equivalent rate) were as follows: salary increases at 0% per annum (as a result of pensionable pay levels being frozen in 2010); pension increases at 3.07% per annum; and discount rate at 2.98% per annum. The resulting valuation of the Fund's liabilities on that basis was £5,991m ($8,012m) compared to a market value of assets at 31 March 2019 of £5,403m ($7,225m).

Under the governing documentation of the UK Pension Fund, any future surplus in the Fund would be returnable to the Group by refund assuming gradual settlement of the liabilities over the lifetime of the Fund. In particular, the Trustee has no unilateral right to wind-up the Fund without Company consent nor does it have the power to unilaterally use surplus to augment benefits prior to wind-up. As such, there are no adjustments required in respect of IFRIC 14 'IAS 19 – The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction'.

High Court Ruling on GMP

A second UK High Court Ruling in the Lloyds Guaranteed Minimum Pensions (GMP) equalisation case was published on Friday 20 November 2020. The first ruling in 2018 instructed Trustees of UK Pension Funds to equalise GMP benefits across genders for members and resulted in a past service cost of £17m ($23m) being recognised in the year ended 31 December 2018. The second ruling instructed Trustees to equalise for historical benefits paid via past transfers out, going back to 1990. The impact of this second ruling is estimated to be minimal, adding approximately $1m to liabilities.

United States and Sweden

The US plan and the Sweden plan account for 12% and 18%, respectively, of the Group's defined benefit obligations. The US and Sweden pension funds are governed by Fiduciary Bodies with responsibility for the investment policies of the assets. These plans are funded in line with the Group's financing principles and local regulations.

The US defined benefit pension plans were actuarially revalued at 31 December 2020, when plan obligations were $1,428m and plan assets were $1,335m. This includes obligations in respect of the non-qualified plan which is unfunded. The qualified US pension plan remains approximately fully funded on an IAS 19 basis and has a positive funding balance on the local statutory measure. As such, no contributions are required, and the investment strategy is largely de-risked.

The Swedish defined benefit pension plans were actuarially valued at 31 December 2020, when plan obligations were estimated to amount to $2,525m and plan assets were $1,338m. It should be noted that the Swedish plans have a funding surplus on the local GAAP accounting basis and this influences contribution policy.

On current bases, it is expected that ongoing contributions (excluding those in respect of past service deficit contributions) during the year ending 31 December 2021 for the three main countries will be approximately $33m.

Other defined benefit plans

The Group provides benefit plans other than pensions which have to be reported under IAS 19. These include Lump Sum plans, Long Service Awards and defined contribution pension plans which have a guaranteed minimum benefit. However, the largest category of these 'other' non-pension plans are healthcare benefits.

In the US, and to a lesser extent in certain other countries, the Group's employment practices include the provision of healthcare and life assurance benefits for eligible retired employees. As at 31 December 2020, some 2,953 retired employees and covered dependants currently benefit from these provisions and some 1,879 current employees will be eligible on their retirement. The Group accrues for the present value of such retiree obligations over the working life of the employee. In practice, these benefits will be funded with reference to the financing principles.

In the US, there was a change to the level of benefit provision for members aged 65 and over within the Group's healthcare plans, effective from 1 January 2021. The changes were communicated to the membership in September 2020 and resulted in an estimated liability reduction of $64m which has been recognised as a past service credit for the year ending 31 December 2020. Following these changes, the plans became fully funded on an IAS 19 basis and are projected to have a small surplus. As a result, the investment strategy has been fully de-risked.

The cost of post-retirement benefits other than pensions for the Group in 2020 was $1m (2019: $3m). Plan assets were $235m and plan obligations were $209m at 31 December 2020. These benefit plans have been included in the disclosure of post-retirement benefits under IAS 19.

Financial assumptions

Qualified independent actuaries have updated the actuarial valuations under IAS 19 for the major defined benefit schemes operated by the Group to 31 December 2020. The assumptions used may not necessarily be borne out in practice, due to the inherent financial and demographic uncertainty associated with making long-term projections. These assumptions reflect the changes which have the most material impact on the results of the Group and were as follows:

				2019
	UK	US	Sweden	Rest of Group[4]
Inflation assumption	3.0%	–	1.8%	1.5%
Rate of increase in salaries	–[1]	–	3.3%	2.3%
Rate of increase in pensions in payment	2.8%	–	1.8%	1.5%
Discount rate – defined benefit obligation	2.0%	3.2%	1.5%	1.3%
Discount rate – interest cost	2.7%	3.9%	2.0%	1.6%
Discount rate – service cost	2.8%	4.0%	2.5%	1.9%

				2020
	UK	**US**	**Sweden**	**Rest of Group[4]**
Inflation assumption	**2.9%**	**–**	**1.5%**	**1.6%**
Rate of increase in salaries	**–[1]**	**–**	**3.0%**	**3.1%**
Rate of increase in pensions in payment	**2.8%**	**–**	**1.5%**	**1.6%**
Discount rate – defined benefit obligation[2]	**1.4%**	**2.5%**	**1.2%**	**0.7%**
Discount rate – interest cost[3]	**1.1%**	**1.8%**	**1.0%**	**0.5%**
Discount rate – service cost[3]	**1.4%**	**1.7%**	**1.2%**	**0.8%**

[1] Pensionable pay frozen at 30 June 2010 levels following UK fund changes.
[2] Group defined benefit obligation as at 31 December 2020 calculated using discount rates based on market conditions as at 31 December 2020.
[3] 2020 interest costs and service costs calculated using discount rates based on market conditions as at 31 December 2019.
[4] Rest of Group reflects the assumptions in Germany as these have the most material impact on the Group.

The weighted average duration of the post-retirement scheme obligations is 16 years in the UK, 12 years in the US, 20 years in Sweden and 10 years for the Rest of the Group.

22 Post-retirement and other defined benefit schemes *continued*

Demographic assumptions

The mortality assumptions are based on country-specific mortality tables. These are compared to actual experience and adjusted where sufficient data are available. Additional allowance for future improvements in life expectancy is included for all major schemes where there is credible data to support a continuing trend.

The table below illustrates life expectancy assumptions at age 65 for male and female members retiring in 2020 and male and female members expected to retire in 2040 (2019: 2019 and 2039 respectively).

	Life expectancy assumption for a male member retiring at age 65				Life expectancy assumption for a female member retiring at age 65			
Country	**2020**	**2040**	2019	2039	**2020**	**2040**	2019	2039
UK	**22.4**	**23.7**	22.4	23.7	**23.9**	**25.1**	23.7	25.0
US	**21.8**	**24.5**	22.0	24.9	**23.2**	**26.1**	23.4	26.6
Sweden	**21.9**	**23.6**	21.9	23.6	**24.5**	**25.6**	24.5	25.6

In the UK, the Group adopted the CMI 2019 Mortality Projections Model with a 1% long-term improvement rate. No other demographic assumptions have changed since they were updated in 2019 following the actuarial valuation. The Group has continued to assume that 30% of members (2019: 30%) will transfer out of the defined benefit section of the AstraZeneca Pension Fund at the point of retirement.

The assumption used for the US plans was updated in 2020 to use the mortality tables (Pri-2012 and MP-2020) that were published during the year.

Risks associated with the Group's defined benefit pension schemes

The UK defined benefit plan accounts for 61% of the Group's defined benefit obligations and exposes the Group to a number of risks, the most significant of which are:

Risk	Description	Mitigation
Volatile asset returns	The Defined Benefit Obligation (DBO) is calculated using a discount rate set with reference to AA-rated corporate bond yields; asset returns that differ from the discount rate will create an element of volatility in the solvency ratio. The UK Pension Fund holds a significant proportion of assets (around 72.5%) in a growth portfolio. Although these growth assets are expected to outperform AA-rated corporate bonds in the long term, they can lead to volatility and mismatching risk in the short term. The allocation to growth assets is monitored to ensure it remains appropriate given the UK Pension Fund's long-term objectives.	In order to mitigate investment risk, the Trustee invests in a suitably diversified range of asset classes, return drivers and investment managers. The investment strategy will evolve to further improve the expected risk/return profile as opportunities arise. The Trustee has hedged approximately 75% of unintended non-sterling, overseas currency risk within the UK Pension Fund assets.
Changes in bond yields	A decrease in corporate bond yields will increase the present value placed on the DBO for accounting purposes.	The interest rate hedge of the UK Pension Fund is implemented via holding gilts and swaps of appropriate duration and set at approximately 91% of total assets and protects to some degree against falls in long-term interest rates (approximately 85% hedged at the end of 2019). There is a framework in place to gradually increase the level of interest rate hedging to 100% of assets. There are some differences in the bonds and instruments held by the UK Pension Fund to hedge interest rate risk on the statutory and long-term funding basis (gilts and swaps) and the bonds analysed to set the DBO discount rate on an accounting basis (AA corporate bonds). As such, there remains some mismatching risk on an accounting basis should yields on gilts and swaps diverge compared to AA corporate bonds.
Inflation risk	The majority of the DBO is indexed in line with price inflation (mainly inflation as measured by the UK Retail Price Index (RPI) but also for some members a component of pensions is indexed by the UK Consumer Price Index (CPI)) and higher inflation will lead to higher liabilities (although, in most cases, this is capped at an annual increase of 5%). It was confirmed in November 2020, the intention to align RPI with Consumer Price Index including Housing (CPIH) from 2030, which is expected to be a lower measure of inflation on average. Other things being equal, this will lead to lower liability valuations, offset by lower asset valuations of RPI linked assets (and index-linked gilts in particular).	The UK Pension Fund holds RPI index-linked gilts and derivative instruments such as swaps. The inflation hedge of the UK Pension Fund is set at approximately 83% of total assets and protects to some degree against higher-than-expected inflation increases on the DBO (approximately 85% hedged at the end of 2019). There is a framework in place to gradually increase the level of inflation hedging to 100% of assets over time, via a combination of liability management exercises and additional market-based hedging.
Life expectancy	The majority of the UK Pension Fund's obligations are to provide benefits for the life of the member, so increases in life expectancy will result in an increase in the liabilities.	The UK Pension Fund entered into a longevity swap during 2013 which provides hedging against the longevity risk of increasing life expectancy over the next 75 years for around 10,000 of the UK Pension Fund's current pensioners and covers $2.5bn of the UK Pension Fund's liabilities. A one-year increase in life expectancy would result in a $396m increase in pension fund obligations, which would be partially offset by a $205m increase in the value of the longevity swap and hence the pension fund assets. A one-year decrease in life expectancy would result in a $395m decrease in pension fund obligations, which would be partially offset by a $205m decrease in the value of the longevity swap and hence the pension fund assets.

Other risks

There are a number of other risks of administering the UK Pension Fund including counterparty risks from using derivatives (mitigated by using a diversified range of counterparties of high standing and ensuring positions are collateralised daily). Furthermore, there are operational risks (such as paying out the wrong benefits) and legislative risks (such as the government increasing the burden on companies through new legislation). These are mitigated so far as possible via the governance structure in place which oversees and administers the pension funds.

The Group's pension plans in the US and Sweden also manage these key risks, where they are relevant, in a similar manner, with the local fiduciary bodies investing in a diversified growth portfolio and employing a framework to hedge interest rate risk.

Local fiduciary boards are aware of Environmental, Social and Governance (ESG) risks as they pertain to investment policy, and where local regulation allows, have policies in place to monitor and manage such risks.

Assets and obligations of defined benefit schemes

The assets and obligations of the defined benefit schemes operated by the Group at 31 December 2020, as calculated in accordance with IAS 19, are shown below. The fair values of the schemes' assets are not intended to be realised in the short term and may be subject to significant change before they are realised. The present value of the schemes' obligations is derived from cash flow projections over long periods and is therefore inherently uncertain.

Scheme assets

2019

	UK		US		Sweden		Rest of Group		Total		
	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Total $m
Government bonds[1]	1,749	–	274	–	–	–	74	–	2,097	–	2,097
Corporate bonds[2]	–	–	727	–	–	–	55	–	782	–	782
Derivatives[3]	–	(354)	3	–	–	244	(1)	–	2	(110)	(108)
Investment funds: Listed Equities[4]	–	1,474	164	64	–	122	61	–	225	1,660	1,885
Investment funds: Absolute Return/Multi Strategy[4]	–	2,688	–	145	–	592	10	–	10	3,425	3,435
Investment funds: Corporate Bonds/Credit[4]	–	683	–	39	–	162	–	–	–	884	884
Cash and cash equivalents	55	169	40	44	–	3	–	5	95	221	316
Other	–	–	–	6	–	–	(1)	309	(1)	315	314
Total fair value of scheme assets[5]	1,804	4,660	1,208	298	–	1,123	198	314	3,210	6,395	9,605

2020

	UK		**US**		**Sweden**		**Rest of Group**		**Total**		
	Quoted $m	**Unquoted $m**	**Quoted $m**	**Unquoted $m**	**Quoted $m**	**Unquoted $m**	**Quoted $m**	**Unquoted $m**	**Quoted $m**	**Unquoted $m**	**Total $m**
Government bonds[1]	**1,929**	**–**	**321**	**–**	**–**	**–**	**52**	**–**	**2,302**	**–**	**2,302**
Corporate bonds[2]	**–**	**–**	**878**	**–**	**–**	**–**	**30**	**–**	**908**	**–**	**908**
Derivatives[3]	**–**	**(170)**	**–**	**–**	**–**	**333**	**1**	**–**	**1**	**163**	**164**
Investment funds: Listed Equities[4]	**–**	**1,771**	**93**	**90**	**–**	**119**	**72**	**5**	**165**	**1,985**	**2,150**
Investment funds: Absolute Return/Multi Strategy[4]		**2,463**	**–**	**72**	**–**	**668**	**12**	**–**	**12**	**3,203**	**3,215**
Investment funds: Corporate Bonds/Credit[4]	**–**	**969**	**–**	**80**	**–**	**211**	**39**	**12**	**39**	**1,272**	**1,311**
Cash and cash equivalents	**64**	**153**	**31**	**–**	**–**	**7**	**–**	**4**	**95**	**164**	**259**
Other	**–**	**–**	**–**	**5**	**–**	**–**	**(1)**	**355**	**(1)**	**360**	**359**
Total fair value of scheme assets[5]	**1,993**	**5,186**	**1,323**	**247**	**–**	**1,338**	**205**	**376**	**3,521**	**7,147**	**10,668**

[1] Predominantly developed markets in nature.
[2] Predominantly developed markets in nature and investment grade (AAA-BBB).
[3] Includes interest rate swaps, inflation swaps, longevity swap, equity total return swaps and other contracts. More detail is given in the section Risks associated with the Group's defined benefit pensions on page 212. Valuations are determined by independent third parties.
[4] Investment Funds are pooled, commingled vehicles, whereby the pension scheme owns units in the fund, alongside other investors. The pension schemes invest in a number of Investment Funds, including Listed Equities (primarily developed markets with some emerging markets), Corporate Bonds/Credit (a range of investment grade and non-investment grade credit) and Absolute Return/Multi Strategy (multi-asset exposure both across and within traditional and alternative asset classes). The price of the funds is set by independent administrators/custodians employed by the investment managers and based on the value of the underlying assets held in the fund. Details of pricing methodology is set out within internal control reports provided for each fund. Prices are updated daily, weekly or monthly depending upon the frequency of the fund's dealing.
[5] Included in scheme assets is $nil (2019: $nil) of the Group's own assets.

22 Post-retirement and other defined benefit schemes *continued*

Scheme obligations

	2019				
	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
Present value of scheme obligations in respect of:					
Active membership	(502)	(114)	(770)	(406)	(1,792)
Deferred membership	(1,760)	(715)	(704)	(381)	(3,560)
Pensioners	(5,318)	(763)	(686)	(293)	(7,060)
Total value of scheme obligations	(7,580)	(1,592)	(2,160)	(1,080)	(12,412)

	2020				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**
Present value of scheme obligations in respect of:					
Active membership	**(598)**	**(99)**	**(953)**	**(468)**	**(2,118)**
Deferred membership	**(1,887)**	**(787)**	**(783)**	**(504)**	**(3,961)**
Pensioners	**(5,940)**	**(715)**	**(789)**	**(347)**	**(7,791)**
Total value of scheme obligations	**(8,425)**	**(1,601)**	**(2,525)**	**(1,319)**	**(13,870)**

Net deficit in the scheme

	2019				
	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
Total fair value of scheme assets	6,464	1,506	1,123	512	9,605
Total value of scheme obligations	(7,580)	(1,592)	(2,160)	(1,080)	(12,412)
Deficit in the scheme as recognised in the Consolidated Statement of Financial Position	(1,116)	(86)	(1,037)	(568)	(2,807)

	2020				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**
Total fair value of scheme assets	**7,179**	**1,570**	**1,338**	**581**	**10,668**
Total value of scheme obligations	**(8,425)**	**(1,601)**	**(2,525)**	**(1,319)**	**(13,870)**
Deficit in the scheme as recognised in the Consolidated Statement of Financial Position	**(1,246)**	**(31)**	**(1,187)**	**(738)**	**(3,202)**

Fair value of scheme assets

	2020					2019				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
At beginning of year	**6,464**	**1,506**	**1,123**	**512**	**9,605**	5,989	1,379	1,017	469	8,854
Interest income on scheme assets	**111**	**39**	**14**	**5**	**169**	159	51	19	7	236
Expenses	**(6)**	**(2)**	**–**	**(1)**	**(9)**	(5)	–	–	(1)	(6)
Actuarial gains	**501**	**148**	**84**	**27**	**760**	294	183	172	47	696
Exchange and other adjustments	**299**	**–**	**162**	**38**	**499**	207	–	(43)	(4)	160
Employer contributions	**131**	**14**	**2**	**25**	**172**	133	14	5	23	175
Participant contributions	**2**	**–**	**–**	**2**	**4**	2	–	–	–	2
Benefits paid	**(323)**	**(135)**	**(47)**	**(27)**	**(532)**	(315)	(121)	(47)	(29)	(512)
Scheme assets' fair value at end of year	**7,179**	**1,570**	**1,338**	**581**	**10,668**	6,464	1,506	1,123	512	9,605

The actual return on the plan assets was a gain of $929m (2019: gain of $932m).

Movement in post-retirement scheme obligations

	2020					2019				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
Present value of obligations in scheme at beginning of year	**(7,580)**	**(1,592)**	**(2,160)**	**(1,080)**	**(12,412)**	(7,052)	(1,463)	(1,872)	(978)	(11,365)
Current service cost	**(18)**	**(1)**	**(59)**	**(26)**	**(104)**	(18)	(4)	(44)	(21)	(87)
Past service (cost)/credit	**(9)**	**64**	**(2)**	**(24)**	**29**	34	–	(3)	3	34
Participant contributions	**(2)**	**–**	**–**	**(2)**	**(4)**	(2)	–	–	–	(2)
Benefits paid	**323**	**135**	**47**	**27**	**532**	315	121	47	29	512
Interest expense on post-retirement scheme obligations	**(130)**	**(40)**	**(26)**	**(10)**	**(206)**	(186)	(55)	(33)	(15)	(289)
Actuarial losses	**(637)**	**(167)**	**(28)**	**(96)**	**(928)**	(435)	(191)	(328)	(106)	(1,060)
Exchange and other adjustments	**(372)**	**–**	**(297)**	**(108)**	**(777)**	(236)	–	73	8	(155)
Present value of obligations in scheme at end of year	**(8,425)**	**(1,601)**	**(2,525)**	**(1,319)**	**(13,870)**	(7,580)	(1,592)	(2,160)	(1,080)	(12,412)

The obligations arise from the following plans:

	2020					2019				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
Funded – pension schemes	**(8,405)**	**(1,335)**	**(2,525)**	**(603)**	**(12,868)**	(7,561)	(1,280)	(2,160)	(531)	(11,532)
Funded – post-retirement healthcare	**–**	**(169)**	**–**	**–**	**(169)**	–	(216)	–	–	(216)
Unfunded – pension schemes	**–**	**(97)**	**–**	**(696)**	**(793)**	–	(96)	–	(532)	(628)
Unfunded – post-retirement healthcare	**(20)**	**–**	**–**	**(20)**	**(40)**	(19)	–	–	(17)	(36)
Total	**(8,425)**	**(1,601)**	**(2,525)**	**(1,319)**	**(13,870)**	(7,580)	(1,592)	(2,160)	(1,080)	(12,412)

Consolidated Statement of Comprehensive Income disclosures

The amounts that have been charged to the Consolidated Statement of Comprehensive Income, in respect of defined benefit schemes for the year ended 31 December 2020, are set out below.

	2020					2019				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
Operating profit										
Current service cost	**(18)**	**(1)**	**(59)**	**(26)**	**(104)**	(18)	(4)	(44)	(21)	(87)
Past service (cost)/credit	**(9)**	**64**	**(2)**	**(24)**	**29**	34	–	(3)	3	34
Expenses	**(6)**	**(2)**	**–**	**(1)**	**(9)**	(5)	–	–	(1)	(6)
Total (charge)/credit to Operating profit	**(33)**	**61**	**(61)**	**(51)**	**(84)**	11	(4)	(47)	(19)	(59)
Finance expense										
Interest income on scheme assets	**111**	**39**	**14**	**5**	**169**	159	51	19	7	236
Interest expense on post-retirement scheme obligations	**(130)**	**(40)**	**(26)**	**(10)**	**(206)**	(186)	(55)	(33)	(15)	(289)
Net interest on post-employment defined benefit plan liabilities	**(19)**	**(1)**	**(12)**	**(5)**	**(37)**	(27)	(4)	(14)	(8)	(53)
(Charge)/credit before taxation	**(52)**	**60**	**(73)**	**(56)**	**(121)**	(16)	(8)	(61)	(27)	(112)
Other comprehensive income										
Difference between the actual return and the expected return on the post-retirement scheme assets	**501**	**148**	**84**	**27**	**760**	294	183	172	47	696
Experience gains/(losses) arising on the post-retirement scheme obligations	**43**	**(19)**	**(24)**	**(17)**	**(17)**	39	(30)	(10)	(5)	(6)
Changes in financial assumptions underlying the present value of the post-retirement scheme obligations	**(649)**	**(160)**	**(4)**	**(79)**	**(892)**	(771)	(182)	(318)	(104)	(1,375)
Changes in demographic assumptions	**(31)**	**12**	**–**	**–**	**(19)**	297	21	–	3	321
Remeasurement of the defined benefit liability	**(136)**	**(19)**	**56**	**(69)**	**(168)**	(141)	(8)	(156)	(59)	(364)

Past service cost in 2020 includes the aforementioned credit of $64m relating to the change in coverage of the US healthcare plans. In addition, the freeze of the Netherlands pension plan effective from 1 January 2021 yielded a past service credit of $7m. The past service cost in 2020 also includes costs predominantly related to enhanced pensions in early retirement in the UK and Sweden. Past service cost in 2019 includes a credit of $49m arising from changes to the payment of GMP benefits from the UK Pension Fund.

Total Group pension costs in respect of defined contribution and defined benefit schemes during the year are set out below (see Note 28).

	2020 $m	2019 $m
Defined contribution schemes	**351**	432
Defined benefit schemes – current service costs and expenses	**113**	93
Defined benefit schemes – past service credit	**(29)**	(34)
Pension costs	**435**	491

22 Post-retirement and other defined benefit schemes *continued*

SE Rate sensitivities

The following table shows the US dollar effect of a change in the significant actuarial assumptions used to determine the retirement benefits obligations in our three main defined benefit pension obligation countries.

	2020		2019	
	+0.5%	**–0.5%**	+0.5%	–0.5%
Discount rate				
UK ($m)	**610**	**(687)**	559	(628)
US ($m)	**93**	**(99)**	91	(97)
Sweden ($m)	**214**	**(246)**	183	(211)
Total ($m)	**917**	**(1,032)**	833	(936)

	2020		2019	
	+0.5%	**–0.5%**	+0.5%	–0.5%
Inflation rate[1]				
UK ($m)	**(396)**	**378**	(374)	349
US ($m)	**n/a**	**n/a**	n/a	n/a
Sweden ($m)	**(245)**	**216**	**(203)**	**176**
Total ($m)	**(641)**	**594**	**(577)**	**525**

	2020		2019	
	+0.5%	**–0.5%**	+0.5%	–0.5%
Rate of increase in salaries				
UK ($m)	**n/a**	**n/a**	n/a	n/a
US ($m)	**n/a**	**n/a**	n/a	n/a
Sweden ($m)	**(62)**	**70**	(68)	63
Total ($m)	**(62)**	**70**	(68)	63

	2020		2019	
	+1 year	**–1 year**	+1 year	–1 year
Mortality rate				
UK ($m)	**(396)**[2]	**395**[3]	(328)	326
US ($m)	**(32)**	**32**	(30)	30
Sweden ($m)	**(106)**	**96**	(85)	84
Total ($m)	**(534)**	**523**	(443)	440

[1] Rate of increase in pensions in payment follows inflation.
[2] Of the $396m increase, $205m is covered by the longevity swap.
[3] Of the $395m decrease, $205m is covered by the longevity swap.

The sensitivity to the financial assumptions shown above has been estimated taking into account the approximate duration of the liabilities and the overall profile of the plan membership.

The inflation sensitivity allows for the impact of a change in inflation on salary increases and pension increases (where these assumptions are inflation-linked).

The salary increase sensitivity reflects the impact of an increase of only salary relative to inflation.

The sensitivity to the life expectancy assumption is estimated based on a revised mortality assumption that extends/reduces the current life expectancy by one year for a particular age.

23 Reserves

Retained earnings

The cumulative amount of goodwill written off directly to reserves resulting from acquisitions, net of disposals, amounted to $636m (2019: $614m; 2018: $619m) using year-end rates of exchange.

At 31 December 2020, 556,108 shares, at a cost of $51m, have been deducted from Retained earnings (2019: 907,239 shares, at a cost of $37m; 2018: 456,792 shares, at a cost of $22m) to satisfy future vesting of employee share plans.

There are no significant statutory or contractual restrictions on the distribution of current profits of subsidiaries; undistributed profits of prior years are, in the main, permanently employed in the businesses of these companies. The undistributed income of AstraZeneca companies overseas might be liable to overseas taxes and/or UK taxation (after allowing for double taxation relief) if they were to be distributed as dividends (see Note 4).

	2020 $m	2019 $m	2018 $m
Cumulative translation differences included within Retained earnings			
At 1 January	**(2,189)**	(2,007)	(1,017)
Foreign exchange arising on consolidation	**443**	40	(450)
Exchange adjustments on goodwill (recorded against other reserves)	**22**	(5)	(12)
Foreign exchange arising on designated borrowings in net investment hedges[1]	**573**	(252)	(520)
Fair value movement on derivatives designated in net investment hedges	**8**	35	(8)
Net exchange movement in Retained earnings	**1,046**	(182)	(990)
At 31 December	**(1,143)**	(2,189)	(2,007)

[1] Foreign exchange arising on designated borrowings in net investment hedges includes $(69)m in respect of designated bonds and $642m in respect of designated contingent consideration and other liabilities. The change in value of designated contingent consideration liabilities relates to $346m in respect of BMS' share of Global Diabetes Alliance, $10m in respect of Almirall, $1m in respect of Definiens and $285m in relation to the put option liability in Acerta Pharma.

The cumulative gain with respect to costs of hedging is $9m (2019: $nil; 2018: $47m) and the gain during the year was $9m (2019: loss of $47m; 2018: loss of $54m).

The balance remaining in the foreign currency translation reserve from net investment hedging relationships for which hedge accounting no longer applied is a gain of $565m.

Other reserves

The other reserves arose from the cancellation of £1,255m of share premium account by the Company in 1993 and the redenomination of share capital of $157m in 1999. The reserves are available for writing off goodwill arising on consolidation and, subject to guarantees given to preserve creditors at the date of the court order, are available for distribution.

24 Share capital

	Allotted, called-up and fully paid		
	2020 $m	2019 $m	2018 $m
Issued Ordinary Shares ($0.25 each)	**328**	328	317
Redeemable Preference Shares (£1 each – £50,000)	**–**	–	–
At 31 December	**328**	328	317

The Redeemable Preference Shares carry limited class voting rights and no dividend rights. This class of shares is capable of redemption at par at the option of the Company on the giving of seven days' written notice to the registered holder of the shares.

The Company does not have a limited amount of authorised share capital.

The movements in the number of Ordinary Shares during the year can be summarised as follows:

	No. of shares		
	2020	2019	2018
At 1 January	**1,312,137,976**	1,267,039,436	1,266,221,605
Issue of shares (share placing)	**–**	44,386,214	–
Issue of shares (share schemes)	**530,748**	712,326	817,831
At 31 December	**1,312,668,724**	1,312,137,976	1,267,039,436

Share repurchases

No Ordinary Shares were repurchased by the Company in 2020 (2019: nil; 2018: nil).

Shares held by subsidiaries

No shares in the Company were held by subsidiaries in any year.

25 Dividends to shareholders

	2020 Per share	2019 Per share	2018 Per share	2020 $m	2019 $m	2018 $m
Second interim (March 2020)	**$1.90**	$1.90	$1.90	**2,489**	2,403	2,402
First interim (September 2020)	**$0.90**	$0.90	$0.90	**1,180**	1,180	1,139
Total	**$2.80**	$2.80	$2.80	**3,669**	3,583	3,541

The Company has exercised its authority in accordance with the provisions set out in the Company's Articles of Association that the balance of unclaimed dividends outstanding past 12 years be forfeited. $1m (2019: $4m; 2018: $2m) of unclaimed dividends have been adjusted for in Retained earnings in 2020.

The 2019 second interim dividend of $1.90 per share was paid on 30 March 2020.

Reconciliation of dividends charged to equity to cash flow statement:

	2020 $m	2019 $m	2018 $m
Dividends charged to equity	**3,669**	3,583	3,541
Exchange losses on payment of dividend	**4**	5	10
Hedge contracts relating to payment of dividends (cash flow statement)	**(101)**	4	(67)
Dividends paid (cash flow statement)	**3,572**	3,592	3,484

26 Non-controlling interests

In February 2016, AstraZeneca acquired a 55% controlling stake in Acerta Pharma where the non-controlling interest is subject to put and call options. The put option gives rise to a liability (see Note 20). The ability of the parties to exercise their respective put and call options, as well as the timing and amount of exercise, was dependent on certain conditions, the last of which was based on regulatory outcomes of *Calquence* (acalabrutinib) in the EU. On 5 November 2020, *Calquence* received marketing approval in the EU, which removed all remaining conditionality in respect of the options. The minority shareholders are now considered to have no further substantive variability in risk and reward related to their shares as it is considered highly likely that one of the options will be exercised, and the price of the options is now fixed. Therefore, from 5 November 2020, no further amounts of the consolidated AstraZeneca result have been attributed to the minority shareholders of Acerta Pharma. In addition, the Non-controlling interests reserve relating to the minority shareholders of Acerta Pharma, totalling $1,401m, has been reclassified into Retained earnings (see Consolidated Statement of Changes in Equity).

The Group Financial Statements at 31 December 2020 reflect equity of nil (2019: $1,456m; 2018: $1,567m) and total comprehensive losses of $55m (2019: losses of $111m; 2018: losses of $109m) attributable to the non-controlling interest in Acerta Pharma. The following summarised financial information, for Acerta Pharma and its subsidiaries, is presented on a standalone basis since the acquisition date, and before the impact of Group-related adjustments, some of which are incorporated into this calculation of the loss attributable to the non-controlling interests:

	2019 $m	2018 $m
Total Revenue	–	–
Loss after tax	(422)	(9)
Other comprehensive income	–	–
Total comprehensive loss	(422)	(9)

	2019 $m	2018 $m
Non-current assets	157	16
Current assets	475	526
Total assets	632	542
Current liabilities	(310)	(63)
Non-current liabilities	(267)	–
Total liabilities	(577)	(63)
Net assets	55	479

	2019 $m	2018 $m
Net cash (outflow)/inflow from operating activities	(13)	7
Net cash inflow/(outflow) from investing activities	7	(4)
Net cash inflow from financing activities	7	–
Increase in cash and cash equivalents in the year	1	3

In addition to the non-controlling interests in Acerta Pharma, the Group Financial Statements at 31 December 2020 also reflect equity of $16m (2019: $13m; 2018: $9m) and total comprehensive income of $3m (2019: $4m; 2018: $3m) attributable to the non-controlling interests in AstraZeneca Pharma India Limited and P.T. AstraZeneca Indonesia, resulting in reported total comprehensive losses of $52m (2019: $107m; 2018: $106m).

27 Financial risk management objectives and policies

The Group's principal financial instruments, other than derivatives, comprise bank overdrafts, lease liabilities, loans, current and non-current investments, cash and short-term deposits. The main purpose of these financial instruments is to manage the Group's funding and liquidity requirements. The Group has other financial assets and liabilities such as trade receivables and trade payables, which arise directly from its operations.

The principal financial risks to which the Group is exposed are those of liquidity, interest rate, foreign currency and credit. Each of these is managed in accordance with Board-approved policies. These policies are set out below.

Hedge accounting

The Group uses foreign currency borrowings, foreign currency forwards and swaps, currency options, interest rate swaps and cross-currency interest rate swaps for the purpose of hedging its foreign currency and interest rate risks. The Group may designate certain financial instruments as fair value hedges, cash flow hedges or net investment hedges in accordance with IFRS 9. Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and hedging instrument. Sources of hedge effectiveness will depend on the hedge relationship designation but may include:

- a significant change in the credit risk of either party to the hedging relationship
- a timing mismatch between the hedging instrument and the hedged item
- movements in foreign currency basis spread for derivatives in a fair value hedge
- a significant change in the value of the foreign currency denominated net assets of the Group in a net investment hedge.

The hedge ratio for each designation will be established by comparing the quantity of the hedging instrument and the quantity of the hedged item to determine their relative weighting; for all of the Group's existing hedge relationships the hedge ratio has been determined as 1:1. Designated hedges are expected to be effective and therefore the impact of ineffectiveness on profit is not expected to be material. The accounting treatment for fair value hedges and debt designated as fair value through profit or loss is disclosed in the Group Accounting Policies section from page 180.

The following table represents the Group's continuing designated hedge relationships under IFRS 9.

2018

			Other comprehensive income						
	Nominal amounts in local currency	Carrying value $m	Opening balance 1 January 2018 $m	Fair value loss/(gain) deferred to OCI $m	Fair value loss recycled to the income statement $m	Closing balance 31 December 2018 $m	Average maturity year	Average USD FX rate	Average pay interest rate
Fair value hedge – foreign currency and interest rate risk									
Cross currency interest rate swap – Euro bond	EUR 300m	16	–	–	–	–	2021	1.09	USD LIBOR + 1.27%
Cash flow hedges – foreign currency and interest rate risk									
Cross currency interest rate swaps – Euro bonds	EUR 2,200m	101	(76)	95	(111)	(92)	2025	1.14	USD 2.69%
Net investment hedge – foreign exchange risk[4]									
Transactions matured pre 2018		–	(338)	–	–	(338)	–	–	–
Cross currency interest rate swap – JPY investment	JPY 58.5bn	213	(223)	10	–	(213)	2019	78.01	JPY 0.35%
Cross currency interest rate swap – CNY investment	CNY 458m	(4)	4	–	–	4	2026	6.68	CNY 4.80%
Cross currency interest rate swap – CNY investment	CNY 919m	–	(12)	(6)	–	(18)	2018	6.09	CNY 3.12%
Foreign currency borrowing – GBP investment	GBP 350m	(443)	(240)	(25)	–	(265)	2031	n/a	GBP 5.75%
Foreign currency borrowing – EUR investment	EUR 450m	(508)	65	(21)	–	44	2021	n/a	EUR 0.88%
Contingent consideration liabilities and Acerta Pharma put option liability – AZUK and AZAB USD investments	USD 6,015m	(6,015)	1,239	566	–	1,805	–	–	–

2019

			Other comprehensive income						
	Nominal amounts in local currency	Carrying value $m	Opening balance 1 January 2019 $m	Fair value loss/(gain) deferred to OCI $m	Fair value loss recycled to the income statement $m	Closing balance 31 December 2019 $m	Average maturity year	Average USD FX rate	Average pay interest rate
Fair value hedge – foreign currency and interest rate risk[1]									
Cross currency interest rate swap – Euro bond	EUR 300m	10	–	–	–	–	2021	1.09	USD LIBOR + 1.27%
Cash flow hedges – foreign currency and interest rate risk[2, 4]									
Cross currency interest rate swaps – Euro bonds	EUR 2,200m	(13)	(92)	114	(52)	(30)	2025	1.14	USD 2.69%
Net investment hedge – foreign exchange risk[3, 4]									
Transactions matured pre 2019		–	(356)	–	–	(356)	–	–	–
Cross currency interest rate swap – JPY investment[5]	JPY 58.5bn	–	(213)	4	–	(209)	2019	78.01	JPY 0.35%
Cross currency interest rate swap – JPY investment	JPY 58.3bn	4	–	(4)	–	(4)	2029	108.03	JPY 1.53%
Cross currency interest rate swap – CNY investment	CNY 458m	(1)	4	(3)	–	1	2026	6.68	CNY 4.80%
Foreign currency borrowing – GBP investment	GBP 350m	(457)	(265)	14	–	(251)	2031	n/a	GBP 5.75%
Foreign currency borrowing – EUR investment	EUR 450m	(498)	44	(10)	–	34	2021	n/a	EUR 0.88%
Contingent consideration liabilities and Acerta Pharma put option liability – AZUK and AZAB USD investments	USD 5,583m	(5,583)	1,805	248	–	2,053	–	–	–

27 Financial risk management objectives and policies *continued*

2020

	Nominal amounts in local currency	Carrying value $m	Other comprehensive income: Opening balance 1 January 2020 $m	Other comprehensive income: Fair value (gain)/loss deferred to OCI $m	Other comprehensive income: Fair value gain recycled to the income statement $m	Other comprehensive income: Closing balance 31 December 2020 $m	Average maturity year	Average USD FX rate	Average pay interest rate
Fair value hedge – foreign currency and interest rate risk[1]									
Cross currency interest rate swap – Euro bond	EUR 300m	43	–	–	–	–	2021	1.09	USD LIBOR + 1.27%
Cash flow hedges – foreign currency and interest rate risk[2, 4, 6]									
Cross currency interest rate swaps – Euro bonds	EUR 2,200m	150	(30)	(163)	239	46	2025	1.14	USD 2.69%
FX Forwards – short term FX risk	USD 618m	5	–	(20)	15	(5)	2021	–	–
Net investment hedge – foreign exchange risk[3, 4]									
Transactions matured pre 2020		–	(565)	–	–	(565)	–	–	–
Cross currency interest rate swap – JPY investment	JPY 58.5bn	19	(4)	(15)	–	(19)	2029	108.03	JPY 1.53%
Cross currency interest rate swap – CNY investment	CNY 458m	(2)	1	1	–	2	2026	6.68	CNY 4.80%
Foreign currency borrowing – GBP investment	GBP 350m	(475)	(251)	18	–	(233)	2031	n/a	GBP 5.75%
Foreign currency borrowing – EUR investment	EUR 450m	(548)	34	51	–	85	2021	n/a	EUR 0.88%
Contingent consideration liabilities and Acerta Pharma put option liability – AZUK and AZAB USD investments	USD 5,252m	(5,252)	2,053	(642)	–	1,411	–	–	–

1 Hedge ineffectiveness recognised on swaps designated in a fair value hedge during the period was a gain of $1m (2019: gain of $3m).
2 Hedge ineffectiveness recognised on swaps designated in a cash flow hedge during the period was $nil (2019: $nil).
3 Hedge ineffectiveness recognised on swaps designated in a net investment hedge during the period was $nil (2019: $nil).
4 Fair value movements on cross currency interest rate swaps in cash flow hedge and net investment hedge relationships are shown inclusive of the impact of costs of hedging.
5 In September 2019, the maturity of our JPY 58.5bn cross currency interest rate swap resulted in a net cash inflow of $209m. The cash flow associated with the settlement has been reflected in cash flows from investing activities within the Consolidated Statement of Cash Flows on page 179, as its primary purpose was to hedge the translation foreign exchange risk arising on the consolidation of the Group's net investment in Japan.
6 Nominal amount of FX forwards in a cash flow hedge of USD 618m represents the USD equivalent notional of the FX forwards. By currency, the nominal amounts were SEK 3,310m at FX rate 8.35373, RMB 366m at 6.5561, JPY 4,690m at 103.5085 and EUR 99m at 1.21918. All FX forwards in a cash flow hedge mature on 25 January 2021.

Key controls applied to transactions in derivative financial instruments are to use only instruments where good market liquidity exists, to revalue all financial instruments regularly using current market rates and to sell options only to offset previously purchased options or as part of a risk management strategy. The Group is not a net seller of options, and does not use derivative financial instruments for speculative purposes. The Group held no options during the reporting period.

Capital management

The capital structure of the Group consists of Shareholders' equity (Note 24), Debt (Note 19), Other current investments (Note 12) and Cash (Note 17). For the foreseeable future, the Board will maintain a capital structure that supports the Group's strategic objectives through:

- managing funding and liquidity risk
- optimising shareholder return
- maintaining a strong, investment-grade credit rating.

The Group utilises factoring arrangements for selected trade receivables. These factoring arrangements qualify for full derecognition of the associated trade receivables under IFRS 9. Amounts due, on invoices that have not been factored at year end, from customers that are subject to factoring arrangements are disclosed in Note 16.

Funding and liquidity risk are reviewed regularly by the Board and managed in accordance with policies described below.

The Board's distribution policy comprises a regular cash dividend and, subject to business needs, a share repurchase component. The Board regularly reviews its shareholders' return strategy, and, in 2012, decided to suspend share repurchases in order to retain strategic flexibility.

The Group's net debt position (loans and borrowings net of Cash and cash equivalents, Other investments and Derivative financial instruments) has increased from a net debt position of $11,904m at the beginning of the year to a net debt position of $12,110m at 31 December 2020.

Liquidity risk

The Board reviews the Group's ongoing liquidity risks annually as part of the planning process and on an ad hoc basis. The Board considers short-term requirements against available sources of funding, taking into account forecast cash flows. The Group manages liquidity risk by maintaining access to a number of sources of funding which are sufficient to meet anticipated funding requirements. Specifically, the Group uses US and European commercial paper, bank loans, committed bank facilities and cash resources to manage short-term liquidity and manages long-term liquidity by raising funds through the capital markets. The Group is assigned short-term credit ratings of P-2 by Moody's and A-2 by Standard and Poor's. The Group's long-term credit rating is A3 Negative outlook by Moody's and BBB+ CreditWatch Positive outlook by Standard and Poor's.

In addition to Cash and cash equivalents of $7,832m, short-term fixed income investments of $118m, fixed deposits of $42m, less overdrafts of $286m at 31 December 2020, the Group has committed bank facilities of $21,625m. Of the committed facilities, $4,125m is intended to manage liquidity. Of these, $3,375m mature in April 2024 and $750m is available until November 2021 with a one-year extension option, exercisable by the Group. In conjunction with the acquisition of Alexion Pharmaceuticals, Inc., the Company entered into committed bank facilities totalling $17,500m during December 2020. None of the above facilities contain any financial covenants and all were undrawn at 31 December 2020. The Group regularly monitors

the credit standing of the banking group and currently does not anticipate any issue with drawing on the committed facilities should this be necessary. Advances under these facilities currently bear an interest rate per annum based on the LIBOR (or other relevant benchmark rate) plus a margin. The facilities contain arrangements to switch to alternative risk free rate benchmarks during 2021.

At 31 December 2020, the Group has $4,083m outstanding from debt issued under a Euro Medium Term Note programme and $14,950m under a SEC-registered programme. The funds made available under these facility agreements may be used for the general corporate purposes of the Group.

The maturity profile of the anticipated future contractual cash flows including interest in relation to the Group's financial liabilities, on an undiscounted basis and which, therefore, differs from both the carrying value and fair value, is as follows:

	Bank overdrafts and other loans $m	Bonds $m	Finance leases[1] $m	Trade and other payables $m	Total non-derivative financial instruments $m	Derivative financial instruments receivable[2] $m	Derivative financial instruments payable[2] $m	Total derivative financial instruments[2] $m	Total $m
Within one year	774	1,629	–	13,029	15,432	(10,368)	10,171	(197)	15,235
In one to two years	7	2,210	–	1,688	3,905	(35)	82	47	3,952
In two to three years	14	2,002	–	833	2,849	(950)	974	24	2,873
In three to four years	–	1,813	–	3,340	5,153	(30)	58	28	5,181
In four to five years	–	2,069	–	776	2,845	(30)	58	28	2,873
In more than five years	–	17,405	–	2,084	19,489	(2,084)	2,154	70	19,559
	795	27,128	–	21,750	49,673	(13,497)	13,497	–	49,673
Effect of interest	(2)	(8,669)	–	–	(8,671)	251	(509)	(258)	(8,929)
Effect of discounting, fair values and issue costs	(17)	(122)	–	(2,139)	(2,278)	(9)	(117)	(126)	(2,404)
31 December 2018	776	18,337	–	19,611	38,724	(13,255)	12,871	(384)	38,340

	Bank overdrafts and other loans $m	Bonds $m	Lease liability $m	Trade and other payables $m	Total non-derivative financial instruments $m	Derivative financial instruments receivable[2] $m	Derivative financial instruments payable $m	Total derivative financial instruments $m	Total $m
Within one year	234	2,207	205	14,054	16,700	(11,956)	11,985	29	16,729
In one to two years	14	1,970	158	1,769	3,911	(955)	976	21	3,932
In two to three years	–	1,810	117	1,811	3,738	(54)	67	13	3,751
In three to four years	–	2,068	79	1,592	3,739	(54)	67	13	3,752
In four to five years	–	1,479	50	1,652	3,181	(1,051)	1,079	28	3,209
In more than five years	–	15,906	128	1,052	17,086	(1,648)	1,654	6	17,092
	248	25,440	737	21,930	48,355	(15,718)	15,828	110	48,465
Effect of interest	(1)	(8,038)	–	–	(8,039)	409	(488)	(79)	(8,118)
Effect of discounting, fair values and issue costs	(3)	(94)	(62)	(1,619)	(1,778)	(20)	(54)	(74)	(1,852)
31 December 2019	244	17,308	675	20,311	38,538	(15,329)	15,286	(43)	38,495

	Bank overdrafts and other loans $m	**Bonds $m**	**Lease liability $m**	**Trade and other payables $m**	**Total non-derivative financial instruments $m**	**Derivative financial instruments receivable $m**	**Derivative financial instruments payable $m**	**Total derivative financial instruments $m**	**Total $m**
Within one year	**667**	**2,136**	**207**	**15,812**	**18,822**	**(9,719)**	**9,620**	**(99)**	**18,723**
In one to two years	**–**	**1,839**	**168**	**2,584**	**4,591**	**(60)**	**67**	**7**	**4,598**
In two to three years	**–**	**2,101**	**120**	**1,658**	**3,879**	**(59)**	**67**	**8**	**3,887**
In three to four years	**–**	**1,617**	**82**	**1,728**	**3,427**	**(1,151)**	**1,080**	**(71)**	**3,356**
In four to five years	**–**	**2,502**	**53**	**722**	**3,277**	**(36)**	**40**	**4**	**3,281**
In more than five years	**–**	**16,921**	**108**	**1,435**	**18,464**	**(1,707)**	**1,652**	**(55)**	**18,409**
	667	**27,116**	**738**	**23,939**	**52,460**	**(12,732)**	**12,526**	**(206)**	**52,254**
Effect of interest	**–**	**(7,974)**	**–**	**–**	**(7,974)**	**379**	**(405)**	**(26)**	**(8,000)**
Effect of discounting, fair values and issue costs	**(1)**	**(109)**	**(57)**	**(2,070)**	**(2,237)**	**(70)**	**24**	**(46)**	**(2,283)**
31 December 2020	**666**	**19,033**	**681**	**21,869**	**42,249**	**(12,423)**	**12,145**	**(278)**	**41,971**

[1] Comparative figures relate to Finance leases recognised under IAS 17.
[2] The maturity profile table has been amended in 2019 to show gross derivative flows and to include all derivatives shown in Note 13 on page 203. In previous periods the table separately disclosed the net cash flows on interest rate swaps and cross-currency swaps. Other derivative instruments amounting to $18m in 2018 were not included in the table.

Where interest payments are on a floating rate basis, it is assumed that rates will remain unchanged from the last business day of each year ended 31 December.

It is not expected that the cash flows in the maturity profile could occur significantly earlier or at significantly different amounts, with the exception of $3,323m of contingent consideration held within Trade and other payables (see Note 20).

Market risk

Interest rate risk

The Group maintains a mix of fixed and floating rate debt. The portion of fixed rate debt was approved by the Board and any variation requires Board approval.

27 Financial risk management objectives and policies *continued*

A significant portion of the long-term debt is held at fixed rates of interest. The Group uses interest rate swaps and forward rate agreements to manage this mix.

At 31 December 2020, the Group held interest rate swaps with a notional value of $288m, converting the 7% guaranteed debentures payable in 2023 to floating rates. No new interest rate swaps were entered into during 2020. At 31 December 2020, swaps with a notional value of $288m related to debt designated as fair value through profit or loss.

The majority of surplus cash is currently invested in US dollar liquidity funds and investment-grade fixed income securities.

The interest rate profile of the Group's interest-bearing financial instruments are set out below. In the case of current and non-current financial liabilities, the classification includes the impact of interest rate swaps which convert the debt to floating rate.

	2020			2019			2018		
	Fixed rate $m	**Floating rate $m**	**Total $m**	Fixed rate $m	Floating rate $m	Total $m	Fixed rate $m	Floating rate $m	Total $m
Financial liabilities									
Interest-bearing loans and borrowings									
Current	**1,357**	**1,029**	**2,386**	1,785	225	2,010	999	755	1,754
Non-current	**17,005**	**989**	**17,994**	14,893	1,324	16,217	16,038	1,321	17,359
Total	**18,362**	**2,018**	**20,380**	16,678	1,549	18,227	17,037	2,076	19,113
Financial assets									
Fixed deposits	**42**	**–**	**42**	38	–	38	40	–	40
Cash and cash equivalents	**–**	**7,832**	**7,832**	–	5,369	5,369	–	4,831	4,831
Total	**42**	**7,832**	**7,874**	38	5,369	5,407	40	4,831	4,871

In addition to the financial assets above, there are $6,328m (2019: $6,765m; 2018: $6,195m) of other current and non-current asset investments and other financial assets. Of these, $nil receive floating rate interest (2019: $111m; 2018: $nil).

The Group is also exposed to market risk on equity securities, which represent non-controlling interests in third-party biotech companies.

	2020 $m	2019 $m	2018 $m
Equity securities at fair value through Other comprehensive income (Note 12)	**1,108**	1,339	833
Total	**1,108**	1,339	833

Foreign currency risk

The US dollar is the Group's most significant currency. As a consequence, the Group results are presented in US dollars and exposures are managed against US dollars accordingly.

Translational

Approximately 66% of Group external sales in 2020 were denominated in currencies other than the US dollar, while a significant proportion of manufacturing, and research and development costs were denominated in pounds sterling and Swedish krona. Surplus cash generated by business units is substantially converted to, and held centrally in, US dollars. As a result, operating profit and total cash flow in US dollars will be affected by movements in exchange rates.

This currency exposure is managed centrally, based on forecast cash flows. The impact of movements in exchange rates is mitigated significantly by the correlations which exist between the major currencies to which the Group is exposed and the US dollar. Monitoring of currency exposures and correlations is undertaken on a regular basis and hedging is subject to pre-execution approval.

As at 31 December 2020, before the impact of derivatives, 3% of interest-bearing loans and borrowings were denominated in pounds sterling and 18% were denominated in euros. Where there is non-US dollar debt and an underlying net investment of that amount in the same currency, the Group applies net investment hedging. Exchange differences on the retranslation of debt designated as net investment hedges are recognised in Other comprehensive income to the extent that the hedge is effective. Any ineffectiveness is taken to profit.

The Group holds cross-currency swaps to hedge against the impact of fluctuations in foreign exchange rates. Fair value movements on the revaluation of the cross-currency swaps are recognised in Other comprehensive income to the extent that the hedge is effective, with any ineffectiveness taken to profit.

Foreign currency risk arises when the Group has inter-company funding and investments in certain subsidiaries operating in countries with exchange controls or where there is risk of significant future currency devaluation. One indicator of potential foreign currency risk is where a country is officially designated as hyperinflationary. As at 31 December 2020, the Group operates in two countries designated as hyperinflationary, being Argentina and Venezuela.

The foreign exchange risk to the Group from Argentina and Venezuela has been assessed and deemed to be immaterial.

Transactional

The Group aims to hedge all its forecast major transactional currency exposures on working capital balances, which typically extend for up to three months. Where practicable, these are hedged using forward foreign exchange. In addition, the Group's external dividend, which is paid principally in pounds sterling and Swedish krona, is fully hedged from announcement to payment date. Foreign exchange gains and losses on forward contracts transacted for transactional hedging are taken to profit.

Sensitivity analysis

The sensitivity analysis set out overleaf summarises the sensitivity of the market value of our financial instruments to hypothetical changes in market rates and prices. The range of variables chosen for the sensitivity analysis reflects our view of changes which are reasonably possible over a one-year period. Market values are the present value of future cash flows based on market rates and prices at the valuation date. For long-term debt, an increase in interest rates results in a decline in the fair value of debt.

The sensitivity analysis assumes an instantaneous 100 basis point change in interest rates in all currencies from their levels at 31 December 2020, with all other variables held constant. Based on the composition of our long-term debt portfolio as at 31 December 2020, a 1% increase in interest rates would result in an additional $20m in interest expense being incurred per year. The exchange rate sensitivity analysis assumes an instantaneous 10% change in foreign currency exchange rates from their levels at 31 December 2020, with all other variables held constant. The +10% case assumes a 10% strengthening of the US dollar against all other currencies and the -10% case assumes a 10% weakening of the US dollar.

Each incremental 10% movement in foreign currency exchange rates would have approximately the same effect as the initial 10% detailed in the table below and each incremental 1% change in interest rates would have approximately the same effect as the 1% detailed in the table below.

	Interest rates		Exchange rates	
31 December 2018	+1%	–1%	+10%	–10%
Increase/(decrease) in fair value of financial instruments ($m)	1,130	(1,267)	(146)	161
Impact on profit: (loss)/gain ($m)	–	–	(299)	348
Impact on equity: gain/(loss) ($m)	–	–	153	(187)

	Interest rates		Exchange rates	
31 December 2019	+1%	–1%	+10%	–10%
Increase/(decrease) in fair value of financial instruments ($m)	1,417	(1,521)	(4)	(36)
Impact on profit: (loss)/gain ($m)	–	–	(174)	172
Impact on equity: gain/(loss) ($m)	–	–	170	(208)

	Interest rates		**Exchange rates**	
31 December 2020	**+1%**	**–1%**	**+10%**	**–10%**
Increase/(decrease) in fair value of financial instruments ($m)	**1,696**	**(1,758)**	**114**	**(132)**
Impact on profit: (loss)/gain ($m)	**–**	**–**	**(57)**	**74**
Impact on equity: gain/(loss) ($m)	**–**	**–**	**171**	**(206)**

Credit risk

The Group is exposed to credit risk on financial assets, such as cash investments, derivative instruments, and Trade and other receivables. The Group is also exposed in its Net asset position to its own credit risk in respect of the 2023 debentures which are accounted for at fair value through profit or loss. Under IFRS 9, the effect of the losses and gains arising from own credit risk on the fair value of bonds designated at fair value through profit or loss are recorded in Other comprehensive income.

Financial counterparty credit risk

The majority of the AstraZeneca Group's cash is centralised within the Group treasury entity and is subject to counterparty risk on the principal invested. The level of the Group's cash investments and hence credit risk will depend on the cash flow generated by the Group and the timing of the use of that cash. The credit risk is mitigated through a policy of prioritising security and liquidity over return and, as such, cash is only invested in high credit-quality investments. Counterparty limits are set according to the assessed risk of each counterparty and exposures are monitored against these limits on a regular basis.

The Group's principal financial counterparty credit risks at 31 December 2020 were as follows:

Current assets

	2020 $m	2019 $m	2018 $m
Cash at bank and in hand	**1,182**	755	893
Money market liquidity funds	**6,602**	4,110	3,435
Collateralised repurchase agreement	**–**	400	400
Other short-term cash equivalents	**48**	104	103
Total Cash and cash equivalents (Note 17)	**7,832**	5,369	4,831
Fixed income securities at fair value through profit and loss (Note 12)	**118**	811	809
Fixed deposits (Note 12)	**42**	38	40
Total derivative financial instruments (Note 13)	**142**	36	258
Current assets subject to credit risk	**8,134**	6,254	5,938

Non-current assets

	2020 $m	2019 $m	2018 $m
Fixed income securities at fair value through profit and loss (Note 12)	**–**	62	–
Derivative financial instruments (Note 13)	**171**	61	157
Non-current assets subject to credit risk	**171**	123	157

The Group may hold significant cash balances as part of its normal operations, with the amount of cash held at any point reflecting the level of cash flow generated by the business and the timing of the use of that cash. The majority of the Group's cash is invested in US dollar AAA rated money market liquidity funds.

27 Financial risk management objectives and policies *continued*

The money market liquidity fund portfolios are managed by five external third-party fund managers to maintain an AAA rating. The Group's investments represent no more than 10% of each overall fund value. There were no other significant concentrations of financial credit risk at the reporting date.

The short-term repurchase agreements were fully collateralised investments. The Group closed out its repurchase agreements during 2020. The value of the cash deposited in repurchase agreements at 31 December 2020 was $nil (2019: $401m; 2018: $403m).

The fixed income securities are managed by four external third-party fund managers. During 2020, a significant amount of the securities were sold and reinvested in money market liquidity funds. The long-term rating of these securities was BBB- or better.

All financial derivatives are transacted with commercial banks, in line with standard market practice. The Group has agreements with some bank counterparties whereby the parties agree to post cash collateral, for the benefit of the other, equivalent to the market valuation of the derivative positions above a predetermined threshold. The carrying value of such cash collateral held by the Group at 31 December 2020 was $288m (2019: $71m; 2018: $384m) and the carrying value of such cash collateral posted by the Group at 31 December 2020 was $11m (2019: $10m; 2018: $14m).

The impairment provision for other financial assets at 31 December 2020 was immaterial.

Trade receivables

Trade receivable exposures are managed locally in the operating units where they arise and credit limits are set as deemed appropriate for the customer. The Group is exposed to customers ranging from government-backed agencies and large private wholesalers to privately owned pharmacies, and the underlying local economic and sovereign risks vary throughout the world. Where appropriate, the Group endeavours to minimise risks by the use of trade finance instruments such as letters of credit and insurance. The Group applies the expected credit loss approach to establish an allowance for impairment that represents its estimate of expected losses in respect of Trade receivables.

The Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all Trade receivables. To measure expected credit losses, Trade receivables have been grouped based on shared credit characteristics and the days past due.

The expected loss rates are based on payment profiles over a period of 36 months before 31 December 2020, 31 December 2019 or 31 December 2018 respectively and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customer to settle the receivables.

On that basis, the loss allowance was determined as follows:

31 December 2018	Current	0-90 days past due	90-180 days past due	Over 180 days past due	Total
Expected loss rate	0.05%	0.75%	10%	47%	
Gross carrying amount ($m)	2,854	82	27	70	3,033
Loss allowance ($m)	1	1	3	33	38

31 December 2019	Current	0-90 days past due	90-180 days past due	Over 180 days past due	Total
Expected loss rate	0.05%	0.75%	2%	44%	
Gross carrying amount ($m)	3,178	312	82	34	3,606
Loss allowance ($m)	2	2	2	15	21

31 December 2020	**Current**	**0-90 days past due**	**90-180 days past due**	**Over 180 days past due**	**Total**
Expected loss rate	**0.05%**	**2.00%**	**19%**	**61%**	
Gross carrying amount ($m)	**3,659**	**124**	**21**	**25**	**3,829**
Loss allowance ($m)	**2**	**2**	**4**	**15**	**23**

Trade receivables are written off where there is no reasonable expectation of recovery.

Impairment losses on Trade receivables are presented as net impairment losses within Operating profit, any subsequent recoveries are credited against the same line.

In the US, sales to three wholesalers accounted for approximately 95% of US sales (2019: three wholesalers accounted for approximately 94%; 2018: three wholesalers accounted for approximately 88%).

The movements of the Group expected credit losses provision are follows:

	2020 $m	2019 $m	2018 $m
At 1 January	**21**	38	16
Net movement recognised in income statement	**3**	(13)	22
Amounts utilised, exchange and other movements	**(1)**	(4)	–
At 31 December	**23**	21	38

Given the profile of our customers, including large wholesalers and government-backed agencies, no further credit risk has been identified with the Trade receivables not past due other than those balances for which an allowance has been made. The income statement credit or charge is recorded in Operating profit.

28 Employee costs and share plans for employees

Employee costs

The monthly average number of people, to the nearest hundred, employed by the Group is set out in the table below. In accordance with the Companies Act 2006, this includes part-time employees.

	2020	2019	2018
Employees			
UK	**7,900**	7,400	7,200
Continental Europe	**16,600**	15,500	14,800
The Americas	**17,300**	16,600	16,700
Asia, Africa & Australasia	**33,000**	27,800	24,500
Continuing operations	**74,800**	67,300	63,200

Geographical distribution described in the table above is by location of legal entity employing staff. Certain staff will undertake some or all of their activity in a different location.

The number of people employed by the Group at the end of 2020 was 76,100 (2019: 70,600; 2018: 64,600).

The costs incurred during the year in respect of these employees were:

	2020 $m	2019 $m	2018 $m
Wages and salaries	**6,273**	5,648	5,370
Social security costs	**726**	658	626
Pension costs	**435**	491	469
Other employment costs	**813**	771	505
Total	**8,247**	7,568	6,970

Severance costs of $116m are not included above (2019: $158m; 2018: $94m).

The Directors believe that, together with the basic salary system, the Group's employee incentive schemes provide competitive and market-related packages to motivate employees. They should also align the interests of employees with those of shareholders, as a whole, through long-term share ownership in the Company. The Group's current UK, Swedish and US schemes are described below; other arrangements apply elsewhere.

Bonus plans

The AstraZeneca UK Performance Bonus Plan

Employees of participating AstraZeneca UK companies are invited to participate in this bonus plan, which rewards strong individual performance. Bonuses are paid in cash.

The AstraZeneca Executive Annual Bonus Scheme

This scheme is a performance bonus scheme for Directors and senior employees who do not participate in the AstraZeneca UK Performance Bonus Plan. Annual bonuses are paid in cash and reflect both corporate and individual performance measures. The Remuneration Committee has discretion to reduce or withhold bonuses if business performance falls sufficiently short of expectations in any year such as to make the payment of bonuses inappropriate.

The AstraZeneca Deferred Bonus Plan

This plan was introduced in 2006 and is used to defer a portion of the bonus earned under the AstraZeneca Executive Annual Bonus Scheme into Ordinary Shares in the Company for a period of three years. The plan currently operates only in respect of Executive Directors and members of the SET. Awards of shares under this plan are typically made in March each year, the first award having been made in February 2006.

Sweden

In Sweden, an all-employee performance bonus plan is in operation, which rewards strong individual performance. Bonuses are paid 50% into a fund investing in AstraZeneca equities and 50% in cash. The AstraZeneca Executive Annual Bonus Scheme, the AstraZeneca Performance Share Plan and the AstraZeneca Global Restricted Stock Plan all operate in respect of relevant AstraZeneca employees in Sweden.

US

In the US, there are two all-employee short-term or annual performance bonus plans in operation to differentiate and reward strong individual performance. Annual bonuses are paid in cash. There is also one senior staff long-term incentive scheme, under which 120 participants may be eligible for awards granted as AstraZeneca ADSs. AstraZeneca ADSs necessary to satisfy the awards are purchased in the market or funded via a share trust. The AstraZeneca Performance Share Plan and the AstraZeneca Global Restricted Stock Plan operate in respect of relevant employees in the US.

28 Employee costs and share plans for employees *continued*

Share plans

The charge for share-based payments in respect of share plans is $277m (2019: $259m; 2018: $219m). The plans are equity settled.

The AstraZeneca UK All-Employee Share Plan

The Company offers UK employees the opportunity to buy Partnership Shares (Ordinary Shares). Employees may invest up to £150 a month to purchase Partnership Shares in the Company at the current market value. In 2010, the Company introduced a Matching Share element, the first award of which was made in 2011. Currently one Matching Share is awarded for every four Partnership Shares purchased. Partnership Shares and Matching Shares are held in the HM Revenue & Customs (HMRC)-approved All-Employee Share Plan. At the Company's AGM in 2002, shareholders approved the issue of new shares for the purposes of the All-Employee Share Plan.

The AstraZeneca 2014 Performance Share Plan

This plan was approved by shareholders in 2014 for a period of 10 years and replaces the AstraZeneca Performance Share Plan. Generally, awards can be granted at any time, but not during a closed period of the Company. The first grant of awards was made in May 2014. Awards granted under the plan vest after three years, or in the case of Executive Directors and members of the SET, after an additional two-year holding period, and can be subject to the achievement of performance conditions. For awards granted to all participants in 2020, vesting is subject to a combination of measures focused on scientific leadership, revenue growth and financial performance. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated, including agreeing performance targets and which employees should be invited to participate.

	Ordinary Shares '000	WAFV[1] pence	ADR Shares '000	WAFV[1] $
Outstanding at 1 January 2018	2,415	2251	7,388	15.58
Granted	981	2434	2,529	17.38
Forfeited	(309)	2311	(1,356)	16.27
Cancelled	(10)	2427	–	–
Exercised	(395)	2357	(1,598)	17.52
Outstanding at 31 December 2018	2,682	2295	6,963	15.65
Granted	1,018	3147	1,978	21.06
Forfeited	(350)	2317	(1,900)	16.80
Exercised	(491)	1983	(1,835)	14.17
Outstanding at 31 December 2019	2,859	2649	5,206	17.80
Granted	**932**	**3702**	**1,767**	**24.02**
Forfeited	**(191)**	**3088**	**(478)**	**19.57**
Cancelled	**(3)**	**2234**	**–**	**–**
Exercised	**(552)**	**2426**	**(1,704)**	**15.43**
Outstanding at 31 December 2020	**3,045**	**2985**	**4,791**	**20.76**

[1] Weighted average fair value.

The AstraZeneca Investment Plan

This plan was introduced in 2010 and approved by shareholders at the 2010 AGM. The final grant of awards under this plan took place in March 2016. Awards granted under the plan vest after eight years and are subject to performance conditions measured over a period of four years.

The AstraZeneca Global Restricted Stock Plan

This plan was introduced in 2010. This plan provides for the grant of restricted stock unit (RSU) awards to selected below SET-level employees and is used in conjunction with the AstraZeneca Performance Share Plan to provide a mix of RSUs and performance shares. Awards typically vest on the third anniversary of the date of grant and are contingent on continued employment with the Company. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated.

	Ordinary Shares '000	WAFV pence	ADR Shares '000	WAFV $
Outstanding at 1 January 2018	865	4491	9,945	31.03
Granted	436	4867	4,081	34.66
Forfeited	(82)	4583	(1,094)	31.60
Cancelled	–	–	(2)	32.52
Exercised	(218)	4720	(2,437)	34.52
Outstanding at 31 December 2018	1,001	4598	10,493	31.57
Granted	759	6313	3,885	42.06
Forfeited	(115)	5438	(1,199)	35.44
Cancelled	–	–	(1)	32.39
Exercised	(317)	4028	(3,408)	28.82
Outstanding at 31 December 2019	1,328	5640	9,770	36.22
Granted	**689**	**7408**	**3,671**	**47.71**
Forfeited	**(113)**	**6204**	**(1,077)**	**41.08**
Cancelled	**–**	**7280**	**(9)**	**36.93**
Exercised	**(278)**	**4929**	**(3,180)**	**31.47**
Outstanding at 31 December 2020	**1,626**	**6471**	**9,175**	**41.89**

The AstraZeneca Restricted Share Plan

This plan was introduced in 2008 and provides for the grant of restricted share awards to key employees, excluding Executive Directors. Awards are made on an ad hoc basis with variable vesting dates. The plan has been used four times in 2020 to make awards to 113 employees. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated.

	Ordinary Shares '000	WAFV pence	ADR Shares '000	WAFV $
Outstanding at 1 January 2018	95	4714	1,740	29.13
Granted	19	5808	249	36.24
Forfeited	(3)	4293	(253)	29.11
Cancelled	–	–	(177)	28.29
Exercised	(19)	4698	(497)	29.46
Outstanding at 31 December 2018	92	4952	1,062	30.79
Granted	105	6894	176	43.91
Forfeited	(7)	5907	(141)	31.17
Cancelled	–	–	(2)	28.19
Exercised	(14)	5244	(446)	30.12
Outstanding at 31 December 2019	176	6051	649	34.70
Granted	**80**	**7931**	**295**	**52.92**
Forfeited	**(6)**	**7168**	**(79)**	**39.26**
Exercised	**(89)**	**5166**	**(359)**	**31.05**
Outstanding at 31 December 2020	**161**	**7434**	**506**	**47.20**

The AstraZeneca Extended Incentive Plan

This plan was introduced in 2018 and provides for the grant of awards to key employees, excluding Executive Directors. Awards are made on an ad hoc basis and 50% of the award will normally vest on the fifth anniversary of grant, with the balance vesting on the tenth anniversary of grant. The award can be subject to the achievement of performance conditions. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated, including agreeing performance targets (if any) and which employees should be invited to participate.

	Ordinary Shares '000	WAFV pence	ADR Shares '000	WAFV $
Outstanding at 1 January 2018	–	–	–	–
Granted	238	5239	65	38.46
Outstanding at 31 December 2018	238	5239	65	38.46
Granted	44	7301	–	–
Outstanding at 31 December 2019	282	5563	65	38.46
Granted	**18**	**8386**	**–**	**–**
Outstanding at 31 December 2020	**300**	**5730**	**65**	**38.46**

The fair values were determined using a modified version of the Monte Carlo model. This method incorporated expected dividends but no other features into the measurements of fair value. The grant date fair values of share awards disclosed in this section do not take account of service and non-market related performance conditions.

29 Commitments and contingent liabilities

Commitments	2020 $m	2019 $m	2018 $m
Contracts placed for future capital expenditure on Property, plant and equipment and software development costs not provided for in these financial statements	**689**	396	586

Guarantees and contingencies arising in the ordinary course of business, for which no security has been given, are not expected to result in any material financial loss.

Research and development collaboration payments

The Group has various ongoing collaborations, including in-licensing and similar arrangements with development partners. Such collaborations may require the Group to make payments on achievement of stages of development, launch or revenue milestones, although the Group generally has the right to terminate these agreements at no cost. The Group recognises research and development milestones as an intangible asset once it is committed to payment, which is generally when the Group reaches set trigger points in the development cycle. Revenue-related milestones are recognised as intangible assets on product launch at a value based on the Group's long-term revenue forecasts for the related product. The table below indicates potential development and revenue-related payments that the Group may be required to make under such collaborations.

	Total $m	Under 1 year $m	Years 1 and 2 $m	Years 3 and 4 $m	Years 5 and greater $m
Future potential research and development milestone payments	**11,067**	**549**	**2,372**	**1,954**	**6,192**
Future potential revenue milestone payments	**12,263**	**48**	**178**	**1,247**	**10,790**

The table includes all potential payments for achievement of milestones under ongoing research and development arrangements. Revenue-related milestone payments represent the maximum possible amount payable on achievement of specified levels of revenue as set out in individual contract agreements, but exclude variable payments that are based on unit sales (e.g. royalty-type payments) which are expensed as the associated sale is recognised. The table excludes any payments already capitalised in the Financial Statements for the year ended 31 December 2020.

The future payments we disclose represent contracted payments and, as such, are not discounted and are not risk-adjusted. As detailed in the Risk section from page 254, the development of any pharmaceutical product candidate is a complex and risky process that may fail at any stage in the development process due to a number of factors (including items such as failure to obtain regulatory approval, unfavourable data from key studies, adverse reactions to the product candidate or indications of other safety concerns). The timing of the payments is based on the Group's current best estimate of achievement of the relevant milestone.

Environmental costs and liabilities

The Group's expenditure on environmental protection, including both capital and revenue items, relates to costs that are necessary for implementing internal systems and programmes, and meeting legal and regulatory requirements for processes and products. This includes investment to conserve natural resources and otherwise minimise the impact of our activities on the environment.

They are an integral part of normal ongoing expenditure for carrying out the Group's research, manufacturing and commercial operations and are not separated from overall operating and development costs. There are no known changes in legal, regulatory or other requirements resulting in material changes to the levels of expenditure for 2018, 2019 or 2020.

In addition to expenditure for meeting current and foreseen environmental protection requirements, the Group incurs costs in investigating and cleaning up land and groundwater contamination. In particular, AstraZeneca has environmental liabilities at some currently or formerly owned, leased and third-party sites.

In the US, Zeneca Inc., and/or its indemnitees, have been named as potentially responsible parties (PRPs) or defendants at a number of sites where Zeneca Inc. is likely to incur future environmental investigation, remediation, operation and maintenance costs under federal, state, statutory or common law environmental liability allocation schemes (together, US Environmental Consequences). Similarly, Stauffer Management Company LLC (SMC), which was established in 1987 to own and manage certain assets of Stauffer Chemical Company acquired that year, and/or its indemnitees, have been named as PRPs or defendants at a number of sites where SMC is likely to incur US Environmental Consequences.

AstraZeneca has also given indemnities to third parties for a number of sites outside the US. These environmental liabilities arise from legacy operations that are not currently part of the Group's business and, at most of these sites, remediation, where required, is either completed or in progress. AstraZeneca has made provisions for the estimated costs of future environmental investigation, remediation, operation and maintenance activity beyond normal ongoing expenditure for maintaining the Group's R&D and manufacturing capacity and product ranges; where a present obligation exists, it is probable that such costs will be incurred and they can be estimated reliably. With respect to such estimated future costs, there were provisions at 31 December 2020 in the aggregate of $100m (2019: $96m; 2018: $97m), mainly relating to the US. Where we are jointly liable or otherwise have cost-sharing agreements with third parties, we reflect only our share of the obligation. Where the liability is insured in part or in whole by insurance or other arrangements for reimbursement, an asset is recognised to the extent that this recovery is virtually certain.

It is possible that AstraZeneca could incur future environmental costs beyond the extent of our current provisions. The extent of such possible additional costs is inherently difficult to estimate due to a number of factors, including: (i) the nature and extent of claims that may be asserted in the future; (ii) whether AstraZeneca has or will have any legal obligation with respect to asserted or unasserted claims; (iii) the type of remedial action, if any, that may be selected at sites where the remedy is presently not known; (iv) the potential for recoveries from or allocation of liability to third parties; and (v) the length of time that the environmental investigation, remediation and liability allocation process can take. As per our accounting policy on page 186, provisions for these costs are made when there is a present obligation and where it is probable that expenditure on remedial work will be required and a reliable estimate can be made of the cost. Notwithstanding and subject to the foregoing, we estimate the potential additional loss for future environmental investigation, remediation, remedial operation and maintenance activity above and beyond our provisions to be, in aggregate, between $95m and $158m (2019: $86m and $143m; 2018: $71m and $118m), which relates mainly to the US.

Legal proceedings

AstraZeneca is involved in various legal proceedings considered typical to its business, including actual or threatened litigation and actual or potential government investigations relating to employment matters, product liability, commercial disputes, pricing, sales and marketing practices, infringement of IP rights, and the validity of certain patents and competition laws. The more significant matters are discussed below.

Most of the claims involve highly complex issues. Often these issues are subject to substantial uncertainties and, therefore, the probability of a loss, if any, being sustained and/or an estimate of the amount of any loss is difficult to ascertain.

Unless specifically identified below that a provision has been taken, AstraZeneca considers each of the claims to represent a contingent liability and discloses information with respect to the nature and facts of the cases in accordance with IAS 37.

There is one matter, which is considered probable that an outflow will be required, but for which we are unable to make an estimate of the possible loss or range of possible losses at this stage.

We do not believe that disclosure of the amounts sought by plaintiffs, if known, would be meaningful with respect to these legal proceedings. This is due to a number of factors, including (i) the stage of the proceedings (in many cases trial dates have not been set) and the overall length and extent of pre-trial discovery; (ii) the entitlement of the parties to an action to appeal a decision; (iii) clarity as to theories of liability, damages and governing law; (iv) uncertainties in timing of litigation; and (v) the possible need for further legal proceedings to establish the appropriate amount of damages, if any.

While there can be no assurance regarding the outcome of any of the legal proceedings referred to in this Note 29, based on management's current and considered view of each situation, we do not currently expect them to have a material adverse effect on our financial position including within the next financial year. This position could of course change over time, not least because of the factors referred to above.

In cases that have been settled or adjudicated, or where quantifiable fines and penalties have been assessed and which are not subject to appeal (or other similar forms of relief), or where a loss is probable and we are able to make a reasonable estimate of the loss, we generally indicate the loss absorbed or make a provision for our best estimate of the expected loss.

Where it is considered that the Group is more likely than not to prevail, legal costs involved in defending the claim are charged to profit as they are incurred.

Where it is considered that the Group has a valid contract which provides the right to reimbursement (from insurance or otherwise) of legal costs and/or all or part of any loss incurred or for which a provision has been established, and we consider recovery to be virtually certain, the best estimate of the amount expected to be received is recognised as an asset.

KJ Assessments as to whether or not to recognise provisions or assets, and of the amounts concerned, usually involve a series of complex judgements about future events and can rely heavily on estimates and assumptions. AstraZeneca believes that the provisions recorded are adequate based on currently available information and that the insurance recoveries recorded will be received. However, given the inherent uncertainties involved in assessing the outcomes of these cases, and in estimating the amount of the potential losses and the associated insurance recoveries, we could in the future incur judgments or insurance settlements that could have a material adverse effect on our results in any particular period.

IP claims include challenges to the Group's patents on various products or processes and assertions of non-infringement of patents. A loss in any of these cases could result in loss of patent protection on the related product. The consequences of any such loss could be a significant decrease in Product Sales, which could have a material adverse effect on our results. The lawsuits filed by AstraZeneca for patent infringement against companies that have filed ANDAs in the US, seeking to market generic forms of products sold by the Group prior to the expiry of the applicable patents covering these products, typically also involve allegations of non-infringement, invalidity and unenforceability of these patents by the ANDA filers. In the event that the Group is unsuccessful in these actions or the statutory 30-month stay expires before a ruling is obtained, the ANDA filers involved will also have the ability, subject to FDA approval, to introduce generic versions of the product concerned.

AstraZeneca has full confidence in, and will vigorously defend and enforce, its IP.

Over the course of the past several years, including in 2020, a significant number of commercial litigation claims in which AstraZeneca is involved have been resolved, particularly in the US, thereby reducing potential contingent liability exposure arising from such litigation. Similarly, in part due to patent litigation and settlement developments, greater certainty has been achieved regarding possible generic entry dates with respect to some of our patented products. At the same time, like other companies in the pharmaceutical sector and other industries, AstraZeneca continues to be subject to government investigations around the world.

Patent litigation

Tagrisso

US patent proceedings

In February 2020, in response to Paragraph IV notices from multiple abbreviated new drug application (ANDA) filers, AstraZeneca filed patent infringement lawsuits in the US District Court for the District of Delaware. In its complaint, AstraZeneca alleged that a generic version of *Tagrisso*, if approved and marketed, would infringe a US Orange Book-listed *Tagrisso* patent. The trial is scheduled for May 2022.

Faslodex

US patent proceedings

AstraZeneca filed patent infringement lawsuits in the US District Court for the District of New Jersey (the District Court) relating to four patents listed in the FDA Orange Book with reference to *Faslodex* after receiving a number of Paragraph IV notices relating to multiple ANDAs or NDAs submitted pursuant to 21 U.S.C. § 355(b)(2) seeking FDA approval to market generic versions of *Faslodex* prior to the expiration of AstraZeneca's patents. In July 2016, AstraZeneca settled one of these, the lawsuit brought against Sandoz, Inc. (Sandoz), and the District Court entered a consent judgment, which included an injunction preventing Sandoz from launching a generic fulvestrant product until March 2019, or earlier in certain circumstances. Between 2016 and 2020, AstraZeneca resolved all of the remaining lawsuits, and the District Court also entered consent judgments ending those lawsuits.

Farxiga

US patent proceedings

In 2018, in response to Paragraph IV notices, AstraZeneca initiated ANDA litigation against Zydus Pharmaceuticals (USA) Inc. (Zydus) in the US District Court for the District of Delaware. In its complaint, AstraZeneca alleged that Zydus' generic version of *Farxiga*, if approved and marketed, would infringe patents listed in the FDA Orange Book with reference to *Farxiga*. Proceedings are ongoing and trial is scheduled for May 2021.

Patent proceedings outside the US

In Canada, in January 2021, Sandoz Canada Inc. served three Notices of Allegation on AstraZeneca alleging invalidity and/or non-infringement of all three patents listed on the Canadian Patent Register in relation to *Forxiga*. AstraZeneca is considering its response.

Brilinta

US patent proceedings

In 2015 and subsequently, in response to Paragraph IV notices from ANDA filers, AstraZeneca filed patent infringement lawsuits in the US District Court for the District of Delaware (the District Court) relating to patents listed in the FDA Orange Book with reference to *Brilinta*. In 2020, AstraZeneca entered into three separate settlements and the District Court entered consent judgments to

29 Commitments and contingent liabilities *continued*

dismiss each of the corresponding litigations. Additional proceedings are ongoing in the District Court. No trial date has been set.

Roxadustat

Patent proceedings outside the US

In Canada, in May 2018, Akebia Therapeutics, Inc. filed an impeachment action in the Federal Court of Canada alleging invalidity of several of FibroGen, Inc.'s (FibroGen) method of use patents (Canadian Patent Nos. 2467689; 2468083; and 2526496) related to HIF prolylhydroxylase inhibitors. AstraZeneca is the exclusive licensee of FibroGen in Canada. AstraZeneca and FibroGen are defending the action. A trial is scheduled to begin on 15 February 2021.

Symbicort

US patent proceedings

In October 2018, AstraZeneca initiated ANDA litigation against Mylan Pharmaceuticals Inc. (Mylan) and subsequently against 3M Company (3M) in the US District Court for the Northern District of West Virginia. In the action, AstraZeneca alleges that the defendants' generic versions of *Symbicort*, if approved and marketed, would infringe various AstraZeneca patents. Mylan and 3M alleged that their proposed generic medicines do not infringe the asserted patents and/or that the asserted patents are invalid and/or unenforceable. In July 2020, AstraZeneca added Kindeva Drug Delivery L.P. (Kindeva) as a defendant in the case. In September 2020, Mylan, 3M and Kindeva stipulated to patent infringement to the extent that the asserted patent claims are found to be valid and enforceable, but reserved the right to seek a vacatur of the stipulation if the U.S. Court of Appeals for the Federal Circuit reverses or modifies the District Court's claim construction. In October 2020, following a stipulation by AstraZeneca, 3M and Kindeva, 3M was dismissed from the action. The trial of the matter was held in October 2020 and closing argument was held in January 2021. A decision is awaited.

Daliresp

US patent proceedings

In 2015 and subsequently, in response to Paragraph IV notices from ANDA filers, AstraZeneca filed patent infringement lawsuits in the US District Court for the District of New Jersey (the District Court) relating to patents listed in the FDA Orange Book with reference to *Daliresp*. In 2020, AstraZeneca entered into a settlement and the District Court entered a consent judgment to dismiss the corresponding litigation. Additional proceedings are ongoing in the District Court. No trial date has been set.

Movantik

US patent proceedings

In March 2020, Aether Therapeutics, Inc. filed a patent infringement lawsuit in the US District Court for the District of Delaware against AstraZeneca, Nektar Therapeutics and Daiichi Sankyo, Inc., relating to *Movantik*. A trial has been set for March 2023.

Onglyza

Patent proceedings outside the US

In Canada, in November 2019, Sandoz Canada Inc. sent a Notice of Allegation to AstraZeneca challenging the validity of Canadian substance Patent No. 2402894 (expiry March 2021) (the '894 patent) and formulation Patent No. 2568391 (expiry May 2025) related to *Onglyza*. AstraZeneca commenced an action in response related to the '894 patent in January 2020. A trial date has been set for October 2021.

Enhertu

US patent proceedings

In October 2020, Seagen Inc. (Seagen) filed a complaint against Daiichi Sankyo Company, Limited in the US District Court for the Eastern District of Texas alleging that *Enhertu* infringes US Patent No. 10,808,039 (the '039 patent). AstraZeneca Pharmaceuticals LP co-commercialises *Enhertu* with Daiichi Sankyo, Inc. in the US. A claim construction hearing has been scheduled for August 2021 and a trial has been scheduled for April 2022.

In November 2020, AstraZeneca, Daiichi Sankyo Company, Limited and Daiichi Sankyo, Inc. filed a complaint against Seagen in the US District Court for the District of Delaware seeking a declaratory judgment that plaintiffs do not infringe the '039 patent. On 18 December 2020, Seagen filed a motion seeking to stay or dismiss this action.

On 23 December 2020, AstraZeneca and Daiichi Sankyo, Inc. filed a post grant review petition with the US Patent and Trademark Office alleging, inter alia, that the '039 patent is invalid for lack of written description and enablement. In January 2021, AstraZeneca and Daiichi Sankyo, Inc filed a second post grant review petition with the US Patent and Trademark Office extending its challenge to additional claims in the '039 patent. A decision on institution of these petitions is expected in July 2021.

Product liability litigation

Farxiga (dapagliflozin) and *Xigduo* XR (dapagliflozin/metformin HCl)

In several jurisdictions in the US, AstraZeneca has been named as a defendant in lawsuits involving plaintiffs claiming physical injury, including diabetic ketoacidosis and kidney failure, from treatment with *Farxiga* and/or *Xigduo* XR. In April 2017, the Judicial Panel on Multidistrict Litigation ordered transfer of any currently pending cases as well as of any similar, subsequently filed cases to a co-ordinated and consolidated pre-trial multidistrict litigation proceeding in the US District Court for the Southern District of New York. All of these claims have been resolved or dismissed, and the MDL has been administratively closed.

In addition, in several jurisdictions in the US, AstraZeneca has been named as a defendant in lawsuits involving plaintiffs claiming physical injury, including Fournier's Gangrene and necrotising fasciitis, from treatment with *Farxiga* and/or *Xigduo* XR. A majority of these claims are filed in Delaware state court and remain pending.

Byetta/*Bydureon*

In the US, Amylin Pharmaceuticals, LLC, a wholly owned subsidiary of AstraZeneca, and/or AstraZeneca are among multiple defendants in various lawsuits filed in federal and state courts involving claims of physical injury from treatment with *Byetta* and/or *Bydureon*. The lawsuits allege several types of injuries including pancreatitis, pancreatic cancer, thyroid cancer, and kidney cancer. A multidistrict litigation was established in the US District Court for the Southern District of California (the District Court) in regard to the alleged pancreatic cancer cases in federal courts. Further, a coordinated proceeding has been established in Los Angeles (the California Court), California in regard to the various lawsuits in California state courts. In November 2015, the District Court granted the defendants' motion for summary judgment and dismissed all claims alleging pancreatic cancer that accrued prior to 11 September 2015. In November 2017, the US Court of Appeals for the Ninth Circuit vacated the District Court's order and remanded for further discovery. In November 2018, the Court of Appeals for the State of California annulled the judgment from the California state coordinated proceeding and remanded for further discovery. In October and December 2020, the District Court and the California Court jointly heard oral argument on a renewed motion filed by Defendants seeking summary judgment and dismissal of all claims. That motion remains pending.

Onglyza and *Kombiglyze*

In the US, AstraZeneca is defending various lawsuits alleging heart failure, cardiac injuries, and/or death from treatment with *Onglyza* or *Kombiglyze*. In February 2018, the Judicial Panel on Multidistrict Litigation ordered the transfer of various pending federal actions to the US District Court for the Eastern District of Kentucky (District Court) for consolidated pre-trial proceedings with the federal actions pending in the District Court. The previously disclosed California State Court coordinated proceeding remains pending in California.

Nexium and *Losec*/*Prilosec*

U.S. proceedings

In the US, AstraZeneca is defending various lawsuits brought in federal and state courts involving multiple plaintiffs claiming that they have been diagnosed with various injuries following treatment with proton pump inhibitors (PPIs), including *Nexium* and *Prilosec*. The vast majority of those lawsuits relate to allegations of kidney injuries. In particular, in May 2017, counsel for a group of such plaintiffs claiming

that they have been diagnosed with kidney injuries filed a motion with the Judicial Panel on Multidistrict Litigation (JPML) seeking the transfer of any currently pending federal court cases as well as any similar, subsequently filed cases to a coordinated and consolidated pre-trial multidistrict litigation (MDL) proceeding. In August 2017, the JPML granted the motion and consolidated the pending federal court cases in an MDL proceeding in federal court in New Jersey for pre-trial purposes. A trial in the MDL has been scheduled for November 2021. In addition to the MDL cases, there are cases filed in several state courts around the US; a trial in Delaware state court has been scheduled for February 2022.

In addition, AstraZeneca has been defending lawsuits involving allegations of gastric cancer following treatment with PPIs. All but one of these claims is filed in the MDL. One claim is filed in the US District Court for the Middle District of Louisiana, where the court has scheduled a trial for March 2022.

Canada proceedings

In Canada, in July and August 2017, AstraZeneca was served with three putative class action lawsuits. Two of the lawsuits seek authorisation to represent individual residents in Canada who allegedly suffered kidney injuries from the use of proton pump inhibitors, including *Nexium* and *Losec*. In August 2019, the third lawsuit, filed in Quebec, was dismissed.

Commercial litigation

Amplimmune

In the US, in June 2017, AstraZeneca was served with a lawsuit filed by the stockholders' agents for Amplimmune, Inc. (Amplimmune) in Delaware State Court that alleged, among other things, breaches of contractual obligations relating to a 2013 merger agreement between AstraZeneca and Amplimmune. A trial of the matter was held in February and post-trial oral argument was heard in August 2020. In November 2020, the Court decided in AstraZeneca's favour and subsequently entered a Final Judgment as to all pending claims in favour of AstraZeneca. In December 2020, the plaintiffs filed an appeal to the Delaware Supreme Court.

Array BioPharma

In the US, in December 2017, AstraZeneca was served with a complaint filed in New York State court by Array BioPharma, Inc. (Array) alleging breaches of contractual obligations relating to a 2003 collaboration agreement between AstraZeneca and Array. In June 2020, an appeal court denied AstraZeneca's motion for an early dismissal of the case, allowing the case to continue towards trial. No trial date has been set.

Ocimum lawsuit

In the US, in December 2017, AstraZeneca was served with a complaint filed by Ocimum Biosciences, Ltd. (Ocimum) in the Superior Court for the State of Delaware that alleges, among other things, breaches of contractual obligations and misappropriation of trade secrets, relating to a now terminated 2001 licensing agreement between AstraZeneca and Gene Logic, Inc. (Gene Logic), the rights to which Ocimum purports to have acquired from Gene Logic. In December 2019, the court granted AstraZeneca's motion for summary judgment and dismissed the case. Ocimum has appealed to the Delaware Supreme Court.

Seroquel XR (Antitrust Litigation)

In the US in 2019, AstraZeneca was named in several related complaints brought in the US District Court for the Southern District of New York, including several putative class action lawsuits that were purportedly brought on behalf of classes of direct purchasers or end payors of *Seroquel* XR, that allege AstraZeneca and generic drug manufacturers violated antitrust laws when settling patent litigation related to *Seroquel* XR. In August 2020, the Court granted AstraZeneca's motions to transfer all such lawsuits to the US District Court for the District of Delaware.

Anti-Terrorism Act Civil Lawsuit

In the US, in July 2020, the US District Court for the District of Columbia granted AstraZeneca's and certain other pharmaceutical and/or medical device companies' motion and dismissed a lawsuit filed by US nationals (or their estates, survivors, or heirs) who were killed or wounded in Iraq between 2005 and 2011, which had alleged that the defendants violated the US Anti-Terrorism Act and various state laws by selling pharmaceuticals and medical supplies to the Iraqi Ministry of Health. The plaintiffs are appealing the District Court's order dismissing the litigation.

AZD1222 Securities Litigation

In January 2021, putative securities class action lawsuits were filed in the US District Court for the Southern District of New York against AstraZeneca PLC and certain officers, on behalf of purchasers of AstraZeneca publicly traded securities during the period 21 May 2020 through 20 November 2020. The complaints allege that defendants made materially false and misleading statements in connection with the development of AZD1222 (otherwise known as *COVID-19 Vaccine AstraZeneca*), a potential recombinant adenovirus vaccine for the prevention of COVID-19, and assert claims under sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5.

Definiens

In Germany, in July 2020, AstraZeneca received a notice of arbitration filed with the German Institution of Arbitration from the sellers of Definiens AG (Sellers) regarding the 2014 Share Purchase Agreement (SPA) between AstraZeneca and the Sellers. The Sellers claim they are owed approximately $140m in earn-outs under the SPA. AstraZeneca disputes the claims of the Sellers. An oral hearing is scheduled for July 2022.

Government investigations/proceedings

Crestor

Qui tam litigation

In the US, in January and February 2014, AstraZeneca was served with lawsuits filed in the US District Court for the District of Delaware under the qui tam provisions of the federal False Claims Act and related state statutes, alleging that AstraZeneca directed certain employees to promote *Crestor* off-label and provided unlawful remuneration to physicians in connection with the promotion of *Crestor*. The Department of Justice and all US states declined to intervene in the lawsuits. In March 2019, AstraZeneca filed a motion to dismiss the complaint. In February 2020, the District Court partially granted AstraZeneca's motion to dismiss. This matter has resolved and is now concluded.

Synagis

Investigations and Litigations

In the US, in June 2011, MedImmune received a demand from the US Attorney's Office for the Southern District of New York requesting certain documents related to the sales and marketing activities of *Synagis*. In July 2011, MedImmune received a similar court order to produce documents from the Office of the Attorney General for the State of New York Medicaid and Fraud Control Unit pursuant to what the government attorneys advised was a joint investigation. In May 2012, MedImmune received a subpoena duces tecum from the Office of Attorney General for the State of Florida Medicaid and Fraud Control Unit requesting certain documents related to the sales and marketing activities of *Synagis*. MedImmune accepted receipt of these requests and coordinated with these agencies to provide the appropriate responses and cooperate with any related investigation.

In March 2017, the Attorney General for the State of New York filed a complaint in intervention in the US District Court for the Southern District of New York alleging that MedImmune inappropriately provided assistance to a single specialty care pharmacy. Neither the US Attorney's Office for the Southern District of New York nor the Office of the Attorney General for the State of Florida sought to intervene or pursue litigation. In September 2018, the US District Court in New York denied MedImmune's motion to dismiss the lawsuit brought by the Attorney General for the State of New York. In July 2020, this matter was resolved. This matter is now concluded.

In November 2017, MedImmune was served with an amended complaint in the US District Court for the Southern District of New York by a relator under the qui tam (whistle-blower) provisions of the federal and certain state False Claims Acts. The lawsuit was originally filed under seal in April 2009 and alleged that MedImmune made false claims about *Synagis*. In September 2018, the US District Court for the Southern District of New York dismissed the relator's lawsuit. In January 2019, the relator appealed the decision

29 Commitments and contingent liabilities *continued*

of the US District Court. In March 2020, the United States Court of Appeals for the Second Circuit affirmed the US District Court's decision dismissing the relator's lawsuit with prejudice. This matter is now concluded.

Toprol-XL Louisiana Attorney General Litigation

In July 2020, the Louisiana First Circuit Court of Appeals (the Appellate Court) reversed and remanded a Louisiana state trial court (the Trial Court) ruling that had granted AstraZeneca's motion for summary judgment and dismissed a state court complaint, brought by the Attorney General for the State of Louisiana, alleging that AstraZeneca engaged in unlawful monopolisation and unfair trade practices in connection with the enforcement of its *Toprol-XL* patents. In August 2020, AstraZeneca petitioned the Louisiana Supreme Court (the Supreme Court) to review the decision of the Appellate Court and reinstate the Trial Court's summary judgment ruling. In December 2020, the Supreme Court granted AstraZeneca's petition and agreed to review the Appellate Court's decision. AstraZeneca filed its opening appellate brief with the Supreme Court in January 2021, and a decision on the merits of the appeal remains pending.

Iraqi Ministry of Health Anti-Corruption Probe

In the US, in July 2018, AstraZeneca, along with other companies, received an inquiry from the US Department of Justice (DOJ) pursuant to the Foreign Corrupt Practices Act in connection with an anticorruption investigation relating to activities in Iraq, including interactions with the Iraqi government. In August 2020, the DOJ notified AstraZeneca that it does not intend to institute an enforcement action and is closing the inquiry.

Vermont US Attorney Investigation

In the US, in April 2020, AstraZeneca received a Civil Investigative Demand from the US Attorney's Office in Vermont and the Department of Justice, Civil Division, seeking documents and information relating to AstraZeneca's relationships with electronic health-record vendors. AstraZeneca is co-operating with this enquiry.

US 340B Litigations and Proceedings

AstraZeneca is involved in several matters relating to its policy with regard to contract pharmacy recognition under the 340B Drug Pricing Program in the US. In October and November 2020, two lawsuits, one in the US District Court for the District of Columbia and one in the US District Court for the Northern District of California, were filed by covered entities and advocacy groups against the US Department of Health and Human Services, the US Health Resources and Services Administration as well as other US government agencies and their officials. The complaints allege, among other things, that these agencies should enforce an interpretation of the governing statute for the 340B Drug Pricing Program that would require drug manufacturers participating in the program to offer their drugs for purchase at statutorily capped rates by an unlimited number of contract pharmacies. AstraZeneca has sought to intervene in the lawsuits. Administrative Dispute Resolution (ADR) proceedings have also been initiated against AstraZeneca before the US Health Resources and Services Administration.

In addition, in January 2021, AstraZeneca filed a separate lawsuit in federal court in Delaware alleging that a recent Advisory Opinion issued by the Department of Health and Human Services violates the Administrative Procedure Act.

US Congressional

In January 2019, AstraZeneca received a letter from the US House of Representatives Committee on Oversight and Reform seeking information related to pricing practices for *Crestor*. Similar letters were sent to 11 other pharmaceutical manufacturers. We continue to cooperate with the inquiry and have produced certain responsive information.

Additional government inquiries

As is true for most, if not all, major prescription pharmaceutical companies, AstraZeneca is currently involved in multiple inquiries into drug marketing and pricing practices. In addition to the investigations described above, various law enforcement offices have, from time to time, requested information from the Group. There have been no material developments in those matters.

Tax

SE AstraZeneca considers whether it is probable that a taxation authority will accept an uncertain tax treatment. If it is concluded that it is not probable that the taxation authority will accept an uncertain tax treatment, where tax exposures can be quantified, an accrual is made based on either the most likely amount method or the expected value method depending on which method management expects to better predict the resolution of the uncertainty. Accruals can be built up over a long period of time but the ultimate resolution of tax exposures usually occurs at a point in time, and given the inherent uncertainties in assessing the outcomes of these exposures (which sometimes can be binary in nature), we could, in future periods, experience adjustments to these accruals that have a material positive or negative effect on our results in any particular period. Details of the movements in relation to material tax exposures are discussed below.

KJ AstraZeneca faces a number of audits and reviews in jurisdictions around the world and, in some cases, is in dispute with the tax authorities. The issues under discussion are often complex and can require many years to resolve. Accruals for tax contingencies require management to make key judgements with respect to the ultimate outcome of current and potential future tax audits, and actual results could vary from these estimates.

Transfer pricing and other international tax contingencies

The total net accrual included in the Group Financial Statements to cover the worldwide exposure to transfer pricing audits is $287m (2019: $140m; 2018: $212m), an increase of $147m compared with 2019 mainly as a result of additional provisions for tax contingencies partially offset by reductions following the conclusion of tax authority review. These positions can be complex and judgemental. Therefore in determining the accrual, management has assessed their expectation of the ultimate resolution of the uncertainty, including settlement or litigation.

Management continues to believe that AstraZeneca's positions on all its transfer pricing and other international tax audits and disputes are robust, and that AstraZeneca is appropriately provided, including consideration of whether corresponding relief will be available under Mutual Agreement procedures or unilaterally.

The European Commission (EC) issued its decision on the state aid review of UK Controlled Foreign Company Group Financing Exemption. The EC concluded that part of the UK measures was unlawful and have instructed recovery of the state aid. The UK Government and the Group have appealed the decision. Despite the nature of the complexities of the ruling in relation to the Group's position, the complex tax legislation and taking into account the ongoing appeal, the Group does not expect any additional liability would be material.

For transfer pricing and other international tax matters where AstraZeneca and the tax authorities are in dispute, and the state aid matter, AstraZeneca estimates the potential for reasonably possible additional liabilities above and beyond the amount provided to be up to $251m (2019: $76m; 2018: $357m) including associated interest. Management believes that it is unlikely that these additional liabilities will arise. It is possible that some of these contingencies may change in the future to reflect progress in tax authority reviews, to the extent that any tax authority challenge is concluded, or matters lapse including following expiry of the relevant statutes of limitation resulting in a reduction in the tax charge in future periods.

Other tax contingencies

Included in the tax accrual is $727m (2019: $887m; 2018: $730m) relating to a number of other tax contingencies, a decrease of $160m mainly due to releases of tax contingencies following the expiry of the relevant statute of limitations and on the conclusion of tax authority review, partially offset by the impact of an additional year of transactions relating to contingencies for which accruals had already been established and exchange rate effects. The majority of the accrual relates to tax contingencies which are estimated using

the expected value method and depend on AstraZeneca's assessment of the likelihood of the approach taken by the tax authorities and could change in the future to reflect progress in tax authority reviews, the extent that any tax authority challenge is concluded, or matters lapse including following expiry of the relevant statutes of limitation resulting in a reduction in the tax charge in future periods.

For these other tax contingencies, AstraZeneca estimates the potential for reasonably possible additional losses above and beyond the amount provided to be up to $517m (2019: $327m; 2018: $253m) including associated interest. It is possible that some of these contingencies may reduce in the future if any tax authority challenge is concluded or matters lapse following expiry of the relevant statutes of limitation, resulting in a reduction in the tax charge in future periods.

Timing of cash flows and interest

It is not possible to estimate the timing of tax cash flows in relation to each outcome. It is anticipated that tax payments may be required in relation to a number of significant disputes which may be resolved over the next one to two years. AstraZeneca considers the accruals set out above to appropriately reflect the expected value of any final settlement. Some of the items discussed above are not currently within the scope of tax authority audits and may take longer to resolve.

Included within other receivables and payables is a net amount of interest arising on tax contingencies of $82m (2019: $90m; 2018: $116m).

30 Statutory and other information

	2020 $m	2019 $m	2018 $m
Fees payable to PricewaterhouseCoopers LLP and its associates:			
Group audit fee	**6.3**	3.9	3.8
Fees payable to PricewaterhouseCoopers LLP and its associates for other services:			
The audit of subsidiaries pursuant to legislation	**10.8**	8.3	9.4
Attestation under s404 of Sarbanes-Oxley Act 2002	**2.0**	2.0	2.0
Audit-related assurance services	**0.7**	0.3	0.8
Tax compliance services	**–**	–	0.1
Other assurance services	**0.2**	0.1	0.9
Fees payable to PricewaterhouseCoopers Associates in respect of the Group's pension schemes:			
The audit of subsidiaries' pension schemes	**0.3**	0.3	0.4
	20.3	14.9	17.4

$0.8m of fees payable in 2020 are in respect of the 2019 Group audit and audit of subsidiaries (2019: $0.7m in respect of the 2018 audit).

Related party transactions

The Group had no material related party transactions which might reasonably be expected to influence decisions made by the users of these Financial Statements.

Key management personnel compensation

Key management personnel are defined for the purpose of disclosure under IAS 24 'Related Party Disclosures' as the members of the Board and the members of the SET.

	2020 $'000	2019 $'000	2018 $'000
Short-term employee benefits	**29,126**	31,329	32,523
Post-employment benefits	**1,602**	1,766	2,387
Share-based payments	**27,666**	19,210	23,605
	58,394	52,305	58,515

Total remuneration is included within employee costs (see Note 28).

31 Subsequent events

On 12 December 2020, AstraZeneca and Alexion Pharmaceuticals, Inc. (Alexion) announced that they had entered into a definitive agreement for AstraZeneca to acquire Alexion for a total consideration of $39bn, partly funded in cash and partly in AstraZeneca American Depository Shares. The boards of directors of both companies have unanimously approved the acquisition. Subject to receipt of regulatory clearances and approval by shareholders of both companies, the acquisition is expected to close in the third quarter of 2021, and upon completion, Alexion shareholders will own approximately 15% of the combined company. In conjunction with the acquisition, AstraZeneca has entered into committed bank facilities of $17.5bn as discussed in Note 27.

On 1 February 2021, AstraZeneca announced that it had agreed, subject to certain limited exceptions, to divest its 26.7% ownership of Viela Bio, as part of the proposed acquisition of Viela Bio by Horizon Therapeutics plc. AstraZeneca is anticipating to receive cash proceeds and profit of approximately $760-$780m upon closing for the sale of the holding, which will be recorded in Other operating income and expense. The divestment is expected to complete by the end of the first quarter of 2021.

On 9 February 2021, AstraZeneca completed its sale of rights to *Crestor* and associated medicines in certain European countries to Grünenthal for an upfront payment of $320m, which will be recorded within Other operating income and expense. At 31 December 2020 there were no intangible or other assets on the balance sheet relating to the disposal.

Group Subsidiaries and Holdings

In accordance with section 409 of the Companies Act 2006 a full list of subsidiaries, partnerships, associates, joint ventures and joint arrangements, the country of incorporation, registered office address, and the effective percentage of equity owned as at 31 December 2020 are disclosed below. Unless otherwise stated the share capital disclosed comprises ordinary shares which are indirectly held by AstraZeneca PLC.

Unless otherwise stated the accounting year ends of subsidiaries are 31 December. The Group Financial Statements consolidate the Financial Statements of the Company and its subsidiaries at 31 December 2020.

At 31 December 2020	Group Interest
Wholly owned subsidiaries	
Algeria	
AAPM Sarl	100%
20 Zone Macro-Economique, Hydra, Dar El Medina, Algiers, Algeria	
Argentina	
AstraZeneca S.A.	100%
Nicolas de Vedia 3616, Piso 8, Ciudad Autónoma de Buenos Aires, Argentina	
Australia	
AstraZeneca Holdings Pty Limited	100%
AstraZeneca PTY Limited	100%
Pharmaceutical Manufacturing Company Pty Limited	100%
Pharmaceutical Manufacturing Division Pty Limited	100%
66 Talavera Road, Macquarie Park, NSW 2113, Australia	
Austria	
AstraZeneca Österreich GmbH	100%
A-1030 Wien, Landstraßer Hauptstraße 1A, Austria	
Belgium	
AstraZeneca S.A. / N.V.	100%
Alfons Gossetlaan 40 bus 201 at 1702 Groot-Bijgaarden, Belgium	
Brazil	
AstraZeneca do Brasil Limitada	100%
Rod. Raposo Tavares, KM 26, 9, Cotia, Brazil	
Bulgaria	
AstraZeneca Bulgaria EOOD	100%
36 Dragan Tzankov Blvd., District Izgrev, Sofia, 1057, Bulgaria	
Canada	
AstraZeneca Canada Inc.[1]	100%
Suite 5000, 1004 Middlegate Road, Ontario, L4Y 1M4, Canada	
Cayman Islands	
AZ Reinsurance Limited	100%
18 Forum Lane, 2nd Floor, Camana Bay, Grand Cayman, P.O. BOX 69, Cayman Islands	
Chile	
AstraZeneca S.A.	100%
AstraZeneca Farmaceutica Chile Limitada	100%
Av. Isidora Goyenechea 3477, 2nd Floor, Las Condes, Santiago, Chile	
China	
AstraZeneca Pharmaceuticals Co., Limited	100%
No. 2, Huangshan Road, Wuxi New District, China	
AstraZeneca (Wuxi) Trading Co., Ltd	100%
Building E (Building No. 5), Huirong Commercial Plaza, East Jinghui Road, Xinwu District, Wuxi, China	
AstraZeneca Investment (China) Co., Ltd	100%
No. 199 Liangjing Road, China (Shanghai) Pilot Free Trade Zone, Shanghai, China	
AstraZeneca Pharmaceutical (China) Co., Ltd	100%
No. 88 Yaocheng Avenue, Taizhou, Jiangsu Province, China	
AstraZeneca Pharmaceuticals Technologies (Beijing) Co., Ltd	100%
Unit 2203, 22F, No 8, Jianguomenwai Avenue, Chaoyang District, Beijing, China	
Guangzhou AstraZeneca Pharmaceutical Co., Ltd.	100%
Room 406-178, No. 1, Yichuang Street, (China-Singapore Guangzhou Knowledge City) Huangpu District, Guangzhou City, China	
Colombia	
AstraZeneca Colombia S.A.S.	100%
Carrera 7 No. 71-21, Torre A, Piso 19, Bogota, D.C., Colombia	
Costa Rica	
AstraZeneca CAMCAR Costa Rica, S.A.	100%
Escazu, Guachipelin, Centro Corporativo Plaza Roble, Edificio Los Balcones, Segundo Nivel, San Jose, Costa Rica	
Croatia	
AstraZeneca d.o.o.	100%
Radnicka cesta 80, 10000 Zagreb, Croatia	
Czech Republic	
AstraZeneca Czech Republic, s.r.o.	100%
U Trezorky 921/2, 158 00 Prague 5, Czech Republic	
Denmark	
AstraZeneca A/S	100%
World Trade Center Ballerup, Borupvang 3, DK- 2750 Ballerup, Denmark	
Egypt	
AstraZeneca Egypt for Pharmaceutical Industries JSC	100%
Villa 133, Road 90 North, New Cairo, Egypt	
AstraZeneca Egypt for Trading LLC	100%
14C Ahmed Kamel Street, New Maadi, Cairo, Egypt	
Drimex LLC	100%
Villa 47, Road 270, New Maadi, Cairo 11435, Egypt	
Estonia	
AstraZeneca Eesti OÜ	100%
Valukoja 8, Ülemiste City, Tallinn 11415, Estonia	
Finland	
AstraZeneca OY.	100%
Itsehallintokuja 4, Espoo, 02600, Finland	
France	
AstraZeneca S.A.S.	100%
AstraZeneca Finance S.A.S.	100%
AstraZeneca Holding France S.A.S.	100%
Tour Carpe Diem-31, Place des Corolles, 92400 Courbevoie, France	
AstraZeneca Dunkerque Production SCS	100%
224 Avenue de la Dordogne, 59640 Dunkerque, France	
AstraZeneca Reims Production	100%
Chemin de Vrilly Parc, Industriel de la Pompelle, 51100, Reims, France	
Germany	
AstraZeneca Holding GmbH	100%
AstraZeneca GmbH	100%
Tinsdaler Weg 183, Wedel, D-22880, Germany	
Sofotec GmbH	100%
Benzstrasse 1-3, 61352, Bad Homburg v.d. Hohe, Germany	
AstraZeneca Computational Pathology GmbH[2]	100%
Bernhard-Wicki-Straße 5, 80636, Munich, Germany	
Greece	
AstraZeneca S.A.	100%
Agisilaou 6-8 Marousi, Athens, Greece	
Hong Kong	
AstraZeneca Hong Kong Limited	100%
Unit 1 – 3, 11/F., 18 King Wah Road, North Point, Hong Kong	
Hungary	
AstraZeneca Kft	100%
1st Floor, 4 Building B, Alíz Str., Budapest, 1117, Hungary	
India	
AstraZeneca India Private Limited[3]	100%
Block A, Neville Tower, 11th Floor, Ramanujan IT SEZ, Taramani, Chennai, Tamil Nadu, PIN 600113, India	

At 31 December 2020	Group Interest
Iran	
AstraZeneca Pars Company	100%
Suite 1, 1st Floor No. 39, Alvand Ave., Argantin Sq., Tehran 1516673114, Iran	
Ireland	
AstraZeneca Pharmaceuticals (Ireland) Designated Activity Company	100%
4th Floor, South Bank House, Barrow Street, Dublin, 4, Republic of Ireland	
Israel	
AstraZeneca (Israel) Ltd	100%
6 Hacharash St., Hod Hasharon, 4524075, Israel	
Italy	
Simesa SpA	100%
AstraZeneca SpA	100%
Palazzo Ferraris, via Ludovico il Moro 6/c 20080, Basiglio (Milan), Italy	
Japan	
AstraZeneca K.K.	100%
3-1, Ofuka-cho, Kita-ku, Osaka, 530-0011, Japan	
Kenya	
AstraZeneca Pharmaceuticals Limited	100%
L.R. No.1/1327, Avenue 5, 1st Floor, Rose Avenue, Nairobi, Kenya	
Latvia	
AstraZeneca Latvija SIA	100%
Skanstes iela 50, Riga, LV-1013, Latvia	
Lithuania	
AstraZeneca Lietuva UAB	100%
Spaudos g., Vilnius, LT-05132, Lithuania	
Luxembourg	
AstraZeneca Luxembourg S.A.	100%
Rue Nicolas Bové 2A, L-1253, Luxembourg	
Malaysia	
AstraZeneca Asia-Pacific Business Services Sdn Bhd	100%
12th Floor, Menara Symphony, No 5 Jalan Prof, Khoo Kay Kim, Seksyen 13, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia	
AstraZeneca Sdn Bhd	100%
Nucleus Tower, Level 11 & 12, No. 10 Jalan PJU 7/6, Mutiara Damansara, 47800 Petaling Jaya, Selangor Darul Ehsan, Malaysia	
Mexico	
AstraZeneca Health Care Division, S.A. de C.V.	100%
AstraZeneca, S.A. de C.V.	100%
Av. Periferico Sur 4305 interior 5, Colonia Jardines en la Montaña, Mexico City, Tlalpan Distrito Federal, CP 14210, Mexico	

At 31 December 2020	Group Interest
Morocco	
AstraZeneca Maroc SARLAU	100%
92 Boulevard Anfa ETG 2, Casablanca 20000, Morocco	
The Netherlands	
AstraZeneca B.V.	100%
AstraZeneca Continent B.V.	100%
AstraZeneca Gamma B.V.	100%
AstraZeneca Holdings B.V.	100%
AstraZeneca Jota B.V.	100%
AstraZeneca Rho B.V.	100%
AstraZeneca Sigma B.V.	100%
AstraZeneca Treasury B.V.	100%
AstraZeneca Zeta B.V.	100%
Prinses Beatrixlaan 582, 2595BM, The Hague, The Netherlands	
MedImmune Pharma B.V.	100%
Lagelandseweg 78, 6545 CG Nijmegen, The Netherlands	
New Zealand	
AstraZeneca Limited	100%
Pharmacy Retailing (NZ) Limited t/a Healthcare Logistics, 58 Richard Pearse Drive, Mangere, Auckland, 1142, New Zealand	
Nigeria	
AstraZeneca Nigeria Limited	100%
11A, Alfred Olaiya Street, Awuse Estate, Off Salvation Street, Opebi, Ikeja, Lagos, Nigeria	
Norway	
AstraZeneca AS	100%
Fredrik Selmers vei 6 NO-0663 Oslo, Norway	
Pakistan	
AstraZeneca Pharmaceuticals Pakistan (Private) Limited[4]	100%
Office No 1, 2nd Floor, Sasi Arcade, Block 7, Main Clifton Road, Karachi, Pakistan	
Panama	
AstraZeneca CAMCAR, S.A.	100%
Bodega #1, Parque Logistico MIT, Carretera Hacia Coco Solo, Colon, Panama	
Peru	
AstraZeneca Peru S.A.	100%
Calle Las Orquídeas N° 675, Int. 802, Edificio Pacific Tower, San Isidro, Lima, Peru	
Philippines	
AstraZeneca Pharmaceuticals (Phils.) Inc.	100%
16th Floor, Inoza Tower, 40th Street, Bonifacio Global City, Taguig 1634, Philippines	
Poland	
AstraZeneca Pharma Poland Sp.z.o.o.	100%
Postepu 14, 02-676, Warszawa, Poland	

At 31 December 2020	Group Interest
Portugal	
Astra Alpha Produtos Farmaceuticos Lda	100%
AstraZeneca Produtos Farmaceuticos Lda	100%
Novastra Promoção e Comércio Farmacêutico Lda	100%
Novastuart Produtos Farmaceuticos Lda	100%
Stuart-Produtos Farmacêuticos Lda	100%
Zeneca Epsilon – Produtos Farmacêuticos Lda	100%
Zenecapharma Produtos Farmaceuticos, Unipessoal Lda	100%
Rua Humberto Madeira, No 7, Queluz de Baixo, 2730-097, Barcarena, Portugal	
Puerto Rico	
IPR Pharmaceuticals, Inc.	100%
Road 188, San Isidro Industrial Park, Canóvanas, Puerto Rico 00729	
Romania	
AstraZeneca Pharma S.R.L.	100%
12 Menuetului Street, Bucharest Business Park, Building D, West Wing, 1st Floor, Sector 1, Bucharest, 013713, Romania	
Russia	
AstraZeneca Industries, LLC	100%
249006, 1st Vostochny passage, 8, Dobrino village, Borovskiy, Russian Federation	
AstraZeneca Pharmaceuticals, LLC	100%
Building 1, 21 First Krasnogvardeyskiy lane, Floor 30, Rooms 13 and 14, 123100, Moscow, Russian Federation	
Singapore	
AstraZeneca Singapore Pte Limited	100%
10 Kallang Avenue #12-10, Aperia Tower 2, 339510, Singapore	
South Africa	
AstraZeneca Pharmaceuticals (Pty) Limited	100%
17 Georgian Crescent West, Northdowns Office Park, Bryanston, 2191, South Africa	
South Korea	
AstraZeneca Korea Co. Ltd	100%
21st Floor, Asem Tower, 517, Yeongdong-daero, Gangnam-gu, Seoul, 06164, Republic of Korea	
Spain	
AstraZeneca Farmaceutica Holding Spain, S.A.	100%
AstraZeneca Farmaceutica Spain S.A.	100%
Laboratorio Beta, S.A.	100%
Laboratorio Lailan, S.A.	100%
Laboratorio Odin, S.A.	100%
Laboratorio Tau S.A.	100%
Parque Norte, Edificio Álamo, C/Serrano Galvache no 56., 28033 Madrid, Spain	

Group Subsidiaries and Holdings
continued

At 31 December 2020	Group Interest
Sweden	
Astra Export & Trading Aktiebolag	100%
Astra Lakemedel Aktiebolag	100%
AstraZeneca AB	100%
AstraZeneca Biotech AB	100%
AstraZeneca BioVentureHub AB	100%
AstraZeneca Holding Aktiebolag[5]	100%
AstraZeneca International Holdings Aktiebolag[6]	100%
AstraZeneca Nordic AB	100%
AstraZeneca Pharmaceuticals Aktiebolag	100%
AstraZeneca Södertälje 2 AB	100%
Stuart Pharma Aktiebolag	100%
Tika Lakemedel Aktiebolag	100%
SE-151 85 Södertälje, Sweden	
Aktiebolaget Hassle	100%
Symbicom Aktiebolag[6]	100%
431 83 Molndal, Sweden	
Astra Tech International Aktiebolag	100%
Box 14, 431 21 Molndal, Sweden	
Switzerland	
AstraZeneca AG	100%
Neuhofstrasse 34, 6340 Baar, Switzerland	
Spirogen Sarl[6]	100%
Rue du Grand-Chêne 5, CH-1003 Lausanne, Switzerland	
Taiwan	
AstraZeneca Taiwan Limited	100%
21st Floor, Taipei Metro Building 207, Tun Hwa South Road, SEC 2 Taipei, Taiwan, Republic of China	
Thailand	
AstraZeneca (Thailand) Limited	100%
Asia Centre 19th floor, 173/20, South Sathorn Rd, Khwaeng Thungmahamek, Khet Sathorn, Bangkok, 10120, Thailand	
Tunisia	
AstraZeneca Tunisie SaRL	100%
Lot n°1.5.5 les jardins du lac, bloc B les berges du lac Tunis, Tunisia	
Turkey	
AstraZeneca Ilac Sanayi ve Ticaret Limited Sirketi	100%
YKB Plaza, B Blok, Kat:3-4, Levent/Beşiktaş, Istanbul, Turkey	
Zeneca Ilac Sanayi Ve Ticaret Anonim Sirketi	100%
Büyükdere Cad., Y.K.B. Plaza, B Blok, Kat:4, Levent/Beşiktaş, Istanbul, Turkey	

At 31 December 2020	Group Interest
Ukraine	
AstraZeneca Ukraina LLC	100%
54 Simi Prakhovykh street, Kiev, 01033, Ukraine	
United Arab Emirates	
AstraZeneca FZ-LLC	100%
P.O. Box 505070, Block D, Dubai Healthcare City, Oud Mehta Road, Dubai, United Arab Emirates	
United Kingdom	
Ardea Biosciences Limited	100%
Arrow Therapeutics Limited	100%
Astra Pharmaceuticals Limited	100%
AstraPharm[6]	100%
AstraZeneca China UK Limited	100%
AstraZeneca Death In Service Trustee Limited	100%
AstraZeneca Employee Share Trust Limited	100%
AstraZeneca Finance Limited	100%
AstraZeneca Intermediate Holdings Limited[5]	100%
AstraZeneca Investments Limited	100%
AstraZeneca Japan Limited	100%
AstraZeneca Nominees Limited	100%
AstraZeneca Quest Limited	100%
AstraZeneca Share Trust Limited	100%
AstraZeneca Sweden Investments Limited	100%
AstraZeneca Treasury Limited[6]	100%
AstraZeneca UK Limited	100%
AstraZeneca US Investments Limited[5]	100%
AZENCO2 Limited	100%
AZENCO4 Limited	100%
Cambridge Antibody Technology Group Limited	100%
KuDOS Horsham Limited	100%
KuDOS Pharmaceuticals Limited	100%
Zenco (No. 8) Limited	100%
Zeneca Finance (Netherlands) Company	100%
1 Francis Crick Avenue, Cambridge Biomedical Campus, Cambridge, CB2 0AA, United Kingdom	
MedImmune Limited	100%
Milstein Building, Granta Park, Cambridge, CB21 6GH, United Kingdom	
MedImmune U.K. Limited	100%
Plot 6, Renaissance Way, Boulevard Industry Park, Liverpool, L24 9JW, United Kingdom	

At 31 December 2020	Group Interest
United States	
Amylin Ohio LLC[7]	100%
Amylin Pharmaceuticals, LLC[7]	100%
AstraZeneca Collaboration Ventures, LLC[7]	100%
AstraZeneca Pharmaceuticals LP[8]	100%
Atkemix Nine Inc.	100%
Atkemix Ten Inc.	100%
BMS Holdco, Inc.	100%
Corpus Christi Holdings Inc.	100%
Omthera Pharmaceuticals, Inc.	100%
Optein, Inc.	100%
Stauffer Management Company LLC[7]	100%
Zeneca Holdings Inc.	100%
Zeneca Inc.	100%
Zeneca Wilmington Inc.[5]	100%
Delta Omega Sub Holdings Inc.[5]	100%
Delta Omega Sub Holdings Inc. 1	100%
Delta Omega Sub Holdings LLC 2[7]	100%
1800 Concord Pike, Wilmington, DE 19803, United States	
ZS Pharma Inc.	100%
1100 Park Place, Suite 300, San Mateo, CA 94403, United States	
AlphaCore Pharma, LLC[7]	100%
333 Parkland Plaza, Suite 5, Ann Arbor, MI 48103, United States	
AZ-Mont Insurance Company	100%
76 St Paul Street, Suite 500, Burlington, VT 05401, United States	
Definiens Inc.	100%
1808 Aston Avenue, Suite 190, Carlsbad, CA 92008, United States	
MedImmune, LLC[7]	100%
MedImmune Ventures, Inc.	100%
One MedImmune Way, Gaithersburg, MD 20878, United States	
Pearl Therapeutics, Inc.	100%
200 Cardinal Way, Redwood City, CA 94063, United States	
Uruguay	
AstraZeneca S.A.	100%
Yaguarón 1407 of 1205, 11.100, Montevideo, Uruguay	
Venezuela	
AstraZeneca Venezuela S.A.	100%
Gotland Pharma S.A.	100%
Av. La Castellana, Torre La Castellana, Piso 5, Oficina 5-G, 5-H, 5-I, Urbanización La Castellana, Municipio Chacao, Estado Bolivariano de Miranda, Venezuela	
Vietnam	
AstraZeneca Vietnam Company Limited	100%
18th Floor, A&B Tower, 76 Le Lai, Ben Thanh Ward, District 1, Ho Chi Minh City, Vietnam	

At 31 December 2020	Group Interest
Subsidiaries where the effective interest is less than 100%	
Algeria	
SPA AstraZeneca Al Djazair[9]	65.77%
No 20 Zone Macro Economique, dar El Medina-Hydra, Alger, Algeria	
India	
AstraZeneca Pharma India Limited[3]	75%
Block N1, 12th Floor, Manyata Embassy Business Park, Rachenahalli, Outer Ring Road, Bangalore-560 045, India	
Indonesia	
P.T. AstraZeneca Indonesia	95%
Perkantoran Hijau Arkadia Tower F, 3rd Floor, Jl. T.B. Simatupang Kav. 88, Jakarta, 12520, Indonesia	
The Netherlands	
Acerta Pharma B.V.	55%
Aspire Therapeutics B.V.	55%
Kloosterstraat 9, 5349 AB, Oss, The Netherlands	
United States	
Acerta Pharma LLC[7]	55%
121 Oyster Point Boulevard, South San Francisco, CA 94080, United States	
Joint Ventures	
Hong Kong	
WuXi MedImmune Biopharmaceutical Co., Limited	50%
Room 1902, 19/F, Lee Garden One, 33 Hysan Avenue, Causeway Bay, Hong Kong	
United Kingdom	
Archigen Biotech Limited[9]	50%
Centus Biotherapeutics Limited[9]	50%
1 Francis Crick Avenue, Cambridge Biomedical Campus, Cambridge, CB2 0AA, United Kingdom	
United States	
Montrose Chemical Corporation of California	50%
Suite 380, 600 Ericksen Ave N/E, Bainbridge Island, United States	

At 31 December 2020	Group Interest
Significant Holdings	
Australia	
Armaron Bio Ltd[10]	22.07%
MPR Group, HWT Tower, Level 19, 40 City Rd, Southbank, VIC 3006, Australia	
China	
Dizal (Jiangsu) Pharmaceutical Co., Ltd.[11]	30.25%
Suite 4105, Building E (Building No.5) of Huirong Plaza, East Jinghui Road, Xinwu District, Wuxi, Jiangsu Province, China	
United Kingdom	
Apollo Therapeutics LLP[7]	25%
Stevenage Biosciences Catalyst, Gunnels Wood Road, Stevenage, Hertfordshire, SG1 2FX, United Kingdom	
United States	
C.C. Global Chemicals Company[8]	37.5%
PO Box 7, MS2901, Texas, TX76101-0007, United States	
Viela Bio, Inc.	26.72%
One MedImmune Way, First Floor, Area Two, Gaithersburg, MD 20878, United States	

At 31 December 2020	Group Interest
Other Holdings	
Sweden	
Swedish Orphan Biovitrum AB	7.96%
Tomtebodavägen 23A, Stockholm, Sweden	
Ondosis[9]	19.90%
BioVentureHub, Pepparedsleden 1, 431 83 Mölndal, Sweden	
Switzerland	
ADC Therapeutics Sàrl[12]	5.23%
Biopôle, Route de la Corniche 3B, 1066 Epalinges, Switzerland	
United Kingdom	
Circassia Group PLC	17.88%
Northbrook House, Robert Robinson Avenue, Oxford Science Park, Oxford, OX4 4GA	
United States	
AbMed Corporation[13]	18%
68 Cummings Park Drive, Woburn, MA 01801, United States	
Aristea Therapeutics, Inc.[14]	13.42%
122770 High Bluff Drive, #380, San Diego, CA 92130, United States	
Baergic Bio, Inc.	19.95%
2 Gansevoort Street, 9th Floor, New York, NY 10014, United States	
PhaseBio Pharmaceuticals, Inc.	10.23%
One Great Valley, Parkway, Suite 30, Malvern, PA 19355, United States	
Employee Benefit Trust	
The AstraZeneca Employee Benefit Trust	

1 Ownership held in ordinary and class B special shares.
2 Ownership held in common shares, preferred shares 2003, preferred shares 2003 ex (A), preferred shares 2003 ex (B), preferred shares Series D, preferred shares Series E and preferred shares Series F.
3 Accounting year end is 31 March.
4 Accounting year end is 30 June.
5 Directly held by AstraZeneca PLC.
6 Ownership held in Ordinary A shares and Ordinary B shares.
7 Ownership held as membership interest.
8 Ownership held as partnership interest.
9 Ownership held in class A shares.
10 Ownership held in class B preference shares.
11 Voting rights and percentages vary depending on the subject matter and business to be voted on.
12 Ownership held in class B preference shares, class C preference shares, class D preference shares and class E preference shares.
13 Ownership held in common shares and series A preferred shares.
14 Ownership held in series A-1 preferred stock and series B preferred stock.

Company Balance Sheet
at 31 December

AstraZeneca PLC

	Notes	2020 $m	2019 $m
Fixed assets			
Fixed asset investments	1	**33,268**	31,525
Other receivables		**4**	–
		33,272	31,525
Current assets			
Debtors – other		**26**	1
Debtors – amounts owed by Group undertakings		**7,011**	8,755
		7,037	8,756
Creditors: Amounts falling due within one year			
Non-trade creditors	2	**(192)**	(164)
Interest-bearing loans and borrowings	3	**(1,535)**	(1,597)
		(1,727)	(1,761)
Net current assets		**5,310**	6,995
Total assets less current liabilities		**38,582**	38,520
Creditors: Amounts falling due after more than one year			
Amounts owed to Group undertakings	3	**(283)**	(283)
Interest-bearing loans and borrowings	3	**(17,161)**	(15,376)
		(17,444)	(15,659)
Net assets		**21,138**	22,861
Capital and reserves			
Called-up share capital	4	**328**	328
Share premium account		**7,971**	7,941
Capital redemption reserve		**153**	153
Other reserves		**2,382**	2,441
Profit and loss account		**10,304**	11,998
Shareholders' funds		**21,138**	22,861

$m means millions of US dollars.

The Company's profit for the year was $1,974m (2019: $3,975m).

The Company Financial Statements from page 238 to 242 were approved by the Board and were signed on its behalf by

Pascal Soriot
Director
11 February 2021

Marc Dunoyer
Director

Company's registered number 02723534

Company Statement of Changes in Equity
for the year ended 31 December

	Share capital $m	Share premium account $m	Capital redemption reserve $m	Other reserves[1] $m	Profit and loss account[2] $m	Total equity $m
At 1 January 2019	317	4,427	153	2,533	11,602	19,032
Total comprehensive income for the period						
Profit for the period	–	–	–	–	3,975	3,975
Total comprehensive income for the period	–	–	–	–	3,975	3,975
Transactions with owners, recorded directly in equity						
Dividends	–	–	–	–	(3,579)	(3,579)
Capital contributions for share-based payments	–	–	–	(92)	–	(92)
Issue of Ordinary Shares	11	3,514	–	–	–	3,525
Total contributions by and distributions to owners	11	3,514	–	(92)	(3,579)	(146)
At 31 December 2019	328	7,941	153	2,441	11,998	22,861
Total comprehensive income for the period						
Profit for the period	**–**	**–**	**–**	**–**	**1,974**	**1,974**
Total comprehensive income for the period	**–**	**–**	**–**	**–**	**1,974**	**1,974**
Transactions with owners, recorded directly in equity						
Dividends	**–**	**–**	**–**	**–**	**(3,668)**	**(3,668)**
Capital contributions for share-based payments	**–**	**–**	**–**	**(59)**	**–**	**(59)**
Issue of Ordinary Shares	**–**	**30**	**–**	**–**	**–**	**30**
Total contributions by and distributions to owners	**–**	**30**	**–**	**(59)**	**(3,668)**	**(3,697)**
At 31 December 2020	**328**	**7,971**	**153**	**2,382**	**10,304**	**21,138**

[1] The Other reserves arose from the cancellation of £1,255m share premium by the Company in 1993 and the redenomination of share capital of $157m in 1999. Also included within Other reserves at 31 December 2020 is $541m (31 December 2019: $600m) in respect of cumulative share-based payment awards. These amounts are not available for distribution.

[2] At 31 December 2020, the Profit and loss account reserve of $10,304m (2019: $11,998m) was available for distribution, subject to filing these Financial Statements with Companies House. When making a distribution to shareholders, the Directors determine profits available for distribution by reference to guidance on realised and distributable profits under the Companies Act 2006 issued by the Institute of Chartered Accountants in England and Wales and the Institute of Chartered Accountants of Scotland in April 2017. The profits of the Company have been received in the form of receivables due from subsidiaries. The availability of distributable reserves in the Company is dependent on those receivables meeting the definition of qualifying consideration within the guidance, and in particular on the ability of subsidiaries to settle those receivables within a reasonable period of time. The Directors consider that, based on the nature of these receivables and the available cash resources of the Group and other accessible sources of funds, at 31 December 2020, all (2019: overwhelming majority; 2018: all) of the Company's profit and loss reserves were available for distribution.

Company Accounting Policies

Basis of presentation of financial information

These financial statements were prepared in accordance with FRS 101 'Reduced Disclosure Framework'.

In preparing these financial statements, the Company applied the recognition, measurement and disclosure requirements of International Financial Reporting Standards as adopted by the EU (adopted IFRSs), but makes amendments where necessary in order to comply with the Companies Act 2006 and has set out below where advantage of the FRS 101 disclosure exemptions has been taken.

In these financial statements, the Company has applied the exemptions available under FRS 101 in respect of the following disclosures:

- Statement of Cash Flows and related notes
- disclosures in respect of transactions with wholly owned subsidiaries
- disclosures in respect of capital management
- the effects of new but not yet effective IFRSs
- disclosures in respect of the compensation of Key Management Personnel.

As the Group Financial Statements (presented on pages 176 to 237) include the equivalent disclosures, the Company has also taken the exemptions under FRS 101 available in respect of the following disclosures:

- IFRS 2 'Share-based Payment' in respect of Group settled share-based payments certain disclosures required by IFRS 13 'Fair Value Measurement' and the disclosures required by IFRS 7 'Financial Instrument Disclosures'.
- No individual profit and loss account is prepared as provided by section 408 of the Companies Act 2006.

UK-adopted international accounting standards

On 31 December 2020, EU-adopted IFRS was brought into UK law and became UK-adopted international accounting standards, with future changes to IFRS being subject to endorsement by the UK Endorsement Board. The Company Financial Statements will transition to UK-adopted international accounting standards for financial periods beginning 1 January 2021.

Basis of accounting

The Company Financial Statements are prepared under the historical cost convention and on a going concern basis, in accordance with the Companies Act 2006.

The following paragraphs describe the main accounting policies, which have been applied consistently.

Estimates and judgements

The preparation of the Financial Statements in conformity with generally accepted accounting principles requires management to make estimates and judgements that affect the reported amounts of assets and liabilities at the date of the Financial Statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. There are no significant judgements and estimates.

Foreign currencies

Profit and loss account items in foreign currencies are translated into US dollars at average rates for the relevant accounting periods. Monetary assets and liabilities are translated at exchange rates prevailing at the date of the Company Balance Sheet. Exchange gains and losses on loans and on short-term foreign currency borrowings and deposits are included within net Finance expense. Exchange differences on all other foreign currency transactions are recognised in Operating profit.

Taxation

The current tax payable is based on taxable profit for the year. Taxable profit differs from reported profit because taxable profit excludes items that are either never taxable or tax deductible or items that are taxable or tax deductible in a different period. The Company's current tax assets and liabilities are calculated using tax rates that have been enacted or substantively enacted by the reporting date.

Deferred tax is provided using the balance sheet liability method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax assets are recognised to the extent that it is probable that taxable profit will be available against which the asset can be utilised. This requires judgements to be made in respect of the availability of future taxable income.

No deferred tax asset or liability is recognised in respect of temporary differences associated with investments in subsidiaries and branches where the Company is able to control the timing of reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

The Company's deferred tax assets and liabilities are calculated using tax rates that are expected to apply in the period when the liability is settled or the asset realised based on tax rates that have been enacted or substantively enacted by the reporting date.

Accruals for tax contingencies require management to make judgements of potential exposures in relation to tax audit issues. Tax benefits are not recognised unless the tax positions will probably be accepted by the authorities. This is based upon management's interpretation of applicable laws and regulations and the expectation of how the tax authority will resolve the matter. Once considered probable of not being accepted, management reviews each material tax benefit and reflects the effect of the uncertainty in determining the related taxable result.

Accruals for tax contingencies are measured using either the most likely amount or the expected value amount depending on which method the Company expect to better predict the resolution of the uncertainty.

Investments

Fixed asset investments, including investments in subsidiaries, are stated at cost and reviewed for impairment if there are indications that the carrying value may not be recoverable.

Share-based payments

The issuance by the Company to employees of its subsidiaries of a grant of awards over the Company's shares, represents additional capital contributions by the Company to its subsidiaries. An additional investment in subsidiaries results in a corresponding increase in shareholders' equity. The additional capital contribution is based on the fair value of the grant issued, allocated over the underlying grant's vesting period, less the market cost of shares charged to subsidiaries in settlement of such share awards.

Financial instruments

Interest-bearing loans are initially measured at fair value (with direct transaction costs being amortised over the life of the loan) and are subsequently measured at amortised cost using the effective rate method at each reporting date. Changes in carrying value are recognised in profit.

Litigation

Through the normal course of business, the AstraZeneca Group is involved in legal disputes, the settlement of which may involve cost to the Company. Provision is made where an adverse outcome is probable and associated costs can be estimated reliably. In other cases, appropriate descriptions are included.

Notes to the Company Financial Statements

1 Fixed asset investments

	Investments in subsidiaries		
	Shares $m	Loans $m	Total $m
At 1 January 2019	15,942	17,302	33,244
Transfer to Debtors – amounts owed by group undertakings	–	(1,595)	(1,595)
Capital reimbursement	(81)	–	(81)
Exchange	–	(55)	(55)
Amortisation	–	12	12
At 31 December 2019	15,861	15,664	31,525
Additions during the year	**–**	**2,971**	**2,971**
Transfer to Debtors – amounts owed by group undertakings	**–**	**(1,451)**	**(1,451)**
Capital reimbursement	**(44)**	**–**	**(44)**
Exchange	**–**	**254**	**254**
Amortisation	**–**	**13**	**13**
At 31 December 2020	**15,817**	**17,451**	**33,268**

Loans to subsidiaries consists of bonds which are issued externally and are issued back to group undertakings with comparable terms on interest rates and are repayable on maturity, details of which are disclosed in Note 3. The recoverability of these inter-company loans has been assessed in accordance with IFRS 9 with no impairment identified. The inter-company balances are considered to have low credit risk due to timely payment of interest and settlement of principal amount on agreed due dates, limiting the loss allowance to 12-month expected credit losses. In 2020, there have been no credit losses (2019: $nil).

2 Non-trade creditors

	2020 $m	2019 $m
Amounts due within one year		
Other creditors	**185**	157
Amounts owed to Group undertakings	**7**	7
	192	164

3 Loans

		Repayment dates	**2020 $m**	2019 $m
Amounts due within one year				
Interest-bearing loans and borrowings (unsecured)				
2.375% Callable bond	US dollars	2020	**–**	1,597
0.25% Callable bond	euros	2021	**614**	–
0.875% Non-callable bond	euros	2021	**921**	–
			1,535	1,597
Amounts due after more than one year				
Amounts owed to Group undertakings (unsecured)				
7.2% Loan	US dollars	2023	**283**	283
Interest-bearing loans and borrowings (unsecured)				
0.25% Callable bond	euros	2021	**–**	559
0.875% Non-callable bond	euros	2021	**–**	837
Floating rate notes	US dollars	2022	**250**	250
2.375% Callable bond	US dollars	2022	**996**	996
Floating rate notes	US dollars	2023	**400**	400
3.5% Callable bond	US dollars	2023	**847**	846
0.75% Callable bond	euros	2024	**1,102**	1,003
3.375% Callable bond	US dollars	2025	**1,985**	1,983
0.7% Callable bond	US dollars	2026	**1,192**	–
3.125% Callable bond	US dollars	2027	**744**	743
1.25% Callable bond	euros	2028	**973**	885
4% Callable bond	US dollars	2029	**993**	992
1.375% Callable bond	US dollars	2030	**1,291**	–
5.75% Non-callable bond	pounds sterling	2031	**475**	457
6.45% Callable bond	US dollars	2037	**2,722**	2,721
4% Callable bond	US dollars	2042	**988**	987
4.375% Callable bond	US dollars	2045	**980**	980
4.375% Callable bond	US dollars	2048	**737**	737
2.125% Callable bond	US dollars	2050	**486**	–
Total amounts due after more than one year			**17,444**	15,659
Total loans			**18,979**	17,256

	2020 $m	2019 $m
Loans are repayable:		
After five years from balance sheet date	**11,580**	10,485
From two to five years	**4,617**	3,778
From one to two years	**1,247**	1,396
Within one year	**1,535**	1,597
Total unsecured	**18,979**	17,256

All bonds are issued with fixed interest rates with an exception of two bonds, the 2022 and the 2023 floating rate notes. This might impact the fair values of loans as they change according to changes in the market rate. As the loans are held at amortised cost, change in interest rates and the credit rating of the Company do not have an effect on the Company's net assets.

4 Called-up share capital

Details of share capital movements in the year are included in Note 24 to the Group Financial Statements.

5 Contingent liabilities

The Company has guaranteed the external borrowing of a subsidiary in the amount of $286m (2019: $286m), as well as guaranteed the undrawn borrowing facility of a subsidiary totalling $17.5bn (2019: $nil) in relation to the acquisition of Alexion Pharmaceuticals, Inc. (Alexion) as further described in Note 7.

Vermont US Attorney Investigation

In the US, in April 2020, AstraZeneca received a Civil Investigative Demand from the US Attorney's Office in Vermont and the Department of Justice, Civil Division, seeking documents and information relating to AstraZeneca's relationships with electronic health-record vendors. AstraZeneca is co-operating with this enquiry.

AZD1222 Securities Litigation

In January 2021, putative securities class action lawsuits were filed in the US District Court for the Southern District of New York against AstraZeneca PLC and certain officers, on behalf of purchasers of AstraZeneca publicly traded securities during the period 21 May 2020 through 20 November 2020. The complaints allege that defendants made materially false and misleading statements in connection with the development of AZD1222 (otherwise known as *COVID-19 Vaccine AstraZeneca*), a potential recombinant adenovirus vaccine for the prevention of COVID-19, and assert claims under sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5.

6 Statutory and other information

The Directors of the Company were paid by another Group company in 2020 and 2019.

7 Subsequent events

On 12 December 2020, AstraZeneca and Alexion Pharmaceuticals, Inc. (Alexion) announced that they had entered into a definitive agreement for AstraZeneca to acquire Alexion for a total consideration of $39bn, partly funded in cash and partly in AstraZeneca American Depository Shares. The boards of directors of both companies have unanimously approved the acquisition. Subject to receipt of regulatory clearances and approval by shareholders of both companies, the acquisition is expected to close in the third quarter of 2021, and upon completion, Alexion shareholders will own approximately 15% of the combined company.

No other subsequent events having material impact on the financial statements were identified after the balance sheet date.

Group Financial Record

For the year ended 31 December	2016 $m	2017 $m	2018 $m	2019 $m	**2020 $m**
Revenue and profits					
Product Sales	21,319	20,152	21,049	23,565	**25,890**
Collaboration Revenue	1,683	2,313	1,041	819	**727**
Cost of sales	(4,126)	(4,318)	(4,936)	(4,921)	**(5,299)**
Distribution costs	(326)	(310)	(331)	(339)	**(399)**
Research and development expense	(5,890)	(5,757)	(5,932)	(6,059)	**(5,991)**
Selling, general and administrative costs	(9,413)	(10,233)	(10,031)	(11,682)	**(11,294)**
Other operating income and expense	1,655	1,830	2,527	1,541	**1,528**
Operating profit	4,902	3,677	3,387	2,924	**5,162**
Finance income	67	113	138	172	**87**
Finance expense	(1,384)	(1,508)	(1,419)	(1,432)	**(1,306)**
Share of after tax losses in associates and joint ventures	(33)	(55)	(113)	(116)	**(27)**
Profit before tax	3,552	2,227	1,993	1,548	**3,916**
Taxation	(146)	641	57	(321)	**(772)**
Profit for the period	3,406	2,868	2,050	1,227	**3,144**
Other comprehensive income for the period, net of tax	(1,778)	639	(1,059)	(611)	**1,608**
Total comprehensive income for the period	1,628	3,507	991	616	**4,752**
Profit attributable to:					
Owners of the Parent	3,499	3,001	2,155	1,335	**3,196**
Non-controlling interests	(93)	(133)	(105)	(108)	**(52)**
Earnings per share					
Basic earnings per $0.25 Ordinary Share	$2.77	$2.37	$1.70	$1.03	**$2.44**
Diluted earnings per $0.25 Ordinary Share	$2.76	$2.37	$1.70	$1.03	**$2.44**
Dividends	$2.80	$2.80	$2.80	$2.80	**$2.80**
Return on revenues					
Operating profit as a percentage of Total Revenue	21.3%	16.4%	15.3%	12.0%	**19.4%**
Ratio of earnings to fixed charges	8.9	4.4	3.7	3.0	**5.9**

At 31 December	2016 $m	2017 $m	2018 $m	2019 $m	**2020 $m**
Statement of Financial Position					
Property, plant and equipment, right-of-use assets, goodwill and intangible assets	46,092	45,628	41,087	40,836	**41,709**
Other non-current assets	2,070	2,387	1,594	2,260	**2,038**
Deferred tax assets	1,102	2,189	2,379	2,718	**3,438**
Current assets	13,262	13,150	15,591	15,563	**19,544**
Total assets	62,526	63,354	60,651	61,377	**66,729**
Current liabilities	(15,256)	(16,383)	(16,292)	(18,117)	**(20,307)**
Deferred tax liabilities	(3,956)	(3,995)	(3,286)	(2,490)	**(2,918)**
Other non-current liabilities	(26,645)	(26,334)	(27,029)	(26,174)	**(27,866)**
Net assets	16,669	16,642	14,044	14,596	**15,638**
Share capital	316	317	317	328	**328**
Reserves attributable to equity holders of the Company	14,538	14,643	12,151	12,799	**15,294**
Non-controlling interests	1,815	1,682	1,576	1,469	**16**
Total equity and reserves	16,669	16,642	14,044	14,596	**15,638**

For the year ended 31 December	2016 $m	2017 $m	2018 $m	2019 $m	**2020 $m**
Cash flows					
Net cash inflow/(outflow) from:					
Operating activities	4,145	3,578	2,618	2,969	**4,799**
Investing activities	(3,969)	(2,328)	963	(657)	**(285)**
Financing activities	(1,324)	(2,936)	(2,044)	(1,765)	**(2,203)**
	(1,148)	(1,686)	1,537	547	**2,311**

For the purpose of computing the ratio of earnings to fixed charges, earnings consist of the income from continuing ordinary activities before taxation of Group companies and income received from companies owned 50% or less, plus fixed charges. Fixed charges consist of interest on all indebtedness, amortisation of debt discount and expense, and that portion of rental expense representative of the interest factor.

Additional Information

Development Pipeline as at 11 February 2021

Key
PP Partnered product

AstraZeneca-sponsored or -directed trial

New Molecular Entities (NMEs) and significant indications

Regulatory submission dates shown for assets in Phase III and beyond. As disclosure of compound information is balanced by the business need to maintain confidentiality, information in relation to some compounds listed here has not been disclosed at this time.

Phase I

Compound	Mechanism		Area Under Investigation
Oncology			
AZD0466	BCL2/xL		haematological and solid tumours
AZD1390	ATM inhibitor		glioblastoma
AZD4573	CDK9 inhibitor		haematalogical malignancies
AZD5305	PARP1Sel		solid tumours
AZD5991	MCL1 inhibitor		haematalogical malignancies
AZD7648	DNAPK	PP	haematological and solid tumours
AZD8701	FOXP3		solid tumours
Calquence (platform) PRISM	BTK inhibitor + multiple novel oncology therapies		relapsed/refractory aggressive non-hodgkin's lymphoma
Calquence + ceralasertib	BTK inhibitor + ATR inhibitor		haematological malignancies
Imfinzi + adavosertib	PD-L1 mAb + Wee1 inhibitor	PP	solid tumours
Imfinzi + RT (platform) CLOVER	PD-L1 mAb + RT	PP	locally-advanced head and neck squamous cell carcinoma, non-small cell lung cancer, small-cell lung cancer
Imfinzi + selumetinib	PD-L1 + MEK inhibitor	PP	solid tumours
Imfinzi + tremelimumab	PD-L1 mAb + CTLA-4 mAb	PP	solid tumours
Imfinzi + tremelimumab + CTx	PD-L1 mAb + CTLA-4 mAb + CTx	PP	1st-line pancreatic ductal adenocarcinoma, oesophageal and small cell lung cancer
IPH5201	CD39	PP	solid tumours
MEDI2228	BCMA antibody drug conjugate		multiple myeloma
MEDI5395	rNDV GMCSF		solid tumours
MEDI5752 + axitinib	PD-1/CTLA-4 bispecific mAb + VEGF		advanced renal cell carcinoma
MEDI9253	rNDV IL12		solid tumours
Tagrisso + (*Koselugo* or savolitinib) TATTON	EGFR inhibitor + (MEK inhibitor or MET inhibitor)	PP	advanced EGFRm non-small cell lung cancer
MEDI1191	IL-12 mRNA	PP	solid tumours
CVRM			
AZD2373	Podocyte health		nephropathy
AZD2693	NASH resolution		NASH
AZD3366	CD39L3		CV disease
AZD3427	Relaxin ThP		CV disease
AZD9977[1]	MCR		CV disease
MEDI8367	avb8		chronic kidney disease
Respiratory & Immunology			
AZD0284	RORg		psoriasis/respiratory
AZD0449	Inhaled JAK inhibitor		asthma
AZD1402	inhaled IL-4Ra	PP	asthma
AZD8154	Inhaled PI3Kgd		asthma
Other			
AZD4041	orexin 1 receptor antagonist	PP	opioid use disorder
MEDI0618	PAR2 antagonist mAb		osteoarthritis pain
MEDI1341	alpha synuclein mAb	PP	parkinson's disease
MEDI1814	amyloid beta mAb	PP	alzheimer's disease

Phase II

Compound	Mechanism		Area Under Investigation
Oncology			
(oleclumab+CTx) or (*Imfinzi*+oleclumab+CTx)	(CD73 mAb + CTx) or (PD-L1 mAb + CD73 mAb + CTx)		metastatic pancreatic cancer
adavosertib	Wee1 inhibitor	PP	ovarian cancer, solid tumours, uterine serous cancer
AZD2811 nanoparticle	Aurora B inhibitor		solid tumours, haematological malignancies
camizestrant (AZD9833)	selective oestrogen receptor degrader		oestrogen receptor +ve breast cancer
capivasertib	AKT inhibitor	PP	prostate cancer
Imfinzi (platform) BALTIC	PD-L1 mAb + CTLA-4, WEE1 inhibitor + Carboplatin, ATR inhibitor+ PARP inhibitor	PP	ES-SCLC refractory/resistant
Imfinzi (platform) COAST	PD-L1 mAb + multiple novel oncology therapies	PP	non small cell lung cancer

[1] Pending Phase II start in combination with dapagliflozin

Development Pipeline
continued

Phase II *continued*

Compound	Mechanism		Area Under Investigation
Imfinzi (platform) NeoCOAST	PD-L1 mAb + multiple novel oncology therapies	PP	non-small cell lung cancer
Imfinzi + imaradenant (AZD4635) + cabazitaxel	PD-L1 mAb + A2aR inhibitor + chemotherapy	PP	prostate cancer
Imfinzi + *Lynparza* BAYOU	PD-L1 mAb + PARP inhibitor	PP	1st-line unresectable stage IV bladder cancer
Imfinzi + *Lynparza* ORION	PD-L1 mAb + PARP inhibitor	PP	1st-line metastatic non-small cell lung cancer
Imfinzi + MEDI0457	PD-L1 mAb + DNA HPV vaccine	PP	head and neck squamous cell carcinoma
Imfinzi + monalizumab	PD-L1 mAb + NKG2a mAb	PP	solid tumours
Imfinzi + tremelimumab	PD-L1 mAb + CTLA-4 mAb	PP	biliary tract, oesophageal
Imfinzi + tremelimumab	PD-L1 mAb + CTLA-4 mAb	PP	gastric cancer
Lynparza + ceralasertib VIOLETTE	PARP inhibitor + ATR inhibitor	PP	breast cancer
MEDI5752	PD-1/CTLA-4 bispecific mAb		solid tumours
Post-1L *Tagrisso* ORCHARD (platform)	EGFR inhibitor + multiple novel oncology therapies		EGFRm non-small cell lung cancer
Tagrisso + savolitinib SAVANNAH	EGFR inhibitor + MET inhibitor	PP	advanced EGFRm non-small cell lung cancer
Imfinzi (platform) HUDSON	PD-L1 mAb + multiple novel oncology therapies		post IO non-small cell lung cancer
Imfinzi + FOLFOX + bevacizumab COLUMBIA 1	PD-L1 mAb + CTx + VEGF		1st-line metastatic microsatellite-stable colorectal cancer
CVRM			
AZD4831	myeloperoxidase		heart failure with a preserved ejection fraction
AZD5718	FLAP		coronary artery disease / chronic kidney disease
AZD8233	hypercholesterolemia		CV disease
AZD8601	VEGF-A	PP	cardiovascular disease
cotadutide	GLP-1/glucagon dual agonist		type-2 diabetes, obesity and NASH, diabetic kidney disease
MEDI3506	IL-33 mAb		diabetic kidney disease
MEDI5884	cholesterol modulation	PP	cardiovascular disease
MEDI6012	LCAT		cardiovascular disease
MEDI6570	LOX-1 mAb		cardiovascular disease
verinurad	URAT1 inhibitor		chronic kidney disease / HF with a preserved ejection fraction
Respiratory & Immunology			
anifrolumab	Type I IFN receptor mAb	PP	lupus nephritis
anifrolumab	Type I IFN receptor mAb	PP	systemic lupus erythematosus (subcutaneous)
AZD7986	DPP1	PP	chronic obstructive pulmonary disease
AZD9567	oral SGRM		chronic inflammatory diseases
brazikumab EXPEDITION	IL-23 mAb		ulcerative colitis
MEDI3506	IL-33 mAb		COPD/atopic dermatitis/asthma/COVID-19
navafenterol	MABA	PP	chronic obstructive pulmonary disease
tezepelumab	TSLP mAb	PP	atopic dermatitis
tezepelumab	TSLP mAb	PP	chronic obstructive pulmonary disease
Other			
MEDI7352	NGF/TNF bispecific mAb		osteoarthritis pain and painful diabetic neuropathy
suvratoxumab	mAb binding to S. aureus toxin		prevention of nosocomial Staphylococcus aureus pneumonia

Phase III/Pivotal Phase II/Registration (listed until launched in all applicable major regions)

					Estimated Filing Acceptance		
Compound	Mechanism	Area Under Investigation	Additional information	US	EU	Japan	China
Oncology							
capivasertib + CTx CAPItello-290	AKT inhibitor + CTx	1st-line metastatic triple negative breast cancer	PP	2022+	2022+	2022+	2022+
capivasertib + fulvestrant CAPItello-291	AKT inhibitor + fulvestrant	locally advanced (inoperable) or metastatic breast cancer	PP	2022+	2022+	2022+	2022+
capivasertib + abiraterone CAPItello-281	AKT inhibitor + abiraterone	PTEN deficient metastatic hormone sensitive prostate cancer	PP	2022+	2022+	2022+	2022+
Enhertu DESTINY-Breast01	HER2 targeting antibody drug conjugate	HER2-positive, unresectable and/or metastatic breast cancer subjects previously treated with T-DM1	PP Phase II registrational study	Launched	Accepted (Accelerated assessment)		
Imfinzi + tremelimumab + SoC NILE	PL-L1 mAb + CTLA-4 mAb + SoC	1st-line urothelial cancer	PP	2022+	2022+	2022+	2022+

Phase III/Pivotal Phase II/Registration (listed until launched in all applicable major regions) *continued*

Compound	Mechanism	Area Under Investigation	Additional information	Estimated Filing Acceptance US	EU	Japan	China
Imfinzi + tremelimumab HIMALAYA	PD-L1 mAb + CTLA-4 mAb	1st-line hepatocellular carcinoma	PP	H2 2021 (Orphan Drug Designation)	2022	H2 2021	2022+
Imfinzi +/- tremelimumab + CRT ADRIATIC	PD-L1 mAb +/- CTLA-4 mAb + CRT	1st-line limited-stage small-cell lung cancer	PP	2022	2022	2022+	2022+
Imfinzi +/- tremelimumab + CTx POSEIDON	PD-L1 mAb +/- CTLA-4 mAb + CTx	1st-line non-small cell lung cancer	PP	H2 2021	H2 2021	H2 2021	
Koselugo/ selumetinib SPRINT	MEK inhibitor	paediatric neurofibromatosis type-1	PP *Koselugo* in the US. Registrational Phase IIb study.	Launched (Orphan Drug, Breakthrough Designation, Priority Review)	Accepted (Orphan Drug, Breakthrough Designation)	2022 (Orphan Drug)	2022
Lumoxiti	anti-CD22 recombinant immunotoxin	3rd-line hairy cell leukaemia	PP	Launched (Orphan Drug, Priority Review)	Accepted (Orphan Drug)	N/A	N/A
Lynparza + *Imfinzi* + bevacizumab DUO-O	PARP inhibitor + PD-L1 mAb + VEGF inhibitor	1st-line ovarian cancer	PP	2022+	2022+	2022+	2022+
Lynparza + *Imfinzi* DUO-E	PARP inhibitor + PD-L1 mAb	1st-line endometrial cancer	PP	2022+	2022+	2022+	2022+
monalizumab + cetuximab INTERLINK-1	NKG2a mAb + EGFR mAb	2L+ relapsed metastatic head and neck squamous cell cancer	PP	2022+	2022+	2022+	
CVRM							
Epanova	omega-3 carboxylic acids	severe hypertriglyceridaemia		Approved			
roxadustat OLYMPUS ROCKIES	hypoxia-inducible factor prolyl hydroxylase inhibitor	anaemia in chronic kidney disease/end-stage renal disease	PP US submissions based on entire Phase III programme.	Accepted			Launched
Respiratory & Immunology							
anifrolumab TULIP 1 & TULIP 2	Type I IFN receptor mAb	systemic lupus erythematosus	PP	Accepted (Fast Track Designation)	Accepted	Accepted	
AZD7442	COVID-19 LAAB combination	Prevention and treatment of COVID-19	US timing based on FDA Emergency Use Authorisation	H1 2021	2022	2022	TBC
Bevespi Aerosphere (PT003)	LABA/LAMA	chronic obstructive pulmonary disease		Launched	Launched	Launched	Launched
brazikumab INTREPID	IL-23 mAb	crohns disease	Phase II/III	2022+	2022+	2022+	2022+
Breztri/*Trixeo Aerosphere* (formoterol fumarate/ glycopyrronium bromide/ budesonide)	LABA/LAMA/ ICS	chronic obstructive pulmonary disease	*Breztri Aerosphere* in Japan, China and the US. *Trixeo Aerosphere* in the EU.	Launched	Approved	Launched	Launched (Priority Review)
COVID-19 Vaccine AstraZeneca (AZD1222)	SARS-CoV-2	COVID vaccine	PP EMA Conditional Marketing Authorisation. FDA Emergency Use Authorisation.	H1 2021	Approved	H1 2021	
Fasenra CALIMA SIROCCO ZONDA BISE BORA GREGALE MIRACLE	IL-5R mAb	severe uncontrolled asthma	PP	Launched	Launched	Launched	2022+
nirsevimab	RSV mAb-YTE	passive RSV immunisation	PP	2022+ (Fast Track Designation, Breakthrough Therapy Designation)	2022+ (PRIME eligibility)	2022+	
PT027	ICS/SABA	asthma		2022			
tezepelumab NAVIGATOR SOURCE	TSLP mAb	severe uncontrolled asthma	PP	H1 2021	H1 2021	H1 2021	

Development Pipeline
continued

Significant Life-cycle Management

Compound	Mechanism	Area Under Investigation	Additional information	Estimated Filing Acceptance US	EU	Japan	China
Oncology							
Calquence ASCEND	BTK inhibitor	relapsed/refractory chronic lymphocytic leukaemia	PP	Launched (Orphan drug, Breakthrough Therapy Designation)	Approved	Approved	2022
Calquence ELEVATE-RR	BTK inhibitor	relapsed/refractory chronic lymphocytic leukaemia, high risk	PP	H1 2021 (Orphan drug)	H1 2021		
Calquence ELEVATE-TN	BTK inhibitor	1st-line chronic lymphocytic leukaemia	PP	Launched (Orphan drug, Breakthrough Therapy Designation)	Approved	2022+	2022
Calquence + R-CHOP ESCALADE	BTK inhibitor + R-CHOP	1st-line Diffuse Large B Cell Lymphoma		2022+	2022+	2022+	2022+
Calquence + venetoclax + obinutuzumab AMPLIFY	BTK inhibitor + BCL-2 inhibitor + anti-CD20 mAb	1st-line chronic lymphocytic leukaemia	PP	2022+	2022+	2022+	2022+
Calquence ECHO	BTK inhibitor	1st-line mantle cell lymphoma	PP	2022+ (Orphan drug)	2022+	2022+	2022+
Enhertu DESTINY-Breast02	HER2 targeting antibody drug conjugate	HER2-positive, unresectable and/or metastatic breast cancer pretreated with prior standard of care HER2 therapies, including T-DM1	PP	2022	2022	N/A	N/A
Enhertu DESTINY-Breast04	HER2 targeting antibody drug conjugate	HER2-low, unresectable and/or metastatic breast cancer subjects	PP	2022	2022	2022	2022
Enhertu DESTINY-Breast03	HER2 targeting antibody drug conjugate	HER2-positive, unresectable and/or metastatic breast cancer subjects previously treated with trastuzumab and taxane	PP	H2 2021	H2 2021	H2 2021	H2 2021
Enhertu DESTINY-Breast05	HER2 targeting antibody drug conjugate	HER2-positive post-neoadjuvant high-risk breast cancer	PP	2022+	2022+	2022+	
Enhertu DESTINY-Breast06	HER2 targeting antibody drug conjugate	post-ET HER2low/HR+ breast cancer 2L	PP	2022+	2022+	2022+	2022+
Enhertu DESTINY-CRC01	HER2 targeting antibody drug conjugate	HER2-expressing advanced colorectal cancer	PP Phase II LCM				
Enhertu DESTINY-Gastric01	HER2 targeting antibody drug conjugate	HER2-overexpressing advanced gastric or gastroesophageal junction adenocarcinoma patients who have progressed on two prior treatment regimens	PP Phase II LCM registrational study	Approved (Orphan drug, Breakthrough Therapy, Priority Review)	H1 2021	Approved	2022+
Enhertu DESTINY-Gastric02	HER2 targeting antibody drug conjugate	HER2-positive gastric cancer that cannot be surgically removed or has spread	PP Phase II LCM				
Enhertu DESTINY-Lung01	HER2 targeting antibody drug conjugate	HER2-over-expressing or -mutated, unresectable and/or metastatic non-small cell lung cancer	PP Phase II LCM	(Breakthrough Therapy)			
Enhertu DESTINY-PanTumour01	HER2 targeting antibody drug conjugate	HER2-expressing solid tumours	PP Phase II LCM				
Enhertu DESTINY-PanTumour02	HER2 targeting antibody drug conjugate	HER2-expressing solid tumours	PP Phase II LCM				
Imfinzi PEARL	PD-L1 mAb	1st-line metastatic non-small cell lung cancer	PP	H2 2021	H2 2021	H2 2021	H2 2021
Imfinzi (platform) BEGONIA	PD-L1 mAb with paclitaxel and mulitiple novel oncology therapies	1st-line metastatic triple negative breast cancer	PP Phase II LCM				
Imfinzi (platform) MAGELLAN	PD-L1 mAb + multiple novel oncology therapies +/- CTx	1st-line metastatic non-small cell lung cancer	PP Phase II LCM				

Significant Life-cycle Management *continued*

Compound	Mechanism	Area Under Investigation	Additional information	Estimated Filing Acceptance			
				US	EU	Japan	China
Imfinzi + azacitidine	PD-L1 mAb + azacitidine	myelodysplastic syndrome	PP Phase I LCM				
Imfinzi + CRT KUNLUN	PD-L1 mAb + CRT	Locally advanced esophageal squamous cell carcinoma	PP	2022+	2022+	2022+	2022+
Imfinzi + CRT PACIFIC-5 (China)	PD-L1 mAb + CRT	locally-advanced (stage III) non-small cell lung cancer	PP				2022+
Imfinzi + CRT PACIFIC-2	PD-L1 mAb + CRT	locally-advanced (stage III) non-small cell lung cancer	PP	H1 2021	H2 2021	H2 2021	
Imfinzi + CTx neoadjuvant AEGEAN	PD-L1 mAb + CTx	locally-advanced (stage II-III) non-small cell lung cancer	PP	2022+	2022+	2022+	2022+
Imfinzi + CTx MATTERHORN	PD-L1 mAb + CTx	Neo-adjuvant/adjuvant gastric cancer	PP	2022+	2022+	2022+	2022+
Imfinzi + CTx MERMAID-1	PD-L1 mAb + CTx	stage II-III adjuvant NSCLC		2022+	2022+	2022+	2022+
Imfinzi + CTx NIAGARA	PD-L1 mAb + CTx	muscle invasive bladder cancer	PP	2022+	2022+	2022+	
Imfinzi + CTx TOPAZ-1	PD-L1 mAb + CTx	1st-line biliary tract cancer	PP	2022 (Orphan Drug)	2022	2022	2022
Imfinzi + SoC CASPIAN	PD-L1 mAb + SoC	1st-line extensive-stage small-cell lung cancer	PP	Launched (Priority Review, Orphan Drug)	Launched	Launched	Accepted
Imfinzi + VEGF + TACE EMERALD-1	PD-L1 mAb + VEGF + TACE	locoregional hepatocellular carcinoma	PP	2022	2022	2022	2022
Imfinzi + VEGF EMERALD-2	PD-L1 mAb + VEGF	adjuvant hepatocellular carcinoma	PP	2022+	2022+	2022+	2022+
Imfinzi post-SBRT PACIFIC-4	PD-L1 mAb post-SBRT	stage I/II non-small cell lung cancer	PP	2022+	2022+	2022+	2022+
Imfinzi CALLA	PD-L1 mAb	locally-advanced cervical cancer	PP	2022+	2022+	2022+	2022+
Imfinzi POTOMAC	PD-L1 mAb	non muscle invasive bladder cancer	PP	2022+	2022+	2022+	N/A
Lynparza OlympiA	PARP inhibitor	gBRCA adjuvant breast cancer	PP	H2 2021	H2 2021	H2 2021	2022
Lynparza OlympiAD	PARP inhibitor	gBRCA metastatic breast cancer	PP	Launched (Priority review)	Launched	Launched (Orphan Drug, Priority Review)	Accepted
Lynparza POLO	PARP inhibitor	pancreatic cancer	PP	Launched (Orphan Drug, Priority Review)	Launched	Launched (Orphan Drug)	
Lynparza SOLO-3	PARP inhibitor	gBRCA PSR ovarian cancer	PP	2022			
Lynparza (basket) MK-7339-002 / LYNK002	PARP inhibitor	HRRm cancer	PP Phase II LCM				
Lynparza + abiraterone PROpel	PARP inhibitor + NHA	prostate cancer	PP	H2 2021	H2 2021	2022	2022+
Lynparza LYNK-003	PARP inhibitor	platinum sensitive 1st-line colorectal cancer	PP	2022+	2022+	2022+	2022+
Lynparza PROfound	PARP inhibitor	prostate cancer	PP	Launched (Breakthrough Designation, Priority Review)	Launched	Launched	Accepted (Priority Review)
Tagrisso LAURA	EGFR inhibitor	stage 3 EGFRm non-small cell lung cancer		2022+	2022+	2022+	2022+
Tagrisso + CTx FLAURA2	EGFR inhibitor + CTx	1st-line advanced EGFRm non-small cell lung cancer		2022+	2022+	N/A	2022+
Tagrisso +/- CTx neoadjuvant NeoADAURA	EGFR inhibitor +/- CTx	stage II/III resectable EGFRm NSCLC		2022+	2022+	2022+	2022+
Tagrisso ADAURA	EGFR inhibitor	adjuvant EGFRm non-small cell lung cancer		Approved (Breakthrough Therapy Designation, Priority Review)	Accepted	TBC	Accepted

Development Pipeline
continued

Compound	Mechanism	Area Under Investigation	Additional information	Estimated Filing Acceptance US	EU	Japan	China
CVRM							
Brilinta/Brilique THEMIS	P2Y12 receptor antagonist	cardiovascular outcomes trial in patients with coronary artery disease and type-2 diabetes without a previous history of myocardial infarction or stroke	*Brilinta* in the US; *Brilique* in rest of world.	Launched	Accepted	Accepted	Accepted
Brilinta/Brilique THALES	P2Y12 receptor antagonist	acute ischaemic stroke or transient ischaemic attack	*Brilinta* in the US; *Brilique* in rest of world.	Launched	Accepted		Accepted
Bydureon BCise (autoinjector)	GLP-1 receptor agonist	type-2 diabetes		Launched	Approved	N/A	2022
Farxiga/Forxiga DAPA-CKD	SGLT-2 inhibitor	renal outcomes and cardiovascular mortality in patients with chronic kidney disease	*Farxiga* in the US; *Forxiga* in rest of world.	Accepted (Fast Track, Breakthrough Therapy Designation)	Accepted	Accepted (Priority Review)	Accepted
Farxiga/Forxiga DAPA-HF	SGLT-2 inhibitor	worsening heart failure or cardiovascular death in patients with chronic heart failure (HFrEF)	*Farxiga* in the US; *Forxiga* in rest of world.	Launched (Fast Track, Priority Review)	Launched	Launched	Approved
Farxiga/Forxiga DAPA-MI	SGLT-2 inhibitor	Prevention of heart failure and CV death following a myocardial infarction	*Farxiga* in the US; *Forxiga* in rest of world.	2022+	2022+	N/A	N/A
Farxiga/Forxiga DECLARE-TIMI 58	SGLT-2 inhibitor	cardiovascular outcomes trial in patients with type-2 diabetes	*Farxiga* in the US; *Forxiga* in rest of world.	Launched	Launched		Launched
Farxiga/Forxiga DELIVER	SGLT-2 inhibitor	worsening HF or CV death in patients with chronic heart failure (HFpEF)	*Farxiga* in the US; *Forxiga* in rest of world.	2022	2022	2022	2022
roxadustat	hypoxia-inducible factor prolyl hydroxylase inhibitor	anaemia in myelodysplastic syndrome	PP	2022			2022+
roxadustat	hypoxia-inducible factor prolyl hydroxylase inhibitor	chemotherapy induced anaemia	PP Phase II LCM.				
Xigduo XR/*Xigduo*	SGLT-2 inhibitor/ metformin FDC	type-2 diabetes	*Xigduo* XR in the US; *Xigduo* in the EU.	Launched	Launched		2022
Respiratory & Immunology							
Breztri (PT010)	LABA/LAMA/ ICS	asthma		2022+	2022+	2022+	2022+
Duaklir Genuair	LAMA/LABA	chronic obstructive pulmonary disease	PP	Launched	Launched		2022
Fasenra RESOLUTE	IL-5R mAb	chronic obstructive pulmonary disease	PP	2022+	2022+	2022+	
Fasenra ARROYO	IL-5R mAb	chronic spontaneous urticaria	Phase II LCM				
Fasenra HILLIER	IL-5R mAb	atopic dermatitis	Phase II LCM				
Fasenra MANDARA	IL-5R mAb	eosinophilic granulomatosis with polyangiitis		2022+	2022+	2022+	
Fasenra MESSINA	IL-5R mAb	eosinophilic esophagitis		2022+	2022+	2022+	
Fasenra NATRON	IL-5R mAb	hypereosinophilic syndrome		2022+	2022+	2022+	2022+
Fasenra OSTRO ORCHID (Japan/ China)	IL-5R mAb	nasal polyps	PP	H1 2021	2022	2022+	2022+
Symbicort SYGMA	ICS/LABA	as-needed use in mild asthma		N/A	Accepted	N/A	Approved
Other							
Nexium	proton pump inhibitor	stress ulcer prophylaxis					Approved

Patent Expiries of Key Marketed Products

Patents covering our products are, or may be, challenged by third parties. Generic products may be launched 'at risk' and our patents may be revoked, circumvented or found not to be infringed. For more information, please see Risk from page 254. Many of our products are subject to challenges by third parties. Details of material challenges by third parties can be found in Note 29 to the Financial Statements from page 228. The expiry dates shown below include granted SPC/PTE and/or Paediatric Exclusivity periods (as appropriate). In Europe, the exact SPC situation may vary by country as different Patent Offices grant SPCs at different rates. Expiry dates in red relate to new molecular entity patents, the remaining dates relate to other patents. The expiry dates of relevant regulatory data exclusivity periods are not represented in the table below. A number of our products are subject to generic competition in one or more markets.

Key marketed products	Description	US	China	EU[1]	Japan	US Product Sales ($m)			Aggregate Product Sales for China, Japan and Europe[2] ($m)		
						2020	2019	2018	**2020**	2019	2018
Oncology											
Calquence (acalabrutinib)	A selective inhibitor of Bruton's tyrosine kinase indicated for the treatment of chronic lymphocytic leukaemia (CLL) and mantle cell lymphoma (MCL) and in development for the treatment of multiple B-cell malignancies.	2026-2032, 2035-2036	2032	2032, 2036	2032	**511**	162	62	**2**	–	–
Enhertu [4] (trastuzumab deruxtecan)	A HER2-directed antibody drug conjugate (ADC) indicated for the treatment of adult patients with unresectable or metastatic HER2-positive breast cancer who have received two or more prior anti-HER2 based regimens in the metastatic setting.	2033	2033-2035	2033-2035	[3]	**–**	–	–	**–**	–	–
Faslodex (fulvestrant)	An injectable oestrogen receptor antagonist, used for the treatment of hormone receptor positive advanced breast cancer that has progressed following treatment with prior endocrine therapy.	2021[5]	expired	2021	2025-2026	**55**	328	537	**414**	449	382
Imfinzi (durvalumab)	A human monoclonal antibody that blocks PD-L1 interaction with PD-1 and CD80 on T-cells, countering the tumour's immune-evading tactics and inducing an immune response. It is currently indicated for the treatment of locally advanced or metastatic urothelial carcinoma and unresectable Stage III non-small cell lung cancer (NSCLC).	2031	2030	2030	2033	**1,185**	1,041	564	**744**	390	62
Iressa (gefitinib)	An epidermal growth factor receptor-tyrosine kinase inhibitor (EGFR-TKI) that acts to block signals for cancer cell growth and survival in advanced NSCLC.	expired[6]	2023	2023	2023	**14**	17	26	**178**	302	376
Koselugo (selumetinib)	*Koselugo* (selumetinib) is an inhibitor of mitogen-activated protein kinase kinases 1 and 2 (MEK1/2). MEK1/2 proteins are upstream regulators of the extracellular signal-related kinase (ERK) pathway. Both MEK and ERK are critical components of the RAS-regulated RAF-MEK-ERK pathway, which is often activated in different types of cancers.	2023, 2023-2026	2023, 2026-2029	2023, 2023, 2026-2029	2023, 2023, 2026-2029	**38**	–	–	**–**	–	–
Lumoxiti (moxetumomab pasudotox-tdfk)	A CD22-directed cytotoxin and a first-in-class treatment in the US for adult patients with relapsed or refractory hairy cell leukaemia (HCL).	2022-2024, 2031-2032	2031	2022, 2031	2031	**1**	–	–	**–**	–	–
Lynparza [7] (olaparib)	An oral poly ADP-ribose polymerase (PARP) inhibitor that blocks DNA damage response (DDR) in cells/tumours harbouring a deficiency in homologous recombination repair, such as mutations in BRCA1 and/or BRCA2. It is indicated for platinum-sensitive relapsed ovarian cancer, regardless of BRCA status, 1st-line maintenance treatment of BRCAm advanced ovarian cancer, for gBRCAm HER2-negative, metastatic breast cancer and for gBRCAm metastatic pancreatic cancer.	2022-2024, 2028*, 2024-2031	2021-2024, 2024-2029	2021-2029, 2024-2029	2021-2029, 2024-2033	**876**	626	345	**753**	475	250
Tagrisso (osimertinib)	An EGFR-TKI indicated for patients with metastatic EGFR-mutated NSCLC.	2032, 2035	2032	2032	2034	**1,566**	1,268	869	**2,319**	1,588	808
Zoladex [8] (goserelin acetate implant)	A luteinising hormone-releasing hormone (LHRH) agonist used to treat prostate cancer, breast cancer and certain benign gynaecological disorders.	2022	2021	2021	2021	**5**	7	8	**656**	566	508

Patent Expiries of Key Marketed Products *continued*

Key marketed products	Description	US	China	EU[1]	Japan	US Product Sales ($m) 2020	2019	2018	Aggregate Product Sales for China, Japan and Europe[2] ($m) 2020	2019	2018
CVRM											
Brilinta/ *Brilique* (ticagrelor)	An oral P2Y12 platelet inhibitor for acute coronary syndromes (ACS) (ticagrelor 90mg) or continuation therapy in high-risk patients (ticagrelor 60mg) with a history of myocardial infarction (MI).	2024[9], 2021-2036	2021[10]	2024, 2021, 2021[11]-2027[12]	2023-2024, 2025-2030	**732**	710	588	**630**	652	532
Bydureon/ *Bydureon BCise* (exenatide XR injectable suspension)	A once-weekly injectable glucagon-like peptide-1 (GLP-1) receptor agonist available as a single-dose tray, a single-dose pen or autoinjector device indicated as monotherapy and as part of combination therapy adjunct to diet and exercise to improve glycaemic control in adults with type-2 diabetes.	2020-2028, 2030[13]	2020-2028, 2029[13]	2020-2028, 2029[13]	2021-2028, 2029[13]	**382**	459	475	**55**	69	85
Byetta (exenatide injection)	A twice-daily injectable GLP-1 receptor agonist indicated to improve glycaemic control in adults with type-2 diabetes.	202014	2020	2020-2021	2020	**37**	68	74	**17**	23	34
Crestor (rosuvastatin calcium)	A statin for dyslipidaemia and hypercholesterolaemia.	2021-2022[15]	2020-2021	2020	2023	**92**	104	170	**661**	752	825
Farxiga/ *Forxiga* (dapagliflozin)	A selective inhibitor of human sodium-glucose cotransporter 2 (SGLT-2 inhibitor) indicated as monotherapy, and as part of combination therapy, adjunct to diet and exercise to improve glycaemic control in adult patients with type-2 diabetes.	2020, 2025, 2020-2030	2020-2023, 2028	2020-2027	2024-2025, 2028	**569**	537	591	**674**	416	345
Komboglyze/ *Kombiglyze* XR[16] (saxagliptin/ metformin)	Combines saxagliptin and metformin as either *Komboglyze* – a twice-daily tablet for type-2 diabetes, or *Kombiglyze* XR – an extended release once-daily tablet for type-2 diabetes.	2023, 2025	2021, 2025	2021-2026, 2025	[3]	**55**	–	–	**31**	–	–
Lokelma (sodium zirconium cyclosilicate)	An insoluble, non-absorbed sodium zirconium silicate, formulated as a powder for oral suspension, that acts as a highly selective potassium-removing agent for the treatment of hyperkalaemia.	2032-2035	2033-2034	2032[17]	2032-2036	**57**	13	–	**19**	1	–
Onglyza (saxagliptin)	An oral dipeptidyl peptidase 4 (DPP-4) inhibitor for type-2 diabetes.	2023, 2028	2021, 2025	2024, 2025	[3]	**166**	230	223	**198**	178	178
Roxadustat	First-in-class hypoxia-inducible factor prolyl hydroxylase inhibitor (HIF-PHI) indicated for the treatment of anaemia from chronic kidney disease.	2024, 2024-2034	2024, 2024-2033	[3]	[3]	**–**	–	–	[18]	–	–
Qtern (dapagliflozin/ saxagliptin)	A once-daily oral treatment combination of dapagliflozin (10mg) and saxagliptin (5mg) indicated as an adjunct to diet and exercise to improve glycaemic control in adults with type-2 diabetes who have inadequate control with dapagliflozin or who are already treated with dapagliflozin and saxagliptin.	2020, 2025, 2020-2029	2020-2023	2020-2027	2024-2025	**5**	6	–	**13**	9	5
Xigduo/ *Xigduo* XR (dapagliflozin/ metformin)	Combines dapagliflozin and metformin as either *Xigduo* – a twice-daily tablet to improve glycaemic control in adult patients with type-2 diabetes who are inadequately controlled on metformin alone or *Xigduo* XR – an extended release once-daily tablet to improve glycaemic control in adult patients with type-2 diabetes who are inadequately controlled on metformin alone.	2020, 2025, 2020-2030	2020-2023	2020-2028	2024-2025, 2030	**113**	103	114	**163**	115	83
Respiratory & Immunology											
Bevespi Aerosphere (glycopyrrolate/ formoterol)	A combination of a long-acting muscarinic antagonist (LAMA) and a long-acting beta2-agonist (LABA) used for the long-term maintenance treatment of airflow obstruction in COPD.	2030-2031	2030	2030	2030	**44**	42	33	**4**	–	–
Breztri Aerosphere (PT010) (budesonide/ glycopyrrolate/ formoterol)	A fixed-dose triple combination of an inhaled corticosteroid (ICS), a LAMA and a LABA, used for the maintenance treatment of COPD.	2030-2031	2030	2030	2030	**5**	–	–	**22**	2	–

Key marketed products	Description	US	China	EU[1]	Japan	US Product Sales ($m)			Aggregate Product Sales for China, Japan and Europe[2] ($m)		
						2020	2019	2018	**2020**	2019	2018
Daliresp/ Daxas (roflumilast)	An oral phosphodiesterase-4 inhibitor for adults with severe COPD to decrease their number of exacerbations.	2020, 2023-2024	2023	2023[19]	expired	**190**	184	155	**22**	26	28
Duaklir (aclidinium/ formoterol)	A fixed-dose combination of a LAMA and a LABA for the maintenance treatment of COPD.	2020-2025, 2022-2029	2020, 2022-2027	2025, 2022-2029[20]	2025, 2021-2029	**–**	3	–	**65**	71	91
Fasenra (benralizumab)	A monoclonal antibody for add-on maintenance treatment of patients with severe asthma aged 12 years and older, and with an eosinophilic phenotype, which directly targets and depletes eosinophils by recruiting natural killer cells and inducing apoptosis (programmed cell death).	2024, 2028-2034	2021, 2028	2020, 2028-2034	2025, 2034	**603**	482	218	**303**	204	77
Pulmicort (budesonide)	An inhaled corticosteroid for maintenance treatment of asthma.	expired	expired	expired	expired	**71**	110	116	**751**	1,149	975
Symbicort (budesonide/ formoterol)	A combination of an inhaled corticosteroid and a fast-onset LABA for maintenance treatment of asthma and COPD either as *Symbicort Turbuhaler* or *Symbicort* pMDI (pressurised metered-dose inhaler).	2022-2029[21]	expired	expired	2020[22]	**1,022**	829	862	**1,184**	1,174	1,220
Tudorza/Eklira/ Genuair (aclidinium)	A LAMA for the maintenance treatment of COPD.	2020-2025, 2022-2029	2020, 2022-2027	2025, 2022-2029[20]	2025, 2021-2029[23]	**6**	2	25	**45**	63	75
Other											
Fluenz Tetra/ *FluMist* Quadrivalent (live attenuated influenza vaccine)	A live attenuated vaccine indicated for active immunisation for the prevention of influenza disease caused by influenza A subtype viruses and type B viruses contained in the vaccine.	2020-2026	2020-2025	2020-2025	2020-2025	**70**	20	15	**219**	93	91
Linzess (linaclotide)	A guanylate cyclase-C agonist for the treatment of irritable bowel syndrome with constipation (IBS-C) in adults.	[3]	2024, 2029	[3]	[3]						
Nexium (esomeprazole)	A proton pump inhibitor used to treat acid-related diseases.	2020[24]	expired	expired	expired	**169**	218	306	**885**	847	955
Synagis (palivizumab)	A humanised mAb used to prevent serious lower respiratory tract disease caused by respiratory syncytial virus (RSV) in paediatric patients at high risk of acquiring RSV disease.	2023[25]	expired	2023	2023	**47**	46	287	**325**	312	377

* Date represents expiry of a pending SPC/PTE and/or Paediatric Exclusivity period.
1 Expiry in major EU markets, which includes the UK.
2 The Product Sales reflected are for Europe Region as defined in Market definitions on page 280.
3 AstraZeneca does not have commercialisation rights.
4 AZ has recorded $94m of Collaboration Revenue in relation to this Product in 2020 as per Note 1 on page 188.
5 Settled with various generic companies for licensed entry dates of 25 March 2019 or later.
6 In the US, *Iressa* has seven years' Orphan Drug exclusivity to 13 July 2022.
7 In addition to any product sales, AZ has also recorded $460m of Collaboration Revenue in relation to this Product in 2020 as per Note 1 on page 188.
8 Rights licensed to TerSera. In addition to any product sales, AZ has also recorded $35m of Collaboration Revenue in relation to this Product in 2020 as per Note 1 on page 188.
9 Separate settlements with ANDA challengers for a licensed entry date corresponding to the expiry of US Patent No. RE46,276, subject to regulatory approval.
10 The patent was invalidated during invalidation proceedings at the CNIPA. The patentee has appealed that decision.
11 The patent was revoked during opposition proceedings at the European Patent Office (EPO). The patentee has appealed that decision and obtained a decision from the EPO Boards of Appeal upholding the patent.
12 The patent is the subject of a pending opposition proceeding at the EPO. The patentee successfully defended the patent in that proceeding, but the opponents have appealed.
13 Patent expiry date relates to *BCise*.
14 Separate settlements with ANDA challengers for a licensed entry date of 15 October 2017, or later, subject to regulatory approval.
15 A settlement agreement in the US permitted Watson Laboratories, Inc. and Actavis, Inc. (together, Watson) to begin selling its generic version of *Crestor* and its rosuvastatin zinc product from 2 May 2016.
16 *Komboglyze*/*Kombiglyze* XR revenue is included in the *Onglyza* revenue figure.
17 The patent is the subject of a pending opposition proceeding at the EPO.
18 AZ has recorded $30m of Collaboration Revenue in relation to this Product in 2020 as per Note 1 on page 188.
19 There are eight years of data exclusivity and two years of market exclusivity for *Daxas* in the EU to 5 July 2020.
20 Partnered with Berlin-Chemie AG (Menarini group).
21 Patent expiry dates relate to the *Symbicort* pMDI product, including any granted Paediatric Exclusivity term.
22 Patent expiry dates relate to the *Symbicort Turbuhaler* product.
23 Rights licensed to Kyorin Pharmaceutical Co., Ltd.
24 Licence agreements have allowed generic companies to launch generic capsule versions in the US.
25 Rights sold to Sobi.

Risk

Risks and uncertainties

Operating in the pharmaceutical sector carries various inherent risks and uncertainties that may affect our business. In this section, we describe the risks and uncertainties that we consider material to our business in that they may have a significant effect on our financial condition, results of operations, and/or reputation.

These risks are not listed in any particular order of priority and have been categorised consistently with the Principal Risks detailed from page 80, which are included below along with the other risks that we face. We believe that the forward-looking statements about AstraZeneca in this Annual Report, identified by words such as 'anticipates', 'believes', 'expects' and 'intends', and that include, among other things, future prospects in the Financial Review from page 82, are based on reasonable assumptions. However, forward-looking statements involve inherent risks and uncertainties such as those summarised below. They relate to events that may occur in the future, that may be influenced by factors beyond our control and that may have actual outcomes materially different from our expectations. Therefore, other risks, unknown or not currently considered material, could have a material adverse effect on our financial condition or results of operations.

Product pipeline and IP risks	Impact

Failure or delay in the delivery of our pipeline or launch of new medicines

Our continued success depends on the development and successful launch of innovative new drugs.

The development of pharmaceutical product candidates is a complex, risky and lengthy process involving significant financial, R&D and other resources. A project may fail at any stage of the process due to various factors, including failure to obtain the required regulatory or marketing approvals for the product candidate or for its manufacturing facilities, unfavourable clinical efficacy data, safety concerns, failure to demonstrate adequate cost-effective benefits to regulatory authorities and/or payers, and the emergence of competing products. More details of projects that have suffered setbacks or failures during 2020, including projects potentially delayed due to the impact of the COVID-19 pandemic on the ability of Health Authorities to conduct business as usual, can be found in the Therapy Area Review from page 30.

Launch decisions and dates are primarily driven by our development programmes. Once a development programme is completed and the dossier submitted to Health Authorities, investments made in the manufacture of pre-launch product stocks, marketing materials and sales force training, may result in excess expenses if the product is not approved.

Various factors, including adverse findings in pre-clinical or clinical studies, regulatory demands, price negotiation, large-scale natural disasters or global pandemics, competitor activity and technology transfer may significantly delay or prevent launch. Differing complex and stringent regulations govern the manufacturing and supply of biologics products, thus impacting the production and release schedules of such products more significantly.

In addition to developing products in-house, we also expand our product portfolio and geographical presence through licensing arrangements and strategic collaborations, which are key to growing and strengthening our business. The success of such arrangements is largely dependent on the technology and other IP rights we acquire or license, and the resources, efforts and skills of our partners. Disputes or difficulties in our relationship with our collaborators or partners may arise, for example, due to conflicting priorities or conflicts of interest between parties.

In many cases we make milestone payments well in advance of the commercialisation of the products, with no assurance that we will recoup these payments.

We often experience strong competition from other pharmaceutical companies in our pursuit of licensing transactions, strategic collaborations and acquisition targets.

Since our business model and strategy rely on the success of relatively few compounds, the failure of any compound in our late-stage pipeline or in-line products may have a significant negative effect on our business or results of operations.

Failure or delay in development of new product candidates could frustrate the achievement of development targets, adversely affect the reputation of our R&D capabilities, and is likely to materially adversely affect our business and results of operations. See also Failure to achieve strategic plans or meet targets or expectations on page 265.

Significant delays to anticipated launch dates of new products could have a material adverse effect on our financial position and/or results of operations. For example, for the launch of products that are seasonal in nature, delays in regulatory approvals or manufacturing difficulties may delay launch to the next season which, in turn, may significantly reduce the return on costs incurred in preparing for the launch for that season. Furthermore, in immuno-oncology for example, speed to market is critical given the large number of clinical trials being conducted by other companies.

In addition, a delayed launch may lead to increased costs if, for example, marketing and sales efforts need to be rescheduled or performed for longer than expected.

Failure to complete collaborative projects in a timely, cost-effective manner may limit our ability to access a greater portfolio of products, IP, technology and shared expertise. Disputes and difficulties with our partners may erode or eliminate the benefits of our alliances and collaborations. In addition, failure to perform on the part of parties to externalisation transactions may diminish the future value of those transactions or, in some cases, allow a competitor to beat us to market with a similar or first-in-class product. Delay of launch can also erode the term of patent exclusivity.

Competition from other pharmaceutical companies means that we may be unsuccessful in implementing some of our intended projects or we may have to pay a significant premium over book or market values for our acquisitions.

Product pipeline and IP risks	Impact

Failure to meet regulatory or ethical requirements for medicine development or approval

We are subject to strict controls on the commercialisation processes for our pharmaceutical products, including their development, manufacture, distribution and marketing. The criteria for establishing safety, efficacy and quality, which are essential for securing marketing approvals, vary by country and by region. Regulators can refuse to grant approval or may require additional data before approval is granted or as a post-approval commitment, even though the medicine may already be approved or launched in other countries.

Factors, including advances in science and technology, evolving regulatory science, new laws and policies, and different approaches to benefit/risk tolerance by regulatory authorities, the general public, and other third-party public interest groups are known to influence the approvability of new drugs. While we seek to manage most of these risks, unanticipated and unpredictable policymaking by governments and regulators, limited regulatory authority resources or conflicting priorities often lead to delays in regulatory approvals.

We may be required to generate additional data after a drug's approval because a regulatory authority may have concerns that impact the benefit/risk profile of the drug. For our marketed drugs, new data or meta-analyses have the potential to drive changes in the approval status or labelling. In addition, recent years have seen an increase in post-marketing regulatory requirements and commitments, an increased call for third-party access to regulatory and clinical trial data packages for independent analysis and interpretation, and broader data transparency. Such transparency, while important, could lead to inappropriate or incorrect data analyses which may damage the integrity of our products and our Company's reputation. In 2020, we have seen additional transparency challenges with the COVID-19 vaccine trials, due to intense media scrutiny driven by extremely high public interest, as well as information leaks.

Delays in regulatory reviews and approvals could delay our ability to market our products and may adversely affect our revenue. In addition, post-approval requirements, including additional clinical trials, could result in increased costs.

In anticipation of the UK leaving the EU on 31 January 2020, with a transition period running to 31 December 2020, intense work was undertaken to manage Brexit-related changes, identify scenarios for the many uncertainties still to be resolved, and determine the new UK requirements moving forward. This included transferring licences and authorisations for EU markets historically held in the UK to an EU member state and building capability to test medicines in the EU where such testing has in the past been undertaken in the UK for all EU markets. UK licences also needed to be separated out from centrally approved products in the EU. These actions were undertaken to ensure appropriate regulatory requirements can be met both in the EU and UK following the end of the transition period. Our corporate planning assumption was initially for a 'no deal' Brexit and no transition period. This was revised after the Withdrawal Agreement was ratified to no extension of the transition period and no deal. In light of these assumptions, the Company has taken steps to protect product supply in both the UK and the EU.

On 24 December 2020 the European Commission and UK Government entered into a Trade and Cooperation agreement which sets out the basis of their relationship following the end of the transition period. Changes in regulatory review and approval processes, and safety surveillance in light of this agreement will certainly have implications on resources, ways of working and costs, and could impact the availability and timing of approvals.

Failure to obtain, defend and enforce effective IP protection and IP challenges by third parties

A pharmaceutical product may be protected from being copied for a limited period of time under certain patent rights and/or related IP rights, such as Regulatory Data Protection or Orphan Drug status. Typically, products protected by such rights generate significantly higher revenues than those not protected. Our ability to obtain, maintain, defend and enforce patents and other IP rights in relation to our products is an important element in protecting and recouping our investment in R&D and creating long-term value for the business. Some countries in which we operate do not offer robust IP protection. This may be because IP laws are still developing, the scope of those laws is limited or the political environment does not support such legislation. We also recognise increasing use of compulsory licensing in some countries in which we operate.

We may also face challenges early in the patent application process and throughout a patent's life. The grounds for these challenges could be the validity of a patent and/or its effective scope and are based on ever-evolving legal precedents. We are experiencing increased challenges in the US and elsewhere in the world and there can be no guarantee of success for either party in patent proceedings and litigation.

We also bear the risk that our products may be found to infringe patents owned or licensed by third parties, including research-based and generic pharmaceutical companies and individuals. These third parties may seek remedies for patent infringement, including injunctions (for example, preventing the marketing of one of our products) and damages.

Details of material patent proceedings and litigation matters can be found in Note 29 to the Financial Statements from page 228.

Limitations on the availability of patent protection, the ability to obtain related IP rights or the use of compulsory licensing in certain countries in which we operate, as well as our ability to defend and enforce our patents, could allow for earlier entry of generic or biosimilar competitor products. This could have a material adverse effect on the pricing and sales of our products and, consequently, could materially adversely affect our revenues.

Third parties may be awarded remedies for alleged infringement of their IP, for example injunctions and damages for alleged patent infringement. In the US, courts may order enhanced (i.e. up to treble) damages for alleged wilful infringement of patents. From time to time we may seek to acquire licences, which may not be available on commercially reasonable terms or at all, discontinue activities and/or modify processes to avoid claims of patent infringement. These steps could entail significant costs and our revenue and margins could be materially adversely affected.

More information about protecting our IP, the risk of patent litigation and the early loss of IP rights is contained in the Intellectual Property section from page 65, the competitive pressures including expiry or loss of IP rights, and generic competition risk on page 256 and Note 29 to the Financial Statements from page 228.

Commercialisation risks	Impact

Competitive pressures including expiry or loss of IP rights, and generic competition

A pharmaceutical product competes with other products marketed by research-based pharmaceutical companies and with generic or biosimilar drugs marketed by generic drug manufacturers.

Generic versions of products, including biosimilars, are often sold at lower prices than branded products, as the manufacturer does not have to recoup the significant cost of R&D investment and market development. Expiry or loss of IP rights can materially adversely affect our revenues and financial condition due to the launch of cheaper generic copies of the product in the country where the rights have expired or been lost (see the table in the Patent Expiries of Key Marketed Products section from page 251).

Additionally, the expiry or loss of patents covering other innovator companies' products may also lead to increased competition and pricing pressure for our own, still-patented products in the same product class due to the availability of lower-priced generic products in that product class.

Generic manufacturers may also take advantage of the failure of certain countries to properly enforce Regulatory Data Protection or other related IP rights and may launch generics during this protected period. This is a particular risk in some Emerging Markets where appropriate patent protection or other related IP rights may be difficult to obtain or enforce.

The biosimilars market has experienced notable growth since 2017, with approval of several monoclonal antibody biosimilars in the US and Europe. This trend is expected to continue. Increased regulatory and legal activity related to the launch and approval of these therapeutics is anticipated. Regulatory authorities in other territories continue to implement or consider abbreviated approval processes for biosimilars, allowing quicker entry to market for such products and earlier than anticipated competition for patented biologics.

As well as facing generic competition upon expiry or loss of IP rights, we also face the risk that generic drug manufacturers seek to market generic versions of our products prior to expiries of our patents and/or the Regulatory Exclusivity periods. For example, we are currently facing challenges from numerous generic drug manufacturers regarding our patents relating to key products, including *Symbicort*, *Brilinta*, *Tagrisso*, *Faslodex* and *Farxiga*.

IP rights protecting our products may be challenged by external parties. We expect our most valuable products to receive the greatest number of challenges. Despite our efforts to establish and defend robust patent protection for our products, we bear the risk that courts may decide that our IP rights are limited in scope, invalid or unenforceable and/or that third parties do not infringe our asserted IP rights.

Where we assert our IP rights but are ultimately unsuccessful, third parties may seek damages, alleging, for example, that they have been inappropriately restrained from entering the market. In such cases, we bear the risk that we incur liabilities to those third parties.

Details of material patent litigation matters can be found in Note 29 to the Financial Statements from page 228.

If we are not successful in obtaining, maintaining, defending or enforcing our exclusive rights to market our products, particularly in the US where we achieve our highest Product Sales, our revenue and margins could be materially adversely affected. In addition, unsuccessful assertion of our IP rights may lead to damages or other liabilities to third parties that could materially adversely affect our financial performance.

Approval of competitive products for the same or similar indication as one of our products may result in immediate and significant decreases in our revenues.

Unfavourable resolution of current and potential future patent litigation may require us to make significant provisions in our accounts relating to legal proceedings and/or could materially adversely affect our financial condition or results of operations.

Commercialisation risks	Impact

Price controls and reductions

Most of our key markets have experienced the implementation of various cost control or reimbursement mechanisms for pharmaceutical products.

In the US, there is significant pricing pressure driven by payer consolidation, restrictive reimbursement policies, and cost control tools, such as exclusionary formularies and price protection clauses. Many formularies employ 'generic first' strategies and/or require physicians to obtain prior approval for the use of a branded medicine where a generic alternative exists. These mechanisms can be used by payers to limit the use of branded products and put pressure on manufacturers to reduce net prices. In addition, patients are seeing changes in the design of their health plan benefits and may experience variation in how their plans cover their medications, including increases in the out-of-pocket payments for their branded medications. Patient out-of-pocket spending is generally in the form of a co-payment or co-insurance, but there is a growing trend towards high deductible health plans that may require that patients pay the full list price of their drugs and services until they meet certain out-of-pocket thresholds. In the US, policymakers at the federal and state level continue to consider a range of legislative and regulatory proposals to address the affordability of prescription drugs in addition to reforms to the US healthcare system. Modifications to Medicare and other government programmes, price transparency requirements, reference pricing proposals, policies to permit importation of drugs into the US, and policies aimed at reducing drug list prices and limiting pricing flexibility have also been included in proposed federal legislation and federal agency proposals. For more information, see Pricing of medicines in the Healthcare in a changing world section from page 16. It is difficult to predict what specific proposals could be enacted and to determine the implications for the healthcare system and pharmaceutical industry. However, lowering drug costs remains a key bipartisan priority in Congress, the administration and state governments. Proposals that would significantly modify existing laws and regulations, including coverage and reimbursement of drugs in government programmes and policies relating to drug pricing, as well as the economic impact of the COVID-19 public health emergency could affect private health insurance, coverage and reimbursement in Medicare, Medicaid and the health insurance exchange marketplaces, and other facets of the US healthcare market, with potentially significant impacts on the pharmaceutical industry.

Ongoing scrutiny of the US pharmaceutical industry, focused largely on pricing, is placing increased emphasis on the value of medications. This scrutiny will likely continue across many stakeholders, including policymakers and legislators.

In the US, consolidation among distributors, retail pharmacy chains and other purchasing organisations, including integration across the supply chain, creates concentration of credit risk and increasing potential for large integrated entities to exert more power in negotiations with AstraZeneca, which could result in margin erosion.

In Europe, the industry continues to be exposed to various ad hoc cost-containment measures and reference pricing mechanisms which impact prices. There is a trend towards increasing transparency and comparison of prices among EU Member States which may eventually lead to a change in the overall pricing and reimbursement landscape. There is also a continued push across the EU to harmonise the Health Technology Assessment (HTA) review process. This could lead to an environment in the EU where medicines undergo duplicate HTA evaluations, both at an EU level and a country level, as it is unlikely organisations such as GBA in Germany or HAS in France would make changes to their systems.

In Emerging Markets, governments are increasingly controlling pricing and favouring locally manufactured drugs. In addition, the emergence of price referencing has been seen in some markets combined with a call from authorities to provide greater global price transparency. For example, in 2020, China expanded value-based procurement (VBP), placing downward pressure on the pricing of products that lost exclusivity in the VBP. China also continues to leverage its purchasing power through the NRDL which has seen difficult pricing negotiations. Notably in the 2020 NRDL, the industry average price decrease was over 50%.

In Japan, the government has relied on drug budget reductions to restrict increasing social security costs associated with the rapidly ageing society, expanding the scope and degree of price discounts. In April 2018, many new rules were implemented as drug pricing system reforms. Further to that a cost-effectiveness evaluation was introduced for certain categories of drugs from April 2019. Discussions for further drug budget restrictions are underway at the health ministry.

Concurrently, many markets are adopting the use of HTA to provide a rigorous evaluation of the clinical efficacy of a product at, or post, launch. HTA evaluations are also increasingly being used to assess the clinical effect, as well as cost-effectiveness, of products in a particular health system. This comes as payers and policymakers attempt to increase efficiencies in the use and choice of pharmaceutical products.

A summary of the principal aspects of price regulation and how pricing pressures are affecting our business in our most important markets is set out in Pricing of medicines in the Healthcare in a changing world section from page 16 and on the next page in the following risk factor.

Due to these pricing pressures, there will continue to be downward pressure on prices globally that will challenge the profitability levels of products in particular markets.

Any future expansion or judicial invalidation of the Affordable Care Act (ACA), or any significant spending reductions or cost controls affecting Medicare, Medicaid or other publicly funded or subsidised health programmes in the US, could adversely affect our business and financial results. The future of the ACA, entitlement reform and healthcare laws in general in the US could have a material adverse effect on our results of operations, financial condition or business.

We expect that consolidation and integration of drug distributors, retail pharmacy chains, private insurers, managed care organisations and other purchasing organisations may continue to have an effect on pharmaceutical manufacturers, including us.

The potential duplication of HTA evaluations could result in a delay to times of reimbursement and patient access.

The continued disparities in EU and US pricing systems could lead to marked price differentials between regions, which, by way of the implementation of existing or new reference pricing mechanisms, increases the pricing pressure affecting the industry. The importation of pharmaceutical products from countries where prices are low due to government price controls, or other market dynamics, to countries where prices for those products are higher, is already prevalent and may increase. Strengthened collaboration by governments may accelerate the development of further cost-containment policies (such as joint procurement). Increased and simplified access to national and regional prices in markets and the publication of these prices in centralised databases have facilitated the uptake and efficiency of price referencing across the world.

Commercialisation risks	Impact

Economic, regulatory and political pressures

Operating in more than 100 countries, we are subject to political, socio-economic and financial factors (including foreign exchange movements) both globally and in individual countries.

A sustained global economic downturn, such as that which we are experiencing as a consequence of the COVID-19 pandemic, may further exacerbate pressure from governments and other healthcare payers on medicine prices and volumes of sales in response to pressures on budgets, and may cause a slowdown or a decline in growth in some markets. Those most severely impacted by the economic downturn may seek alternative ways to settle their debts through, for example, the issuance of government bonds which might trade at a discount to the face value of the debt. Other customers may cease to trade, which may result in losses from writing off debts, or a reduction in demand for products.

In addition, escalation of the current trade disputes could lead to sanctions such as the unilateral imposition of tariffs, duties, quotas or other non-tariff barriers. While the introduction of such sanctions in relation to medicines is unlikely, it could occur if matters escalate significantly and could therefore adversely impact medicine process and volumes of sales in impacted markets.

We are highly dependent on being able to access a sustainable flow of liquid funds due to the high fixed costs of operating our business and the long and uncertain development cycles of our products. In a sustained economic downturn, financial institutions with whom we deal may cease to trade and there can be no guarantee that we will be able to access monies owed to us without a protracted, expensive and uncertain process, if at all.

The majority of our cash investments are managed centrally and are invested in AAA credit-rated institutional money market funds, collateralised bank deposits, fixed income securities in government, and financial and non-financial securities. Money market funds are backed by institutions in the US, EU or elsewhere, which, in turn, invest in other funds, including sovereign funds. This means our credit exposure is a mix of US, EU and rest of the world sovereign default risk, financial institution and non-financial institution default risk.

A number of our existing or future commercial or other agreements, such as borrowings, derivative financial instruments and commercial contracts, utilise or may utilise various London Interbank Offered Rates, known as LIBOR, or other similar rates as benchmark reference rates. LIBOR and other benchmark reference rates are the subject of ongoing national and international regulatory reform, the result of which is expected to see some or all of them partially or fully replaced by alternative reference rates, or cause LIBOR's regulator to determine that their quality has degraded to the degree that it is no longer representative of its underlying market. This may result in potential adjustments or renegotiations being necessary to our agreements in respect of the commercial terms or mechanisms to set the reference rate in the future. While different alternative reference rates are developing for different currencies, there is a risk that we fail to renegotiate or adjust our agreements. Any combination of these could have an adverse effect on the cost, cash flows, value, return on and trading market of our borrowings, derivative financial instruments, commercial and other agreements, and could increase our administrative burden if the transition to alternative rates is required or necessary by regulation or market practice.

Deterioration of, or failure to improve, socio-economic conditions, and situations and/or resulting events, depending on their severity, could adversely affect our supply and/or distribution chain in the affected countries and the ability of customers or ultimate payers to purchase our medicines. This could adversely affect our business or results of operations.

While we have adopted cash management and treasury policies to manage the risk of not being able to access a sustainable flow of liquid funds (see the Financial risk management policies section of the Financial Review from page 96), we cannot be certain that these will be as effective as they are intended to be, in particular in the event of a global liquidity crisis. In addition, open positions where we are owed money and investments we have made in financial and non-financial institutions or money market funds cannot be guaranteed to be recoverable. Additionally, if we need access to external sources of financing to sustain and/or grow our business, such as the debt or equity capital financial markets, this may not be available on commercially acceptable terms, if at all, in the event of a severe and/or sustained economic downturn. This may, for instance, be the case in the event of any default by the Company on its debt obligations, which may materially adversely affect our ability to secure debt funding in the future or our financial condition in general. Further information on debt funding arrangements is contained in the Financial risk management policies section of the Financial Review from page 96.

In addition, as set out in the next section, the UK's exit from the EU followed by the end of the transition period which occurred on 31 December 2020 could adversely impact the operation of the financial system and the ability of financial institutions to perform certain activities and services upon which we rely if the arrangements, agreed between the UK and EU in the upcoming future negotiations relating to equivalence determinations, do not adequately address such matters and those financial institutions have not implemented plans to mitigate the impact of such an outcome.

Commercialisation risks	Impact

Uncertainty and volatility in relation to the UK's planned exit from the EU

On 23 June 2016, the UK held a referendum on the UK's continuing membership of the EU, the outcome of which was a decision for the UK to leave the EU (Brexit). Following Royal Assent of the European Union (Withdrawal Agreement) Act in the UK and ratification of the Withdrawal Agreement by the European Parliament, the UK left the EU on 31 January 2020 with a transition period running to 31 December 2020.

On 24 December 2020 the UK Government and European Commission agreed the terms of a Trade and Cooperation Agreement which sets out the relationship between the UK and the EU following the end of the transition period. Entering into this agreement was provisionally approved by the European Council on 29 December 2020 and the associated UK legislation received Royal Assent on 30 December 2020. The European Parliament is due to formally scrutinise the agreement in the coming months prior to providing its consent to it. The agreement comprises a Free Trade Agreement, rules on governance and dispute resolution, and security cooperation. The Free Trade Agreement provides for zero tariffs and zero quotas on all goods that comply with the appropriate rules of origin; maintains a level playing field in areas such as environmental protection, social and labour rights, tax transparency and State aid, with enforcement and a binding dispute settlement mechanism; and maintains air, road, rail and maritime connectivity but with new customs and passport checks and limitations on haulage operations.

It is still too early to judge the full impact of the new Trade and Cooperation Agreement between the UK and EU. Brexit, implementation of the resulting changes from the new agreement together with the outcome of future negotiations between the UK and EU on matters not fully addressed in it, could materially and adversely affect the tax, tax treaty, currency, operational, legal and regulatory regimes as well as the macro-economic environment in which the Group operates. Since the referendum, global markets and foreign exchange rates have experienced increased volatility, including a decline in the value of the pound sterling as compared with the euro and US dollar. Following the end of the transition period provided for in the Withdrawal Agreement, among other things, the UK no longer benefits from membership of the single EU market. Travel between the UK and EU countries now has some increased restrictions and border checks or other regulatory and system constraints may impede the rapid free movement of goods.

Our workforce, and in turn our ability to recruit and retain talent, could be impacted by the new restrictions on the movement of persons. We could face new and greater costs and challenges if UK regulations and policies that govern our business diverge from those of the EU, or if there is any other new or increased friction in our trading environment. It therefore remains difficult to anticipate the potential impact on our market share, sales, profitability and results of operations as a result of Brexit.

The longer-term effects of Brexit remain difficult to predict but could include further financial instability and slower economic growth or economic downturn in the UK in particular, but also in Europe and the global economy. Restrictions on the movement of persons, deterioration in market access or trading terms, delay or restrictions to the movement of goods or increased cost and burdens in the form of new or diverging rules and regulations may have a significant adverse impact on our operations, profitability and business model. Further, uncertainty around the form and timing of any future trading arrangements between the UK and other countries now that benefits of the EU's Free Trade Agreement network are no longer available to the UK could increase volatility and lead to adverse effects on the economy of the UK, other parts of Europe and the rest of the world, which in turn could have an adverse economic impact on our operations.

Failures or delays in the quality or execution of the Group's commercial strategies

Commercial success of our products and markets, including the development of growth markets, is a critical factor in sustaining or increasing global Product Sales and replacing lost Product Sales due to patent expiry. The successful launch of a new pharmaceutical product involves substantial investment in sales and marketing activities, launch stocks and other items. We may ultimately be unable to achieve commercial success for various reasons, including difficulties in manufacturing sufficient quantities of the product candidate for development or commercialisation in a timely manner, the impact of price control measures imposed by governments and healthcare authorities, the outcome of negotiations with third-party payers, erosion of IP rights (including infringement by third parties), failure to show a differentiated product profile and changes in prescribing habits.

The commercialisation of biologics is often more complex than for small molecule pharmaceutical products, primarily due to differences in the mode of administration, technical aspects of the product, and rapidly changing distribution and reimbursement environments.

We face particular challenges in Emerging Markets, including:

- More volatile economic conditions and/or political environments.
- Competition from multinational and local companies with existing market presence.
- Difficulties enforcing and protecting IP.
- Inadequate protection against crime (including counterfeiting, corruption and fraud).
- Unauthorised or unregulated parallel imports.
- The need to impose developed market compliance standards.
- The need to meet a more diverse range of national regulatory, clinical, manufacturing and distribution requirements.
- Potential inadvertent breaches of local and international law and the need to manage sanctions and other restrictions that may be imposed in each jurisdiction.
- Possible geopolitical risks impacting trade and tariffs across connected markets.
- Recruitment of appropriately skilled and experienced personnel.
- Difficulty in identifying the most effective sales and marketing channels and routes to market.
- Intervention by local or national governments or regulators, restricting market access and/or introducing adverse price controls and price referencing.
- Difficulty in managing local arrangements, such as co-promotion and co-marketing, in terms of performance and adherence to AstraZeneca's compliance standards, which are often higher than the market norm.
- Difficulties in cash repatriation due to strict foreign currency controls, risk of material currency devaluation and lack of hard currency reserves in some Emerging Markets.
- Complexity derived from direct exports to countries where we do not have a legal entity.

Failure to execute our commercial strategies could materially adversely impact our business or results of operations.

If a new product does not succeed as anticipated or its rate of sales growth is slower than anticipated, there is a risk that we may be unable to fully recoup the costs incurred in launching it, which could materially adversely affect our business or results of operations.

Due to the complexity of the commercialisation process for biologics, the methods of distributing and marketing biologics could materially adversely impact our revenues from the sales of biologic medicines, such as *Synagis* and *FluMist*/*Fluenz*.

The failure to exploit potential opportunities appropriately in Emerging Markets or materialisation of the risks and challenges of doing business in such markets, including inadequate protection against crime (including counterfeiting, corruption and fraud) or inadvertent breaches of local and international law may materially adversely affect our reputation, business or results of operations.

The inability to effectively integrate acquired businesses into our operations may result in significant unexpected expenses or failure to realise anticipated benefits which may materially impact the results of operations.

Commercialisation risks	Impact

Failures or delays in the quality or execution of the Group's commercial strategies *continued*

We may also seek to acquire complementary businesses or enter into other strategic transactions. For example, on 12 December 2020 the Group signed a definitive agreement to acquire Alexion, subject to regulatory clearances and the approval of shareholders of both companies. The integration of an acquired business could involve incurring significant debt and unknown or contingent liabilities, as well as having a negative effect on our reported results of operations from acquisition-related charges, amortisation of expenses related to intangibles and charges for the implementation of long-term assets. The integration of new businesses with our own could result in operational complexities.

We may also experience difficulties in integrating geographically separated organisations, systems and facilities, and personnel with different organisational cultures. Disputes or difficulties in our relationship with our collaborators or partners may also arise, often due to conflicting priorities or conflicts of interest between parties.

Supply chain and business execution risks	Impact

Failure to maintain supply of compliant, quality medicines

We may experience difficulties, delays and interruptions in the manufacturing and supply of our products for various reasons, including:

- Demand significantly in excess of forecast demand, which may lead to supply shortages (this is particularly challenging before launch).
- Supply chain disruptions, including those due to natural or man-made disasters at one of our facilities, at a critical supplier or vendor, or during transit.
- Delays in construction of new facilities or the expansion of existing facilities to support future demand for our products, including new modalities of medicine.
- The inability to supply products due to a product quality failure or regulatory compliance action such as licence withdrawal, product recall or product seizure.
- Other manufacturing or distribution problems, including changes in manufacturing production sites, limits to manufacturing capacity due to regulatory requirements, changes in the types of products produced, or physical limitations or other business interruptions that could impact continuous and adequate supply.

As with the rest of the pharmaceutical industry, we work in a heavily regulated environment, which is subject to continued evolution. It is necessary for us to meet all regulations, including compliance with Good Manufacturing Practices (GMP) and Good Distribution Practices and comparable regulatory dossier conditions of approval in other countries in which our products are licensed, manufactured or sold. Regulatory agencies periodically inspect our manufacturing facilities to evaluate compliance with applicable requirements and may identify potential deficiencies.

We increasingly rely on third parties for the timely supply of goods, such as raw materials (for example, the API in some of our medicines and drug substances and/or finished drug products for some of our biologics medicines), equipment, formulated drugs and packaging, critical product components and services, all of which are key to our operations. Many of these goods are difficult to substitute in a timely manner or at all. We expect that external capacity for biologics drug substance production will continue to remain constrained for the next few years and, accordingly, may not be readily available for supplementary production in the event that we experience an unforeseen need for such capacity.

Difficulties with manufacturing and supply, forecasting, distribution or third-party suppliers may result in product shortages, which may lead to lost Product Sales and materially adversely affect our reputation and revenues. Even slight variations in components or any part of the manufacturing process may lead to a product that is non-compliant and does not meet quality standards. This could lead to recalls, spoilage, product shortage, regulatory action and/or reputational harm.

Failure to comply with all manufacturing regulations can result in negative regulatory inspection findings leading to manufacturing cessation, product seizure, debarment or recalls which could have a material adverse effect on our business, financial condition and results of operations.

Illegal trade in the Group's medicines

The illegal trade in pharmaceutical products is widely recognised by industry, non-governmental organisations and governmental authorities to be increasing. Illegal trade includes counterfeiting, theft and illegal diversion (that is, when our products are found in a market where we did not send them and where they are not approved to be sold). There is a risk to public health when illegally traded products enter the supply chain, as well as associated financial risk. Authorities and the public expect us to help reduce opportunities for illegal trade in our products through securing our supply chains, surveillance, investigation and supporting legal action against those found to be engaged in illegal trade.

Public loss of confidence in the integrity of pharmaceutical products as a result of illegal trade could materially adversely affect our reputation and financial performance. In addition, undue or misplaced concern about this issue may cause some patients to stop taking their medicines, with consequential risks to their health.

If we are found liable for breaches in our supply chains, authorities may take action, financial or otherwise, that could adversely impact the distribution of our products.

Counterfeit and/or illegally diverted products replacing sales of genuine products in a market can have a direct financial impact on our global markets as well as being a risk to patient safety.

Supply chain and business execution risks	Impact

Reliance on third-party goods and services

AstraZeneca spends approximately $13 billion each year with trade suppliers. The spend supports the length of our value chain from discovery to manufacture and commercialisation of our medicines.

Many of our business-critical operations, including certain R&D processes, IT systems, HR, finance, tax and accounting services have been outsourced to third-party providers. We are therefore heavily reliant on these third parties, not just to deliver timely and high-quality services, but also to comply with applicable laws and regulations and adhere to our ethical business expectations of third-party providers.

The failure of outsource providers to deliver timely services, and to the required level of quality, or the failure of outsource providers to cooperate with each other, could materially adversely affect our financial condition or results of operations. Moreover, the failure of these third parties to operate in an ethical manner could adversely impact our reputation, both internally and externally, or even result in non-compliance with applicable laws and regulations.

Our business and financial results could also be materially adversely affected by disruptions caused by our failure to successfully manage either the integration of outsourced services or the transition process of insourcing services from third parties.

Failure in information technology or cybersecurity

We are dependent on effective IT systems. These systems support key business functions such as our R&D, manufacturing, supply chain and sales capabilities. They provide an important means of safeguarding and communicating data, including critical or strictly confidential information, the confidentiality and integrity of which we rely on. We also rely on the effectiveness of our internal policies, controls and procedures to protect the confidentiality, integrity and availability of information held on our IT systems, as well as the effectiveness of our due diligence and ongoing oversight of third-party vendors who hold or have access to our data. In addition, we must ensure that the personal data which we, or third-party vendors operating on our behalf, hold and process is protected in a manner that complies with increasingly stringent global privacy laws.

Examples of strictly confidential information that we aim to protect include clinical trial records (patient characteristics and treatments), personal information (employee bank details, salary, home address), IP related to manufacturing processes and compliance, and key research science techniques.

The size and complexity of our IT systems and cloud utilisation, and those of our third-party vendors (including outsource and Software as a Service (SaaS) providers) with whom we contract, have significantly increased over the past decade. Such systems are potentially vulnerable to service interruptions and security breaches including interruptions or breaches from attacks by malicious third parties, or from intentional or inadvertent actions by our employees or vendors.

Significant changes in the business footprint and the implementation of the IT strategy, including the creation and use of captive offshore Global Technology Centres, could lead to temporary loss of capability.

We increasingly use the internet, digital content, social media, mobile applications, the Internet of Things (IoT), artificial intelligence, and other forms of new technology to process our data and to communicate internally and externally. The accessibility and instantaneous nature of interactions with such media may facilitate or exacerbate the risk of unauthorised data loss or other security incidents or breaches from within AstraZeneca. Globalisation also means that it becomes difficult to comply with all local data protection obligations for our websites and mobile apps (e.g. enhanced cookie banner rules in the EU or higher standards for obtaining valid consent for certain uses of personal data). In addition, increasing regulatory and legal challenges to international transfers of personal information, for example in relation to transfers of personal data from the EU to the rest of the world as a result of a recent European Court of Justice decision, may result in data no longer being available to locations we are present in, with adverse operational impacts. The increased use of artificial intelligence, genomic data and biometric data poses additional risks to the rights and freedoms of individuals and consequently higher reputational and financial risks for AstraZeneca.

Privacy legislation in various jurisdictions includes obligations to report data breaches, whether intentional or inadvertent, to regulators, local media and affected individuals within expedited timeframes. Such expedited reporting, often before the nature and impact of a data breach can be fully understood, could cause reputational damage and a loss of public trust that may be disproportionate to the extent of the breach.

Any significant disruption to, or incidents involving, these IT systems (including breaches of data security or cybersecurity or failure to integrate new and existing IT systems) or failure to comply with additional requirements under applicable laws or contractual obligations, could harm our reputation, result in regulatory penalties or sanctions, and materially adversely affect our financial condition or results of operations.

While we invest heavily in the protection of our data and IT, we may be unable to prevent breakdowns, breaches or other incidents affecting our systems or failures of our cybersecurity policies, controls or procedures. Any such breakdown, breach, incident or failure could result in disclosure of confidential or sensitive information, damage to our reputation, regulatory penalties or sanctions, financial losses and/or other costs.

The inability to back-up and restore data effectively could lead to permanent loss of data that could in turn result in non-compliance with applicable laws and regulations, and otherwise harm our business.

We and our vendors could be susceptible to third-party or internal attacks on our information security systems. Such attacks are of ever-increasing levels of sophistication, difficult to detect and are made by groups and individuals with a wide range of motives and expertise, including organised criminal groups, 'hacktivists', nation states, employees and others. Occasionally we experience intrusions, including as a result of computer-related malware. We may be unable to timely detect and defend against such attacks which could have an adverse effect on our business and could result in significant legal liability, regulatory penalties, including fines, or sanctions.

Although we maintain cybersecurity insurance, there can be no assurance that our insurance coverage limits will protect against any future claim, that such insurance proceeds will be paid to us in a timely manner, or that such coverage will continue to be available to us on commercially reasonable terms, if at all.

Inappropriate use of certain media vehicles could lead to the unauthorised or unintentional public disclosure of confidential information (such as personally identifiable information on employees, healthcare professionals or patients), which may damage our reputation, adversely affect our business or results of operations and expose us to legal risks, regulatory penalties or sanctions and/or additional legal obligations. Similarly, the involuntary public disclosure of commercially sensitive information, or an information loss, could adversely affect our business or results of operations and could result in regulatory penalties or sanctions. In addition, negative posts or comments about us (or, for example, the safety of our products) on social media websites or other digital channels could harm our reputation, brand image or goodwill.

Supply chain and business execution risks	Impact

Failure of critical processes

Unexpected events and/or events beyond our control could result in the failure of critical processes within the Company or at third parties on whom we are reliant. The business faces threats to business continuity from many directions. Examples of material threats include:

- Disruption to our business or the global markets if there is instability in a particular geographic region, including as a result of war, terrorism, pandemics, armed conflicts, riots, unstable governments, civil insurrection or social unrest.
- Natural disasters in areas of the world prone to extreme weather events, which may increase in frequency or severity as a result of climate change and earthquakes.
- Cyber threats similar to those detailed in the Failure in information technology and cybersecurity section overleaf.

Failure of critical processes may result in an inability to research, manufacture or supply products to patients. AstraZeneca has developed a Business Resilience framework which is designed to mitigate such risks. However, there is no guarantee that these measures will be sufficient to prevent business interruption.

This may expose the Company to litigation and/or regulatory action which may result in fines. In addition, failure of critical processes may lead to loss of revenue and have an adverse impact on the Company's financial results.

The impact of COVID-19 on AstraZeneca's operations is highly uncertain and cannot be predicted with confidence. The extent of any adverse impact on the Company's operations (including the effects of any governmental or regulatory response to the pandemic) will depend on global duration, extent and severity of the pandemic. To the extent that the pandemic adversely affects the Company's operations and/or performance, the Company expects it to have the effect of heightening certain risks such as those relating to the delivery of the pipeline or launch of new medicines, the execution of the Company's commercial strategy, the manufacturing and supply of medicines and reliance on third-party goods and services.

Failure to collect and manage data in line with legal and regulatory requirements and strategic objectives

We are currently in a period of significant change in global privacy laws, with many countries creating new, or strengthening existing, laws relating to how organisations can collect, process, transmit, store, use and share data that relate to individuals (personal data), including the EU General Data Protection Regulation (GDPR), the UK Data Protection Act, the US California Consumer Privacy Act and California Privacy Rights Act. Such laws require us, among other things, to maintain reasonable and appropriate data security measures and to provide timely notice to individuals and/or regulators in the event that personal data is compromised. Non-compliance with these laws may attract significant and material regulatory sanctions and corresponding reputational damage. For example, under the GDPR, fines of up to €20 million or 4% of a company's worldwide annual revenue of the previous fiscal years (whichever is higher) can be imposed. Further, these laws are subject to differing interpretations, and may be inconsistent from jurisdiction to jurisdiction. Many other countries where we operate are also enforcing their own laws more aggressively and/or adopting tougher new measures, aligning themselves to the updated EU privacy framework. The effects of such laws and regulations are potentially significant and may require us to modify our data processing practices and policies and to incur substantial compliance-related costs and expenses.

AstraZeneca processes significant volumes of personal data, including sensitive data relating to health and genomics, which is subject to heightened protections and may attract increased attention under privacy laws. Personal data is used for drug development, sales and marketing, and managing our employees and contractors. As such, the ability to process personal data in a lawful and compliant manner is essential to achieving our stated business aims.

Despite taking measures designed to ensure compliance with the applicable privacy laws by our personnel and associated third parties, non-compliance may still occur, potentially resulting in the imposition of significant penalties, such as fines, orders to cease sharing or using personal data, or legal action on behalf of impacted individuals. Any of these impacts could materially adversely affect our reputation, business or results of operations, which in turn would further impact patient confidence in sharing further personal data with us. While the management of company-sensitive data (such as intellectual property) is subject to less regulation than personal data, failure to protect such data could similarly lead to a competitive disadvantage and a loss of trust from partners and other stakeholders, and ultimately prevent us from delivering against our strategic objectives. We or our third-party service providers could be adversely affected if legislation or regulations are expanded to require changes in our or our third-party service providers' business practices, or if governing jurisdictions interpret or implement their legislation or regulations in ways that negatively affect our or our third-party service providers' business, financial condition and results of operations.

Supply chain and business execution risks	Impact

Failure to attract, develop, engage and retain a diverse, talented and capable workforce

We rely heavily on recruiting and retaining talented employees with a diverse range of skills and capabilities to meet our strategic objectives. We face intense competition for well-qualified individuals, as the supply of people with specific skills and significant leadership potential or in specific geographic regions may be limited, and in the UK the added uncertainty created by Brexit could impact the hiring and retention of staff in some business-critical areas.

The successful delivery of our business objectives, including in relation to the proposed acquisition of Alexion, is dependent on high levels of engagement, commitment and motivation of our workforce. With the move to remote working for a large number of our employees in 2020, there is a risk of reduced levels of engagement and collaboration.

The inability to attract and retain highly skilled personnel may weaken our succession plans for critical positions in the medium term, may materially adversely affect the implementation of our strategic objectives, and could ultimately impact our business or results of operations.

Failure to engage effectively with our employees could lead to disruption in our day-to-day operations, reduce levels of productivity and/or increase levels of voluntary turnover, all of which could ultimately materially adversely affect our business or results of operations.

Legal, regulatory and compliance risks	Impact

Failure to adhere to applicable laws, rules and regulations

Our many business operations are subject to a wide range of laws, rules and regulations from governmental and non-governmental bodies around the world.

Any failure to comply with these applicable laws, rules and regulations may result in AstraZeneca being investigated by relevant agencies and authorities and/or in legal proceedings being filed against us. Such investigations or proceedings could result in us becoming subject to civil or criminal sanctions and/or being forced to pay fines or damages. Relevant authorities have wide-ranging administrative powers to deal with any failure to comply with continuing regulatory oversight and this could affect us, whether such failure is our own or that of our contractors or external partners. Moreover, such laws, rules and regulations are subject to change.

Material examples of statutes, rules and regulations impacting business operations include:

> Compliance with GMP.
> Local, national and international environmental and occupational health and safety laws and regulations.
> Trade control laws governing our imports and exports including nationally and internationally recognised trade agreements, embargoes, trade and economic sanctions and anti-boycott requirements.
> Competition and marketing laws.
> Rules and regulations established to promote ethical supply chain management.
> Financial regulations related to external financial reporting, taxation and anti-money laundering.
> Employment practices.
> Disclosure of payments to healthcare professionals under the Sunshine Act, relevant US State laws, and EFPIA legislation.
> Appropriate disclosure of community support, patient organisation support and product donations.
> Compliance with human rights and appropriate environmental practices of third-party contractors around the world including the conflict minerals rule in the US, and the UK Modern Slavery Act.

We have environmental and/or occupational health and safety-related liabilities at some current, formerly owned, leased and third-party sites. For more information on the most significant of these and for details on other significant litigation matters, refer to Note 29 to the Financial Statements from page 228.

Failure to comply with applicable laws, rules and regulations, to manage our liabilities, or to adequately anticipate or proactively manage emerging policy and legal developments could materially adversely affect our licence to operate or results of operations, adversely affect our reputation, cause harm to people or the environment, and/or lead to fines or other penalties.

For example, once a product has been approved for marketing by the regulatory authorities, it is subject to continuing control and regulation, such as the manner of its manufacture, distribution, marketing and safety surveillance. If regulatory issues concerning compliance with environmental, current GMP or safety monitoring regulations for pharmaceutical products (often referred to as pharmacovigilance) arise, this could lead to product recalls, loss of product approvals and seizures, and interruption of production, which could create product shortages and delays in new product approvals, and negatively impact patient access. As another example, violation of laws, rules, regulations or policies in countries subject to trade and economic sanctions could lead to loss of import or export privileges, civil or criminal penalties for us or our employees, or potential reputational harm, which could have a material adverse effect on our results of operations, financial condition or business.

Legal, regulatory and compliance risks	Impact
Failure to meet regulatory or ethical expectations on environmental impact, including climate change	
Delivering on our Ambition Zero Carbon strategy to reduce carbon emissions to zero in all our global operations by 2025 is one way in which we will mitigate our impact on the planet and the climate crisis. Another is ensuring that we adapt to the physical risks that climate change may pose to the resilience of our business and supply chain. The physical risks that climate change poses to our business have been screened and we expect exposure to periods of extreme heat, floods and water scarcity to become more frequent and severe in some regions where we operate, in the medium to longer term. These will need to be managed if global temperatures continue to rise.	There is an increasing global focus from regulators, investors, healthcare providers and broader society regarding measures needed to transition to a low carbon economy and the impact that this will have on business, i.e. transitional risks. In some markets, regulators or healthcare providers may choose not to approve or reimburse our products if other products with a better carbon footprint are available. In addition, carbon taxes and fees may be imposed on us and our suppliers as a way to reduce greenhouse gas emissions. AstraZeneca's Ambition Zero Carbon addresses these risks in a science-based way and will also open up opportunities from increased efficiency of using natural resources and market benefits from low carbon alternatives.
Safety and efficacy of marketed medicines is questioned	
Our ability to accurately assess, prior to launch, the eventual safety or efficacy of a new product once in broader clinical use, can only be based on data available at that time, which is inherently limited due to relatively short periods of product testing and relatively small clinical study patient samples. Any unforeseen safety concerns or adverse events relating to our products or failure to comply with laws, rules and regulations relating to provision of appropriate warnings concerning the dangers and risks of our products that result in injuries, could expose us to large product liability damages claims, settlements and awards, particularly in the US. Adverse publicity relating to the safety of a product or of other competing products may increase the risk of product liability claims. Details of material product liability litigation matters can be found in Note 29 to the Financial Statements from page 228.	Serious safety concerns or adverse events relating to our products could lead to product recalls, seizures, loss of product approvals, declining sales and interruption of supply and could materially adversely impact patient access, our reputation and financial revenues. Significant product liability claims could also arise, which could be costly, divert management attention, or damage our reputation and demand for our products. Unfavourable resolution of such current and similar future product liability claims could subject us to enhanced damages, consumer fraud and/or other claims, including civil and criminal governmental actions, requiring us to make significant provisions in our accounts relating to legal proceedings, and could materially adversely affect our financial condition or results of operations, particularly where such circumstances are not covered by insurance. For more information, see the limited third-party insurance coverage risk on page 266.

Legal, regulatory and compliance risks	Impact

Adverse outcome of litigation and/or governmental investigations

We may be subject to various product liability, consumer, commercial, anti-trust, environmental, employment or tax litigation or other legal proceedings and governmental investigations, including in relation to the proposed acquisition of Alexion. Litigation, particularly in the US, is inherently unpredictable and unexpectedly high awards for damages can result from an adverse verdict. In many cases, plaintiffs may claim enhanced damages in extremely high amounts. In particular, the marketing, promotional, clinical and pricing practices of pharmaceutical manufacturers, as well as the manner in which manufacturers interact with purchasers, prescribers and patients, are subject to extensive regulation, litigation and governmental investigation. Many companies, including AstraZeneca, have been subject to claims related to these practices asserted by federal and state governmental authorities and private payers and consumers, which have resulted in substantial expense and other significant consequences. Note 29 to the Financial Statements from page 228 describes the material legal proceedings in which we are currently involved.

Governmental investigations, for example under the US Foreign Corrupt Practices Act or federal or state False Claims Acts or other types of legal proceedings, regardless of their outcome, could be costly, divert management attention, or damage our reputation and demand for our products. Unfavourable resolution of current and similar future proceedings against us could subject us to criminal liability, fines, penalties or other monetary or non-monetary remedies, including enhanced damages, require us to make significant provisions in our accounts relating to legal proceedings and could materially adversely affect our business or results of operations.

Failure to adhere to increasingly stringent anti-bribery and anti-corruption legislation

There remains an increased global focus on the implementation and enforcement of anti-bribery and anti-corruption legislation.

Two relevant pieces of legislation include the UK Bribery Act and the US Foreign Corrupt Practices Act, and many other countries where we operate are also enforcing their own laws more aggressively and/or adopting tougher new measures. There has also been an increase in cooperation and coordination between regulators across countries with respect to investigation and enforcement.

We have been the subject of anti-corruption investigations and there can be no assurance that we will not, from time to time, be subject to informal enquiries and formal investigations from governmental agencies. In the context of our business, governmental officials interact with us in various roles that are important to our operations, such as in the capacity of a regulator, partner or healthcare payer, reimburser or prescriber, among others. To the extent we are the subject of any such pending and material matters, details are included in Note 29 to the Financial Statements from page 228.

Despite taking measures to prevent breaches of applicable anti-bribery and anti-corruption laws by our personnel and associated third parties, breaches may still occur, potentially resulting in the imposition of significant penalties, such as fines, the requirement to comply with monitoring or self-reporting obligations, or debarment or exclusion from government sales or reimbursement programmes, any of which could materially adversely affect our reputation, business or results of operations.

Economic and financial risks	Impact

Failure to achieve strategic plans or meet targets or expectations

From time to time, we communicate our business strategy or our targets or expectations regarding our future financial or other performance (for example, the expectations described in Future prospects in the Financial Review on page 96). All such statements are of a forward-looking nature and are based on assumptions and judgements we make, all of which are subject to significant inherent risks and uncertainties, including those that we are unaware of and/or that are beyond our control.

There can be no guarantee that our financial targets or expectations will materialise on the expected timeline or at all. Actual results may deviate materially and adversely from any such target or expectation, including if one or more of the assumptions or judgements underlying any such target or expectation proves to be incorrect in whole or in part.

Any failure to successfully implement our business strategy, whether determined by internal or external risk factors, may frustrate the achievement of our financial or other targets or expectations and, in turn, materially damage our brand and materially adversely affect our business, financial position or results of operations.

Failure in financial control or the occurrence of fraud

Effective internal controls are necessary to provide reliable financial reports and to prevent and detect fraud. Lapses in controls could undermine our ability to prevent fraud or provide accurate and timely disclosure of financial information. Testing of our internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of Financial Statements and may not prevent or detect misstatements or fraud.

Significant resources may be required to remediate any lapse or deficiency in internal controls.

Any such deficiency may trigger related investigations (e.g. by the SEC etc.) and may result in fines being levied against Group individual directors or officers.

Serious fraud may lead to potential prosecution or even imprisonment of senior management.

Economic and financial risks	Impact

Unexpected deterioration in the Group's financial position

In addition to the economic, regulatory and political pressures which have increased as a consequence of COVID-19 (see above), a wide range of financial risks could result in a material deterioration in the Group's financial position.

As a global business, currency fluctuations can significantly affect our results of operations, which are reported in US dollars. Approximately 33% and 21% of our global 2020 Product Sales were in the US and China respectively, which are expected to remain our largest two markets for the foreseeable future. Product Sales in other countries are predominantly in currencies other than the US dollar and the Chinese renminbi, including the euro, Japanese yen and pound sterling.

Our Consolidated Statement of Financial Position contains significant investments in intangible assets, including goodwill. The nature of the pharmaceutical business is high risk and requires that we invest in a large number of projects in an effort to develop a successful portfolio of approved products. Our ability to realise value on these significant investments is often contingent upon, among other things, regulatory approvals, market acceptance, competition and legal developments. As such, in the course of our many acquisitions and R&D activities, we expect that some of our intangible assets may become impaired and be written off.

Inherent variability of biologics manufacturing increases the risk of write-offs of product batches. Due to the value of the materials used, the carrying amount of biologics products is much higher than that of small molecule products. As we continue to grow our biologics business, we also increase the risk of potential impairment charges.

The costs associated with product liability litigation have increased the cost of, and narrowed the coverage afforded by, pharmaceutical companies' product liability insurance. To contain insurance costs, as of February 2006, we adjusted our product liability coverage profile, accepting uninsured exposure above $100 million. In addition, where claims are made under insurance policies, insurers may reserve the right to deny coverage on various grounds. Furthermore, some product liability litigation cases, for example those relating to *Byetta* and *Bydureon*, are not covered by traditional third-party product liability insurance. See Note 29 to the Financial Statements from page 228 for details.

The integrated nature of our worldwide operations can produce conflicting claims from revenue authorities as to the profits to be taxed in individual countries. The majority of the jurisdictions in which we operate have double tax treaties with other foreign jurisdictions, which provide a framework for mitigating the incidence of double taxation on our revenues and capital gains.

The Group's worldwide operations are taxed under laws in the jurisdictions in which they operate. International standards governing the global tax environment regularly change. The Organisation for Economic Co-operation and Development (OECD) has introduced a number of changes under the Base Erosion and Profit Shifting (BEPS) Action Plans which are now being progressively implemented by tax authorities around the world. During 2019 and 2020, it undertook a public consultation setting out alternatives for further potential actions, which would potentially include allocating taxing rights over a higher proportion of profits to end market jurisdictions and the introduction of a global minimum tax and is now working to seek a consensus amongst the Inclusive Framework members on those changes that should be implemented.

Our defined benefit pension obligations are largely backed by assets invested across the broad investment market. Our most significant obligations relate to defined benefit pension funds in the UK, Sweden and the US. The largest obligation is in the UK.

Movements in the exchange rates used to translate foreign currencies into US dollars may materially adversely affect our financial condition or results of operations. Some of our subsidiaries import and export goods and services in currencies other than their own functional currency, and so the financial results of such subsidiaries could be affected by currency fluctuations arising between the transaction and settlement dates. In addition, there are foreign exchange differences arising on the translation of investments in subsidiaries.

We have significant investments in goodwill and intangible assets as a result of our acquisitions of various businesses and our purchases of certain assets, such as product development and marketing rights. Impairment losses may materially adversely affect our financial condition or results of operations. Details of the carrying values of goodwill and intangible assets, and the estimates and assumptions we make in our impairment testing, are included in Notes 8 and 9 to the Financial Statements from page 196.

Financial liabilities arising due to product liability or other litigation, in respect of which we do not have insurance coverage, or if an insurer's denial of coverage is ultimately upheld, could require us to make significant provisions relating to legal proceedings and could materially adversely affect our financial condition or results of operations.

For more information, see the Adverse outcome of litigation and/or governmental investigations risk on page 265.

The resolution of tax disputes regarding the profits to be taxed in individual territories can result in a reallocation of profits or losses between jurisdictions and an increase or decrease in related tax costs, and has the potential to affect our cash flows, EPS and post-tax earnings. Claims, regardless of their merits or their outcome, are costly, divert management attention and may adversely affect our reputation.

If any double tax treaties are withdrawn or amended, especially in a territory where a member of the AstraZeneca Group is involved in a taxation dispute with a tax authority in relation to cross-border transactions, such withdrawal or amendment could materially adversely affect our financial condition or results of operations, as could a negative outcome of a tax dispute or a failure by tax authorities to agree to eliminate double taxation through competent authority proceedings. Changes to the application of double tax treaties, as a result of the Parent Company of the Group no longer being an EU entity following Brexit, could also result in adverse consequences such as those described above. See the Financial risk management policies section of the Financial Review on page 96 for tax risk management policies and Note 29 to the Financial Statements from page 228 for details of current tax disputes.

Changes in tax regimes, such as those relating to the US federal tax regime which were effective from 1 January 2018, could result in a material impact on the Group's cash tax liabilities and tax charge, resulting in either an increase or a reduction in financial results depending upon the nature of the change. We represent views to the OECD, governments and tax authorities through public consultations to ensure international institutions and governments understand the business implications of proposed law changes. Specific OECD BEPS recommendations that we expect to impact the Group include changes to patent box regimes, restrictions of interest deductibility and revised transfer pricing guidelines.

Sustained falls in asset values could reduce pension fund solvency levels, which may result in requirements for additional cash, restricting the cash available for our business. Changes to funding regulations for defined benefit pensions may also result in a requirement for additional cash contributions by the Group. If the present value of the liabilities increases due to a sustained low interest rate environment, an increase in expectations of future inflation, or an improvement in member longevity (above that already assumed), this could also reduce pension fund solvency ratios. The likely increase in the IAS 19 'Employee Benefits' accounting deficit generated by any of these factors may cause the credit rating agencies to review our credit rating, with the potential to negatively affect our ability to raise debt and the price of new debt issuances. See Note 22 to the Financial Statements from page 209 for further details of the Group's pension obligations.

Shareholder Information

The principal markets for trading in AstraZeneca shares are the London Stock Exchange, Nasdaq Stockholm and the Nasdaq Global Select Market (Nasdaq). AstraZeneca shares were listed on Nasdaq on 25 September 2020, prior to which they were listed on the New York Stock Exchange. Ordinary Shares of $0.25 each in AstraZeneca PLC are listed on the London Stock Exchange and the shareholder register is maintained by Equiniti Limited, the Ordinary Share registrar. Shares listed on Nasdaq Stockholm are issued under the Euroclear Services Agreement by Euroclear Sweden AB, the Swedish Central Securities Depositary. Shares listed on Nasdaq are in the form of American Depositary Shares (ADSs), evidenced by American Depositary Receipts (ADRs) issued by the Company's ADR depositary, Deutsche Bank Trust Company Americas (Deutsche Bank). Deutsche Bank replaced Citibank, N.A. as the Company's ADR depositary on 6 February 2020. Two ADSs are equivalent to one Ordinary Share. Before 27 July 2015, the ratio was one ADS per one Ordinary Share. Shares are listed on all three markets under the stock symbol AZN.

Ordinary Share registrar

Equiniti Limited
Aspect House
Spencer Road
Lancing
West Sussex
BN99 6DA
UK
Tel (Freephone in UK): +44 (0)800 389 1580
Tel (outside UK): +44 (0)121 415 7033

Swedish Central Securities Depositary

Euroclear Sweden AB
PO Box 191
SE-101 23 Stockholm
Sweden
Tel: +46 (0)8 402 9000

ADR depositary

Deutsche Bank Trust Company Americas
c/o American Stock Transfer & Trust Company, LLC
6201 15th Avenue
Brooklyn NY 11219
USA
Tel (toll free in the US): +1 (888) 697 8018
Tel (outside US): +1 (718) 921 8137
db@astfinancial.com

Annual General Meeting (AGM)

The 2021 AGM will be held on 30 April 2021 and further details will be set out in the Notice of Meeting.

If you hold shares listed in Stockholm or hold ADRs, information relating to voting and attendance, will be included in the relevant Notice of AGM.

If you hold your shares through a nominee, your nominee provider will be able to advise you of their arrangements in relation to voting and attendance.

US corporate governance requirements

Our ADSs are traded on Nasdaq and, accordingly, we are subject to the reporting and other requirements of the SEC applicable to foreign private issuers. Section 404 of the Sarbanes-Oxley Act requires companies to include in their annual report on Form 20-F filed with the SEC, a report by management stating its responsibility for establishing internal control over financial reporting and to assess annually the effectiveness of such internal control. We have complied with those provisions of the Sarbanes-Oxley Act applicable to foreign private issuers.

The Board continues to believe that the Group has a sound corporate governance framework, good processes for the accurate and timely reporting of its financial position and results of operations, and an effective and robust system of internal controls. We have established a Disclosure Committee, further details of which can be found in the Corporate Governance Report on page 118.

The Directors' assessment of the effectiveness of internal control over financial reporting is set out in the Directors' Annual Report on Internal Controls over Financial Reporting on page 169.

We are required to disclose any significant ways in which our corporate governance practices differ from those followed by US companies under the Nasdaq Corporate Governance Requirements. In addition, we must comply fully with the provisions of the Nasdaq Corporate Governance Requirements relating to the composition, responsibilities and operation of audit committees, applicable to foreign private issuers. These provisions incorporate the rules concerning audit committees implemented by the SEC under the Sarbanes-Oxley Act. We have reviewed the corporate governance practices required to be followed by US companies under the Nasdaq Corporate Governance Requirements and our corporate governance practices are generally consistent with those standards.

Dividends

Dividend dates for 2021 are shown in the financial calendar on page 268. A first interim dividend is normally announced in July/August and paid in September and a second interim dividend is normally announced in January/February and paid in March. Dividends are paid in GBP, SEK and USD, depending on where the eligible shares are listed. Further information on dividends declared can be found in the Shareholder Information section of the website, www.astrazeneca.com.

Shareholders holding Ordinary Shares directly may opt for dividends to be paid straight to their bank or building society account, rather than being paid by cheque. To elect for this swift and secure method of payment, contact the Ordinary Share registrar, visit www.shareview.co.uk or fill in the mandate form that will be sent to you with your next dividend cheque. If you hold shares listed in Stockholm, you should contact your personal bank/broker or, if you hold a VP account, contact the bank that services your VP account. If you hold ADRs directly you should contact American Stock Transfer & Trust Company, LLC (the ADR transfer agent). If you hold your shares through a nominee, you should direct any queries relating to your shareholding and dividend payments to the nominee provider.

Shareholder communications

Copies of shareholder communications and annual reports are available on our website, www.astrazeneca.com. If you hold Ordinary Shares directly, currently receive hard copies of shareholder communications and/or the annual report and would rather receive these documents electronically, you can manage your communication preferences at www.shareview.co.uk or by contacting the Ordinary Share registrar. If your record on the Ordinary Share register has been duplicated you may receive multiple copies of shareholder communications. If this is the case, please contact the Ordinary Share registrar so that this can be rectified.

Holders of shares listed in Stockholm should contact Computershare AB, PO Box 5267, 102 46 Stockholm, Sweden (Tel: +46 (0)771 24 64 00) and holders of ADRs should contact the ADR depositary or their personal broker with queries relating to shareholder communications.

Shareview

Holders of Ordinary Shares may create a portfolio at www.shareview.co.uk to view and manage their AstraZeneca shareholding. Shareview is a free and secure online service provided by the Ordinary Share registrar that allows users to, among other things, update personal details, manage communication preferences, view dividend information and manage direct dividend payments.

ShareGift

Shareholders that hold only a small number of shares, the value of which makes it uneconomical to sell them, may wish to consider donating them to charity through ShareGift, an independent charity share donation scheme (registered charity number 1052686). Further information about ShareGift can be found on its website at www.sharegift.org or by calling +44 (0)20 7930 3737.

Shareholder Information
continued

Shareholder fraud warning
Shareholders of AstraZeneca and many other companies have reported receiving unsolicited calls and correspondence relating to their shareholdings and investment matters. Shareholders are advised to be very cautious of any unsolicited approaches and to note that reputable firms authorised by the Financial Conduct Authority (FCA) are very unlikely to make such approaches. Such approaches are likely to be part of a 'boiler room scam' attempting to defraud shareholders.

Shareholders are advised to familiarise themselves with the information on scams available on the FCA website, www.fca.org.uk/consumers and within the FAQs in the Investors section of our website, www.astrazeneca.com.

Any suspected scams or fraudulent approaches should be reported to the FCA via its website and to AstraZeneca's Ordinary Share registrar, using the contact details on page 267.

Related party transactions
During the period 1 January 2021 to 31 January 2021, there were no transactions, loans, or proposed transactions between the Company and any related parties which were material to either the Company or the related party, or which were unusual in their nature or conditions (see also Note 30 to the Financial Statements on page 233).

Documents on display
The Articles and other documents concerning the Company which are referred to in this Annual Report may be inspected at the Company's registered office at 1 Francis Crick Avenue, Cambridge Biomedical Campus, Cambridge CB2 0AA, UK.

Property
Substantially all of our properties are held freehold, free of material encumbrances and are fit for their purpose. For more information, please refer to Note 7 to the Group Financial Statements on page 195.

Investor Relations
www.astrazeneca.com/investors
irteam@astrazeneca.com
Tel (UK): +44 (0)20 3749 5824
Tel (toll free in the US): +1 (866) 381 7277

Financial calendar

Event	Provisional date
Second interim dividend for 2020	
Ex-dividend date	25 February 2021
Record date	26 February 2021
Payment date	29 March 2021
Announcement of first quarter results for 2021	30 April 2021
Annual General Meeting (AGM)	30 April 2021
Announcement of second quarter and half-year results for 2021	29 July 2021
First interim dividend for 2021	
Ex-dividend date	12 August 2021
Record date	13 August 2021
Payment date	13 September 2021
Announcement of third quarter results for 2021	12 November 2021
Financial year end	31 December 2021

History and development of the Company
AstraZeneca PLC was incorporated in England and Wales on 17 June 1992 under the Companies Act 1985. It is a public limited company domiciled in the UK. The Company's registered number is 2723534 and its registered office is at 1 Francis Crick Avenue, Cambridge Biomedical Campus, Cambridge CB2 0AA, UK (Tel: +44 (0)20 3749 5000). From February 1993 until April 1999, the Company was called Zeneca Group PLC. On 6 April 1999, the Company changed its name to AstraZeneca PLC.

The Company was formed when the pharmaceutical, agrochemical and specialty chemical businesses of Imperial Chemical Industries PLC were demerged in 1993. In 1999, the Company sold the specialty chemical business. Also in 1999, the Company merged with Astra of Sweden. In 2000, it demerged the agrochemical business and merged it with the similar business of Novartis to form a new company called Syngenta AG. In 2007, the Group acquired MedImmune, a biologics and vaccines business based in the US.

In 1999, in connection with the merger between Astra and Zeneca, the Company's share capital was redenominated in US dollars. On 6 April 1999, Zeneca shares were cancelled and US dollar shares issued, credited as fully paid on the basis of one dollar share for each Zeneca share then held.

This was achieved by a reduction of capital under section 135 of the Companies Act 1985. Upon the reduction of capital becoming effective, all issued and unissued Zeneca shares were cancelled and the sum arising as a result of the share cancellation credited to a special reserve, which was converted into US dollars at the rate of exchange prevailing on the record date. This US dollar reserve was then applied in paying up, at par, newly created US dollar shares.

At the same time as the US dollar shares were issued, the Company issued 50,000 Redeemable Preference Shares for cash, at par. The Redeemable Preference Shares carry limited class voting rights, no dividend rights and are capable of redemption, at par, at the option of the Company on the giving of seven days' written notice to the registered holder of the Redeemable Preference Shares.

A total of 826 million Ordinary Shares were issued to Astra shareholders who accepted the merger offer before the final closing date, 21 May 1999. The Company received acceptances from Astra shareholders representing 99.6% of Astra's shares and the remaining 0.4% was acquired in 2000, for cash.

Conflicts of interest
The Articles enable the Directors to authorise any situation in which a Director has an interest that conflicts or has the potential to conflict with the Company's interests and which would otherwise be a breach of the Director's duty, under Section 175 of the Companies Act 2006. The Board has a formal system in place for Directors to declare such situations to be considered for authorisation by those Directors who have no interest in the matter being considered.

In deciding whether to authorise a situation, the non-conflicted Directors must act in the way they consider, in good faith, would be most likely to promote the success of the Company, and they may impose limits or conditions when giving the authorisation, or subsequently, if they think this is appropriate. Situations considered by the Board and authorisations given are recorded in the Board minutes and in a register of conflicts maintained by the Company Secretary and are reviewed annually by the Board. The Board believes that this system operates effectively.

Issued share capital, shareholdings and share prices

At 31 December 2020, the Company had 76,919 registered holders of 1,312,668,724 Ordinary Shares. There were 173,021 holders of Ordinary Shares held under the Euroclear Services Agreement, representing 11.4% of the issued share capital of the Company and 1,727 registered holders of ADSs, representing 17.5% of the issued share capital of the Company. Information on the Company's share price, including historical closing prices and volumes, and an interactive share price graph can be found on the Investor Relations page on our website, www.astrazeneca.com.

Ordinary Shares in issue

	2020	2019	2018	2017	2016
Ordinary Shares in issue – millions					
At year end	**1,313**	1,312	1,267	1,266	1,265
Weighted average for year	**1,312**	1,301	1,267	1,266	1,265
Stock market price per Ordinary Share (London Stock Exchange)					
Highest (pence)	**9320.0**	7808.0	6317.0	5508.0	5220.0
Lowest (pence)	**6221.0**	5325.0	4712.5	4194.0	3774.0
At year end (pence)	**7324.0**	7607.0	5873.0	5121.0	4437.5

Analysis of shareholdings as a percentage of issued share capital at 31 December

Number of Ordinary Shares[1]	**2020 %**	2019 %	2018 %	2017 %	2016 %
1 – 250	**0.4**	0.4	0.4	0.5	0.5
251 – 500	**0.4**	0.5	0.5	0.5	0.5
501 – 1,000	**0.5**	0.5	0.5	0.6	0.6
1,001 – 5,000	**0.7**	0.7	0.8	0.8	0.8
5,001 – 10,000	**0.2**	0.2	0.2	0.2	0.2
10,001 – 50,000	**1.1**	1.0	1.0	1.0	0.9
50,001 – 1,000,000	**11.2**	11.2	12.1	11.9	12.3
Over 1,000,000	**85.5**	85.5	84.5	84.5	84.2

[1] Includes Euroclear and ADR holdings.

US holdings

At 31 January 2021, the proportion of Ordinary Shares represented by ADSs was 15.6% of the issued share capital of the Company. At 31 January 2021, there were 76,887 registered holders of Ordinary Shares, of which 638 were based in the US and there were 1,724 record holders of ADRs, of which 1,705 were based in the US.

Tax information for shareholders

Taxation for US persons

The following summary of material UK and US federal income tax consequences of ownership of Ordinary Shares or ADRs held as capital assets by the US holders described below is based on current UK and US federal income tax law, including the US/UK double taxation convention relating to income and capital gains, which entered into force on 31 March 2003 (the Convention). This summary does not describe all of the tax consequences that may be relevant in light of the US holders' particular circumstances and tax consequences applicable to US holders subject to special rules (such as certain financial institutions, insurance companies, entities treated as partnerships for US federal income tax purposes, persons whose functional currency for US federal income tax purposes is not the US dollar, tax-exempt entities, persons holding Ordinary Shares or ADRs as part of a straddle, hedge or integrated transaction, dealers or traders in securities that use a mark-to-market method of tax accounting, persons that own directly, indirectly or constructively ADRs or Ordinary Shares representing 10% or more of our voting power or value, persons subject to alternative minimum tax, persons subject to the Medicare contribution tax on 'net investment income', or persons holding Ordinary Shares or ADRs in connection with a trade or business conducted outside of the US). US holders are urged to consult their tax advisers regarding the UK and US federal income tax consequences of the ownership and disposition of Ordinary Shares or ADRs in their particular circumstances.

This summary is based in part on representations of the depositary for ADRs and assumes that each obligation in the deposit agreement among the Company and the depositary and the holders from time to time of ADRs and any related agreements will be performed in accordance with its terms. The US Treasury has expressed concerns that parties to whom American depositary shares are released before shares are delivered to the depositary (pre-release), or intermediaries in the chain of ownership between holders and the issuer of the security underlying the American depositary shares, may be taking actions that are inconsistent with the claiming, by US holders of American depositary shares, of foreign tax credits for US federal income tax purposes. Such actions would also be inconsistent with the claiming of the reduced tax rates, described below, applicable to dividends received by certain non-corporate US holders. Accordingly, the availability of the reduced tax rates for dividends received by certain non-corporate US holders could be affected by actions that may be taken by parties to whom ADRs are pre-released.

For the purposes of this summary, the term 'US holder' means a beneficial owner of Ordinary Shares or ADRs that is, for US federal income tax purposes, a citizen or resident of the US, a corporation (or other entity taxable as a corporation) created or organised in or under the laws of the US, any state in the US or the District of Columbia, or an estate or trust, the income of which is subject to US federal income taxation regardless of its source.

This summary assumes that we are not, and will not become, a passive foreign investment company, as discussed below.

For US federal income tax purposes, a holder of ADRs generally will be treated as the owner of the underlying Ordinary Shares. Accordingly, deposits or withdrawals of Ordinary Shares for ADRs will not be subject to US federal income tax.

UK and US income taxation of dividends

The UK does not currently impose a withholding tax on dividends paid by a UK company, such as the Company.

For US federal income tax purposes, distributions paid by the Company to a US holder are included in gross income as foreign source ordinary dividend income to the extent paid out of the Company's current or accumulated earnings and profits, calculated in accordance with US federal income tax principles. The Company does not maintain calculations of its earnings and profits under US federal income tax principles and so it is expected that distributions generally will be reported to US holders as dividends. For any dividend paid in a foreign currency, the amount of the dividend will, in the case of ADRs, be the US dollar value of the foreign currency payment received by the depositary determined at the spot rate of the relevant foreign currency on the date the dividend is received by the depositary (or, in the case of Ordinary Shares, the US dollar value of the foreign currency payment received by the US holders, determined at the spot rate of the relevant foreign currency on the date the dividend is received by the US holders, regardless of whether the dividend is converted into US dollars). Dividends will not be eligible for the dividends received deduction generally available to US corporations.

If the dividend is converted into US dollars on the date of receipt, US holders of Ordinary Shares generally should not be required to recognise foreign currency gains or losses in respect of the dividend income. They may have foreign currency gain or loss (which would be US source and taxable at the rates applicable to ordinary income) if the amount of such dividend is converted into US dollars after the date of its receipt.

Subject to applicable limitations and the discussion above regarding concerns expressed by the US Treasury, dividends received by certain non-corporate US holders of Ordinary Shares or ADRs may be taxable at favourable US federal income tax rates. US holders should consult their own tax advisers to determine whether they are subject to any special rules which may limit their ability to be taxed at these favourable rates.

Taxation on capital gains

Under present English law, individuals who are neither resident nor ordinarily resident in the UK, and companies which are not resident in the UK, will not be liable for UK tax on capital gains made on the disposal of their Ordinary Shares or ADRs, unless such Ordinary Shares or ADRs are held in connection with a trade, profession or vocation carried on in the UK through a branch or agency or other permanent establishment.

A US holder will generally recognise US source capital gains or losses for US federal income tax purposes on the sale or exchange of Ordinary Shares or ADRs in an amount equal to the difference between the US dollar amount realised and such holder's US dollar tax basis in the Ordinary Shares or ADRs. US holders should consult their own tax advisers about the treatment of capital gains, which may be taxed at lower rates than ordinary income for non-corporate US holders, and capital losses, the deductibility of which may be subject to limitations.

Passive Foreign Investment Company (PFIC) rules

We believe that we were not a PFIC for US federal income tax purposes for the year ended 31 December 2020. However, since PFIC status depends on the composition of our income and assets, and the market value of our assets (including, among others, less than 25% owned equity investments), from time to time, there can be no assurance that we will not be considered a PFIC for any taxable year. If we were treated as a PFIC for any taxable year during which Ordinary Shares or ADRs were held, certain adverse tax consequences could apply to US holders.

Information reporting and backup withholding

Payments of dividends and sales proceeds that are made within the US or through certain US-related financial intermediaries may be subject to information reporting and backup withholding, unless: (i) the US holder is a corporation or other exempt recipient; or (ii) in the case of backup withholding, the US holder provides a correct taxpayer identification number and certifies that it is not subject to backup withholding. The amount of any backup withholding from a payment to a US holder will be allowed as a credit against the holder's US federal income tax liability and may entitle the holder to a refund, provided that the required information is timely supplied to the US Internal Revenue Service (IRS).

Certain US holders who are individuals (or certain specified entities) may be required to report information relating to securities issued by non-US persons (or foreign accounts through which the securities are held), generally on IRS Form 8938, subject to certain exceptions (including an exception for securities held in accounts maintained by US financial institutions). US holders should consult their tax advisers regarding their reporting obligations with respect to the Ordinary Shares or ADRs.

UK inheritance tax

Under the current Double Taxation (Estates) Convention (the Estate Tax Convention) between the US and the UK, Ordinary Shares or ADRs held by an individual shareholder who is domiciled for the purposes of the Estate Tax Convention in the US, and is not for the purposes of the Estate Tax Convention a national of the UK, will generally not be subject to UK inheritance tax on the individual's death or on a chargeable gift of the Ordinary Shares or ADRs during the individual's lifetime, provided that any applicable US federal gift or estate tax liability is paid, unless the Ordinary Shares or ADRs are part of the business property of a permanent establishment of the individual in the UK or, in the case of a shareholder who performs independent personal services, pertain to a fixed base situated in the UK. Where the Ordinary Shares or ADRs have been placed in trust by a settlor who, at the time of settlement, was a US-domiciled shareholder, the Ordinary Shares or ADRs will generally not be subject to UK inheritance tax unless the settlor, at the time of settlement, was a UK national, or the Ordinary Shares or ADRs are part of the business property of a permanent establishment of the individual in the UK or, in the case of a shareholder who performs independent personal services, pertain to a fixed base situated in the UK. In the exceptional case where the Ordinary Shares or ADRs are subject to both UK inheritance tax and US federal gift or estate tax, the Estate Tax Convention generally provides for double taxation to be relieved by means of credit relief.

UK stamp duty reserve tax and stamp duty

A charge to UK stamp duty or UK stamp duty reserve tax (SDRT) may arise on the deposit of Ordinary Shares in connection with the creation of ADRs. The rate of stamp duty or SDRT will generally be 1.5% of the value of the consideration or, in some circumstances, the value of the Ordinary Shares. HMRC accept that this is a breach of EU law and there is no 1.5% SDRT charge on the issue of Ordinary Shares (or, where it is integral to the raising of new capital, the transfer of Ordinary Shares) into the ADR arrangement and it was confirmed in the Autumn 2017 Budget that the Government intend to continue this approach following Brexit.

No UK stamp duty will be payable on the acquisition or transfer of existing ADRs provided that any instrument of transfer or written agreement to transfer is executed outside the UK and remains at all times outside the UK. An agreement for the transfer of ADRs will not give rise to a liability for SDRT.

A transfer of, or an agreement to transfer, Ordinary Shares will generally be subject to UK stamp duty or SDRT at 0.5% of the amount or value of any consideration, provided, in the case of stamp duty, it is rounded up to the nearest £5.

Transfers of Ordinary Shares into CREST will generally not be subject to stamp duty or SDRT, unless such a transfer is made for a consideration in money or money's worth, in which case a liability to SDRT will arise, usually at the rate of 0.5% of the value of the consideration. Paperless transfers of Ordinary Shares within CREST are generally liable to SDRT at the rate of 0.5% of the value of the consideration. CREST is obliged to collect SDRT from the purchaser on relevant transactions settled within the system.

Exchange controls and other limitations affecting security holders

There are no governmental laws, decrees or regulations in the UK restricting the import or export of capital or affecting the remittance of dividends, interest or other payments to non-resident holders of Ordinary Shares or ADRs.

There are no limitations under English law or the Articles on the right of non-resident or foreign owners to be the registered holders of, or to exercise voting rights in relation to, Ordinary Shares or ADRs or to be registered holders of notes or debentures of the Company or its wholly owned subsidiary, Zeneca Wilmington Inc.

Exchange rates

The following information relating to average and spot exchange rates used by AstraZeneca is provided for convenience:

	SEK/USD	USD/GBP
Average rates (statement of comprehensive income, statement of cash flows)		
2020	**9.3184**	**1.2763**
2019	9.3980	1.2678
2018	8.6419	1.3405
End of year spot rates (statement of financial position)		
2020	**8.1999**	**1.3650**
2019	9.3550	1.3133
2018	8.9537	1.2743

Directors' Report

The Directors' Report includes information required to be given in accordance with the Companies Act 2006.

Relevant information as set out below, which is contained elsewhere in the Annual Report, is incorporated by cross reference herein.

Subsidiaries and principal activities

The Company is the holding company for a group of subsidiaries whose principal activities are described in this Annual Report. The Group's subsidiaries and their locations are set out in Group Subsidiaries and Holdings in the Financial Statements from page 234.

Branches and countries in which the Group conducts business

In accordance with the Companies Act 2006, we disclose below our subsidiary companies that have representative or scientific branches/offices outside the UK:

- AstraZeneca UK Limited: Algeria (scientific office), Angola, Chile, Costa Rica, Croatia, Cuba, Dubai (branch office), Georgia, Ghana (scientific office), Jordan, Kazakhstan, Lebanon, Romania, Russia, Saudi Arabia (scientific office), Serbia, Slovenia (branch office), Syria, Ukraine and Yemen (scientific office)
- AstraZeneca AB: Egypt (scientific office) and Slovakia (branch office)
- AstraZeneca Singapore Pte Limited: Vietnam
- Astra Export & Trading AB: United Arab Emirates (branch office).

Disclosure of information to auditors

The Directors who held office at the date of approval of this Annual Report confirm that, so far as they are each aware, there is no relevant audit information of which the Company's auditors are unaware; and each Director has taken all the steps that he or she ought to have taken as a Director to make himself or herself aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

Going concern accounting basis

Information on the business environment in which AstraZeneca operates, including the factors underpinning the industry's future growth prospects, is included in the Strategic Report. Details of the product portfolio of the Group are contained in both the Strategic Report (in the Therapy Area Review from page 30) and the Directors' Report. Information on patent expiry dates for key marketed products is included in Patent Expiries of Key Marketed Products from page 251. Our approach to product development and our development pipeline are also covered in detail with additional information by therapy area in the Strategic Report.

The financial position of the Group, its cash flows, liquidity position and borrowing facilities are described in the Financial Review from page 82. In addition, Note 27 to the Financial Statements from page 219 includes the Group's objectives, policies and processes for managing capital; financial risk management objectives; details of its financial instruments and hedging activities; and its exposures to credit, market and liquidity risk. Further details of the Group's cash balances and borrowings are included in Notes 16 and 18 to the Financial Statements from page 204.

Having assessed the Principal Risks and other matters considered in connection with the Viability statement on page 78, the Board considers it appropriate to adopt the going concern basis of accounting in preparing the Annual Report and Financial Statements.

Shares

For more information, see Issued share capital, shareholdings and share prices on page 269.

A shareholders' resolution was passed at the 2020 AGM authorising the Company to purchase its own shares. The Company did not purchase any of its own shares in 2020. On 31 December 2020, the Company did not hold any shares in treasury.

Rights, preferences and restrictions attaching to shares

As at 31 December 2020, the Company had 1,312,668,724 Ordinary Shares and 50,000 Redeemable Preference Shares in issue. The Ordinary Shares represent 99.98% and the Redeemable Preference Shares represent 0.02% of the Company's total share capital (these percentages have been calculated by reference to the 8am WM/Reuters USD/GBP exchange rate on 31 December 2020).

As agreed by the shareholders at the Company's AGM held on 29 April 2010, the Articles were amended with immediate effect to remove the requirement for the Company to have an authorised share capital, the concept of which was abolished under the Companies Act 2006. Each Ordinary Share carries the right to vote at general meetings of the Company. The rights and restrictions attaching to the Redeemable Preference Shares differ from those attaching to Ordinary Shares as follows:

- The Redeemable Preference Shares carry no rights to receive dividends.
- The holders of Redeemable Preference Shares have no rights to receive notices of, attend or vote at general meetings except in certain limited circumstances. They have one vote for every 50,000 Redeemable Preference Shares held.
- On a distribution of assets of the Company, on a winding-up or other return of capital (subject to certain exceptions), the holders of Redeemable Preference Shares have priority over the holders of Ordinary Shares to receive the capital paid up on those shares.
- Subject to the provisions of the Companies Act 2006, the Company has the right to redeem the Redeemable Preference Shares at any time on giving not less than seven days' written notice.

There are no specific restrictions on the transfer of shares in the Company, which is governed by the Articles and prevailing legislation.

The Company is not aware of any agreements between holders of shares that may result in restrictions on the transfer of shares or that may result in restrictions on voting rights. The Company is also not aware of any arrangements under which financial rights are held by a person other than the holder of the shares.

Action necessary to change the rights of shareholders

In order to vary the rights attached to any class of shares, the consent in writing of the holders of three quarters in nominal value of the issued shares of that class or the sanction of a special resolution passed at a general meeting of such holders is required.

Changes in share capital

Changes in the Company's Ordinary Share capital during 2020, including details of the allotment of new shares under the Company's share plans, are given in Note 24 to the Financial Statements on page 217.

Directors' and officers' shareholdings

At 31 January 2021, the total amount of the Company's voting securities owned by Directors and officers of the Company was:

Title of class	Amount owned	Percentage of class
Ordinary Shares	**582,432**	**0.04**

Options to purchase securities from registrant or subsidiaries

(a) At 31 January 2021, options outstanding to subscribe for Ordinary Shares were:

Number of shares	Subscription price (pence)	Normal expiry date
1,234,490	**3307-6839**	2020-2026

The weighted average subscription price of options outstanding at 31 January 2021 was 5386 pence. All options were granted under Company employee share schemes.

(b) Included in paragraph (a) are options granted to officers of the Company as follows:

Number of shares	Subscription price (pence)	Normal expiry date
526	**6839**	2024

(c) During 2020, no options were held by Directors.

During the period 1 January 2021 to 31 January 2021, no Director was granted or exercised any options.

Major shareholdings

At 31 December 2020, the following persons had disclosed an interest in the issued Ordinary Share capital of the Company in accordance with the requirements of rules 5.1.2 or 5.1.5 of the UK Listing Authority's Disclosure Guidance and Transparency Rules:

Shareholder	Number of Ordinary Shares	Date of disclosure to Company[1]	**Number of Ordinary Shares disclosed as a percentage of issued share capital at 31 December 2020**
BlackRock, Inc.	100,885,181	4 December 2009	**7.69**
Investor AB	51,587,810	3 April 2019	**3.93**
The Capital Group Companies, Inc.	63,802,495	17 July 2018	**4.86**
Wellington Management Group LLP[2]	65,120,892	21 July 2020	**4.96**
Wellington Management Company LLP[2]	65,118,411	21 July 2020	**4.96**

[1] Since the date of disclosure to the Company, the interest of any person listed above in Ordinary Shares may have increased or decreased. No requirement to notify the Company of any increase or decrease arises unless the holding passes a notifiable threshold in accordance with rules 5.1.2 or 5.1.5 of the UK Listing Authority's Disclosure Guidance and Transparency Rules.

[2] The Company was notified at the time of the disclosure that Wellington Management Company LLP was a subsidiary of Wellington Management Group LLP and that the shareholding percentage notified by Wellington Management Company LLP was included within the aggregate shareholding percentage notified by Wellington Management Group LLP.

So far as the Company is aware, no other person held a notifiable interest in the issued Ordinary Share capital of the Company. No changes to major shareholdings were disclosed to the Company between 31 December 2020 and 31 January 2021.

Changes in the percentage ownerships disclosed by major shareholders during the past three years are set out below. Major shareholders do not have different voting rights.

Shareholder	**31 January 2021**	31 January 2020	31 January 2019	31 January 2018
BlackRock, Inc.	**7.69**	7.69	7.96	7.97
Investor AB	**3.93**	3.93	4.07	4.07
The Capital Group Companies, Inc.	**4.86**	4.86	5.04	4.98
Wellington Management Group LLP	**5.89**	5.89	–	–
Wellington Management Company LLP	**5.88**	5.88	–	–

So far as the Company is aware, it is neither directly nor indirectly owned or controlled by one or more corporations or by any government.

The Company does not know of any arrangements, the operation of which might result in a change in the control of the Company.

Distributions to shareholders – dividends for 2020

Details of our distribution policy are set out in the Financial Review from page 82 and Notes 24 and 25 to the Financial Statements from page 217.

The Company's dividend for 2020 of $2.80 (207.0 pence, SEK 23.63) per Ordinary Share amounts to, in aggregate, a total dividend payment to shareholders of $3,669 million. Two employee share trusts, AstraZeneca Employee Benefit Trust and AstraZeneca Share Retention Trust, waived their rights to a dividend on the Ordinary Shares they hold and instead received nominal dividends.

For more information, see Financial calendar on page 268.

Articles of Association

AstraZeneca PLC's current Articles were adopted by shareholders at the Company's AGM held on 18 May 2018. Any amendment to the Articles requires the approval of shareholders by a special resolution at a general meeting of the Company.

Objects

The Company's objects are unrestricted.

Directors

The Board has the authority to manage the business of the Company, for example, through powers to allot and repurchase its shares, subject where required to shareholder resolutions. Subject to certain exceptions, Directors do not have power to vote at Board meetings on matters in which they have a material interest.

The quorum for meetings of the Board is a majority of the full Board, of whom at least four must be Non-Executive Directors. In the absence of a quorum, the Directors do not have power to determine compensation arrangements for themselves or any member of the Board.

The Board may exercise all the powers of the Company to borrow money. Variation of these borrowing powers would require the passing of a special resolution of the Company's shareholders.

All Directors must retire from office at the Company's AGM each year and may present themselves for election or re-election. Directors are not prohibited, upon reaching a particular age, from submitting themselves for election or re-election.

For more information on the Directors, see Board of Directors on pages 104 and 105.

General meetings

AGMs require 21 clear days' notice to shareholders. Subject to the Companies Act 2006, other general meetings require 14 clear days' notice.

For all general meetings, a quorum of two shareholders present in person or by proxy, and entitled to vote on the business transacted, is required unless each of the two persons present is a corporate representative of the same corporation, or each of the two persons present is a proxy of the same shareholder.

Shareholders and their duly appointed proxies and corporate representatives are entitled to be admitted to general meetings.

Limitations on the rights to own shares

There are no limitations on the rights to own shares.

Gender Diversity

	Directors of the Company's subsidiaries*
Men	209 (64%)
Women	144 (36%)
Total	**353**

	Senior Executive Team*
Men	8 (67%)
Women	4 (33%)
Total	**12**

All numbers as at 31 December 2020.

* For the purposes of section 414C(8)(c)(ii) of the Companies Act 2006, 'Senior Managers' are the Senior Executive Team (SET), the directors of all of the subsidiaries of the Company and other individuals holding named positions within those subsidiaries.

Stakeholder engagement

The discussion on stakeholder engagement and the impact of these interactions is contained in Connecting with our Stakeholders from page 110 and throughout the Strategic Report. This includes engagement with our employees, suppliers, and other stakeholders, as well as the impact of our operations on the community and environment.

Information on how we encourage employee involvement in the Company's performance is set out in A culture of high performance on page 69. Details of some of the employee share plans are described in the Directors' Remuneration Report from page 131, and in Note 28 to the Financial Statements from page 225. All employees are provided with information on matters of concern to them through regular meetings and updates on the Group's intranet and internal social media. Townhall meetings and Q&A sessions hosted by members of senior management, including the SET, are broadcast on internal social media. During 2020, these broadcasts included business updates, as well as information on the Group's response to the COVID-19 pandemic and working arrangements. In addition, information on the Group's quarterly results are shared with employees through the intranet and internal social media. These updates inform employees of the financial and economic factors which affect the performance of the Company.

Political donations

Neither the Company nor its subsidiaries made any EU political donations or incurred any EU political expenditure in 2020 and they do not intend to do so in the future in respect of which shareholder authority is required, or for which disclosure in this Annual Report is required, under the Companies Act 2006. However, to enable the Company and its subsidiaries to continue to support interest groups or lobbying organisations concerned with the review of government policy or law reform without inadvertently breaching the Companies Act 2006, which defines political donations and other political expenditure in broad terms, a resolution will be put to shareholders at the 2021 AGM, similar to that passed at the 2020 AGM, to authorise the Company and its subsidiaries to:

- make donations to political parties or independent election candidates
- make donations to political organisations other than political parties
- incur political expenditure, up to an aggregate limit of $250,000.

Corporate political contributions in the US are permitted in defined circumstances under the First Amendment of the US Constitution and are subject to both federal and state laws and regulations. In 2020, the Group's US legal entities made contributions amounting in aggregate to $1,016,550 (2019: $1,120,525) to national political organisations, state-level political party committees and to campaign committees of various state candidates. No corporate donations were made at the federal level and all contributions were made only where allowed by US federal and state law. We publicly disclose details of our corporate US political contributions, which can be found on our website, www.astrazeneca-us.com/sustainability/corporate-transparency.

The annual corporate contributions budget is reviewed and approved by the US Vice-President, Corporate Affairs and the President of our US business to ensure robust governance and oversight. US citizens or individuals holding valid green cards exercised decision making over the contributions and the funds were not provided or reimbursed by any non-US legal entity. Such contributions do not constitute political donations or political expenditure for the purposes of the Companies Act 2006 and were made without any involvement of persons or entities outside the US.

Significant agreements

There are no significant agreements to which the Company is a party that take effect, alter or terminate on a change of control of the Company following a takeover bid. There are no persons with whom we have contractual or other arrangements, who are deemed by the Directors to be essential to our business.

Use of financial instruments

The Notes to the Financial Statements, including Note 27 from page 219, include further information on our use of financial instruments.

Insurance and indemnities

The Company maintained Directors' and officers' liability insurance cover throughout 2020. The Directors are also able to obtain independent legal advice at the expense of the Company, as necessary, in their capacity as Directors.

The Company has entered into a deed of indemnity in favour of each Board member since 2006. These deeds of indemnity are still in force and provide that the Company shall indemnify the Directors to the fullest extent permitted by law and the Articles, in respect of all losses arising out of, or in connection with, the execution of their powers, duties and responsibilities as Directors of the Company or any of its subsidiaries. This is in line with current market practice and helps us attract and retain high-quality, skilled Directors.

Compliance requirements under Listing Rule 9.8.4

The only matter to report is the shareholder waiver of dividends on page 273.

Directors' Report

The Directors' Report, which has been prepared in accordance with the requirements of the Companies Act 2006, comprises the following sections:

- Chairman's Statement
- Chief Executive Officer's Review
- Business Review
- Therapy Area Review
- Risk Overview
- Financial Review: Financial risk management
- Corporate Governance: including the Corporate Governance Overview, Corporate Governance Report, Science Committee Report, Nomination and Governance Committee Report, and Audit Committee Report
- Directors' Responsibility Statement
- Development Pipeline
- Sustainability: supplementary information
- Shareholder Information

and has been approved by the Board and signed on its behalf.

On behalf of the Board

A C N Kemp
Company Secretary
11 February 2021

Sustainability: Supplementary Information

External assurance

Bureau Veritas has provided independent external assurance to a limited level on the following sustainability information contained within this Annual Report:

- Key Performance Indicators – Be a Great Place to Work, see page 21.
- Bioethics, including Clinical trials, Research use of human biological samples and Animal research, see pages 54 and 55.
- Emerging market healthcare, see page 61.
- Responsible sales and marketing, see page 61.
- Anti-bribery and anti-corruption, see page 61.
- Transparency reporting, see page 62.
- Responsible supply chain, see page 63.
- Human rights, see page 71.
- Managing change, see page 71.
- Employee relations, see page 71.
- Safety, health and wellbeing, see page 71.
- Sustainability, including Benchmarking and assurance, Our approach, Sustainability governance and Our Sustainability strategy, see pages 72 and 73.
- Access to healthcare, including Healthy Lung, Healthy Heart Africa and Young Health Programme, see page 74.
- Environmental protection, including Greenhouse gas emissions reduction, Energy use, Waste management, Water stewardship, Product environmental stewardship and Pharmaceuticals in the environment, see pages 74 and 75.
- Contributing to society, including Community investment and Product donation programmes, see pages 76 and 77.
- Taskforce on Climate-related Financial Disclosures statement, see page 276.

BV Used throughout this Annual Report to denote the sustainability information listed above, which has been independently assured by Bureau Veritas.

Based on the evidence provided and subject to the scope, objectives and limitations defined in the full assurance statement, nothing has come to the attention of Bureau Veritas causing them to believe that the sustainability information contained within this Annual Report is materially misstated. Bureau Veritas is a professional services company that has a long history of providing independent assurance services in environmental, health, safety, social and ethical management and disclosure.

The full assurance statement, which includes Bureau Veritas's scope of work, methodology, overall opinion, and limitations and exclusions, is available on our website, www.astrazeneca.com.

Greenhouse gas (GHG) reporting BV

We have reported on all of the emission sources required under the Quoted Companies Greenhouse Gas Emissions (Directors' Reports) Regulations 2013. These sources fall within our consolidated Financial Statements. We do not have responsibility for any emission sources that are not included in our consolidated Financial Statements.

We have used the GHG Protocol Corporate Accounting and Reporting Standard (revised edition). Emission factors for electricity have been derived from the International Energy Agency (IEA), USEPA eGRID, US Green-e and the Association of Issuing Bodies (AIB) databases and for all other fuels and emission sources from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

Global greenhouse gas emissions data for the period 1 January 2020 to 31 December 2020[1]

			Tonnes CO_2e
	2020	2019	2018
Emissions from: Scope 1: Combustion of fuel and operation of facilities[2,5]	**224,771**	254,402	272,737
Scope 2 (Market-based): Electricity (net of market instruments), heat, steam and cooling purchased for own use[3,5]	**23,235**	131,085	140,350
Scope 2 (Location-based): Electricity, heat, steam and cooling purchased for own use[3,5]	**212,003**	233,951	248,984
Company's chosen intensity measurement: Scope 1 + Scope 2 (Market-based) emissions reported above normalised to million US dollar revenue	**9.3**	15.8	18.7
Scope 3 Total: Emissions from all 15 Greenhouse Gas Protocol Scope 3 Categories	**7,803,145**	7,282,111	6,603,075
Scope 3 intensity measurement: Scope 3 emissions from all 15 Greenhouse Gas Protocol Scope 3 Categories normalised to million US dollar revenue.	**293**	299	299
			MegaWatt hours (MWh)
Total energy consumption[4, 5]	**1,595,330**	1,741,955	1,850,984

1 Regular review of the data is carried out to ensure accuracy and consistency. This has led to changes in the data from previous years. The majority of adjustments made are not material individually, except for Scope 1 road fleet (Scope 1 reporting boundary adjusted to leased vehicles only, with personal vehicles accounted in Scope 3), business air travel (updated methodology including well-to-tank emissions and more complete traveller data, leading to restated baseline), and upstream logistics (updated methodology including well-to-tank emissions, leading to restated baseline). The data quoted in this Annual Report are generated from the revised data.

2 Included in this section are GHGs from direct fuel combustion, process and engineering emissions at our sites and from fuel use in our vehicle fleet.

3 GHGs from imported electricity are calculated using the GHG Protocol Scope 2 Guidance (January 2015) requiring dual reporting using two emissions factors for each site – Market-based and Location-based. Our corporate emissions reporting and targets follow the Market-based approach.

4 The aggregate of: (i) the annual quantity of energy consumed from activities for which the Company is responsible, including the combustion of fuel at a facility or the operation of any facility; and (ii) the annual quantity of energy consumed resulting from the purchase of electricity, heat, steam or cooling by the Company for its own use.

5 Under the new Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018, the Company needs to disclose what proportion of this figure relates to energy use in the UK and offshore area. For 2020, the proportion of total global energy and emissions originating from AstraZeneca's UK and offshore area footprint were as follows: energy use 346 GWh (22%); Scope 1 emissions 55 $ktCO_2e$ (25%); Scope 2 emissions using Market-based accounting 0 $ktCO_2e$ (0%); Scope 2 emissions using Location-based accounting 15 $ktCO_2e$ (7%)%.

For more information see 'Energy Use' on page 75.

Learn more in our 2020 Sustainability Report on our website, www.astrazeneca.com/sustainability.

Taskforce on Climate-related Financial Disclosures Statement BV

We support the Taskforce on Climate-related Financial Disclosures (TCFD) and aim to develop our disclosures in line with its recommendations. This is AstraZeneca's first report that follows the TCFD-recognised framework and it describes our process and actions as of 31 December 2020. All our business operations worldwide are in scope regardless of their function, unless otherwise stated. A full TCFD disclosure will be provided according to the Listing Rule for the 2021 reporting year onwards.

Our CDP response provides further disclosures on our approach to climate change and is available at https://www.cdp.net/en.

Governance

Non-Executive Director, Geneviève Berger, oversees our sustainability strategy on behalf of the Board, including delivery of our Ambition Zero Carbon programme, and evaluates our performance against our targets and commitments.

As outlined on page 6, our CEO is responsible to the Board for the management, development and performance of our business, including AstraZeneca's Ambition Zero Carbon and climate-related risks and opportunities. Reporting to the CEO, the Executive Vice-President (EVP), Sustainability and Chief Compliance Officer (CCO) is responsible for the delivery of the AstraZeneca sustainability strategy, including our climate-related strategy and leads a quarterly update with the Board.

A number of strategic groups have been established to support delivery of our sustainability and climate strategies:

- An external Sustainability Advisory Board (SAB) advises on strategic direction, recommends opportunities and provides insight. Our SAB comprises five SET members (EVP, Sustainability and CCO; EVP, Operations and IT; EVP, Human Resources; EVP & President, BioPharmaceuticals R&D; and EVP & President, International) and four external sustainability experts (Pankaj Bhatia, Deputy Director, Climate Program, World Resources Institute; Dame Polly Courtice, Director, Cambridge Institute for Sustainability Leadership, University of Cambridge; Louise Nicholls, Managing Director of Suseco and Vice Chair of IEMA; and Rain Henderson, Founder, Elementor Advisors). The SAB met once in 2020 where an update was provided on our climate strategy.

For more information, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

- In 2020, we established an Ambition Zero Carbon Governance Group with executive-level ownership, accountable for the delivery of our Ambition Zero Carbon programme. The group meets monthly and includes AstraZeneca's CEO; CFO; the EVP, Sustainability and CCO; and EVP, Operations and IT.
- In 2020, a TCFD steering group was also established with cross-functional membership to identify and proactively manage the physical and transitional risks and opportunities posed to AstraZeneca by climate change. The Board was updated on progress in September 2020.

The outcomes from the specialist groups are regularly reported to the AstraZeneca Board.

Identifying and managing climate risk and opportunity

Our overall approach to risk management and a summary of our Principal Risks can be found from page 80. To inform the wider enterprise risk management process of any specific risks and opportunities posed by climate change and/or the transition to a low carbon economy, we have integrated climate assessments into the overall risk management process. In 2020, we conducted physical and transitional risk assessments and the process for these assessments is described below.

Physical assessment

In 2020, working with environmental resource managements experts, ERM Group, Inc, (ERM), we conducted a screening study of two future climatic scenarios to explore our physical climate-related risks (floods, water scarcity, extreme heat, cyclones and wild fires); Representative Concentration Pathways (RCP) 4.5 (+2°C) and RCP 8.5 (+4°C) were used for this study. These scenarios were applied to 61 AstraZeneca sites with predictions out from 2020 to 2030 and 2050. The sites evaluated included all business-critical operations sites, R&D Hubs, IT centres and other strategic hubs; pure commercial sites were out of scope as they posed a low material risk. The outcome of these screening studies across the 61 sites was combined with a revenue-based assessment for each site to identify medium- to long-term risks.

Transitional assessment

In 2020, working with ERM we defined the risks and opportunities associated with the transition to a low-carbon economy. To measure these transitional risks, we adopted two scenarios; a base case (~3.5°C) and low carbon (~2°C) scenario with predictions out to 2025, 2030, 2035 and 2040. Risks and opportunities were assessed at an enterprise level and product-specific level for the top ten brands where life-cycle assessment (LCA) data is available, representing approximately 50% of Total Revenue with examples from all therapy areas.

Outcome of the physical and transitional assessments

As a result of this analysis, a new risk 'Failure to meet regulatory expectations on environmental impact, including climate change' has been added as a standalone risk to the Group's risk landscape. This risk has been shared with the Board and Audit Committee. The risk is not currently assessed to be financially material and does not impact our current business model. In many cases mitigation measures are already in place to address the risks and opportunities presented by climate change, including the transition to a low carbon economy. These risks and opportunities are explained in more detail in the table opposite/overleaf.

Climate change and our strategy

The nature of the risks and opportunities we face depends not only on the physical aspects of climate change, but also changes in the regulations in the markets in which we operate, pressures to reduce the carbon footprints of specific medicinal products, and our ability to understand and shape a culture of climate action. Our response to the identified climate risks and opportunities requires enterprise-wide action, in addition to further integration of environmental considerations in drug development and manufacture, and a greater focus on responsible procurement and sourcing across the entire value chain.

To mitigate the impact of AstraZeneca's business operations on the environment, the Board of Directors approved a new climate strategy in 2019. Our Ambition Zero Carbon strategy was launched in January 2020 when we disclosed new targets to be zero carbon across our global operations by 2025 (Scopes 1 and 2) and be carbon negative across our entire value chain by 2030 (Scopes 1, 2 and 3). Ambition Zero Carbon goes beyond the verified reduction goals of our existing Scope 1 and 2 Science Based Targets to limit global warming to 1.5°C. To support achievement of Ambition Zero Carbon we will double energy productivity, use 100% renewable energy for both power and heat, and switch to a 100% electric vehicle fleet five years ahead of schedule. Our actions to tackle climate change include plans to launch next-generation near-zero Global Warming Potential (GWP) respiratory inhalers and plant 50 million trees under the 'AZ Forest' programme. Overall, the $1 billion Ambition Zero Carbon programme brings forward our decarbonisation plans by more than a decade.

For more information on our GHG footprint, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

Key

R Risk

O Opportunity

Risk or opportunity	Potential impact	How it is managed
Physical risks		
Increased frequency of extreme weather and climate-related natural disasters. R	In 2020, we conducted a screening study of two future climatic scenarios to explore our physical climate related risks (floods, water scarcity, extreme heat, cyclones and wildfires) across 61 business critical sites. Eight sites were predicted to be exposed to increased risk of severe or very severe climate-related hazards in the next 10 years based on the worst-case scenario. Out of the eight 'at-risk' sites, a deep dive was conducted at the manufacturing site in Wuxi, China to verify the global screening results with help from local climate data and infrastructure. The outcome indicated increased risk of (a) heavy rainfall causing localised flooding, and (b) an extreme heat event in combination with air pollution that could cause increased need of cooling capacity, impact workers' health and potentially impact our licence to operate in the long term.	In 2021, indicative findings of increased risks (extreme heat, floods, drought and wild fires) will be verified by local assessments (based on learnings from the Wuxi study) across other potentially 'at risk' strategic sites (Södertälje, Maihara, Chennai, West Chester, Guadalajara, Gothenburg, Cairo, Canovanas, Mount Vernon, Newark, Frederick, Bensalem, North Ryde and Taizhou). Any climate risks identified will be integrated into our existing risk management processes including local site and business continuity plans to ensure they contain measures to proactively manage any physical climate risks and embed climate resilience in their short-, medium- and long-term planning. Business resilience has also been increased as a result of exposure to extreme weather events like hurricane Maria at Canovanas (Puerto Rico, 2016), an extended period of heat in Södertälje (Sweden, 2018) and water scarcity in Chennai (India, 2019). Our site in Canovanas has taken proactive steps to increase its resilience and mitigate the risks posed to our business operations by installing its own heat and power plant to reduce reliance on the local power network. In 2019, we restored two lakes next to our site in Chennai, together with the local community, to help protect against extremes in water stress and availability. In 2021, physical risk assessments will be conducted on the broader value chain and our critical suppliers for (i) our top ten products, and (ii) our long-term strategic suppliers responsible for bulk drug production.
Transitional risks and opportunities		
Increased demand for sustainable low Global Warming Potential (GWP) products and services from healthcare providers in some countries may result in the potential for green substitution of medicinal products with a high GWP (e.g. anaesthetics and respiratory products). **Business opportunities will exist with increased future demand for low GWP alternatives and where earlier diagnosis and clinical intervention can reduce the carbon footprint of healthcare pathways.** R O	Some healthcare providers and professionals are actively looking to substitute medicinal products based on their Greenhouse Gas (GHG) footprint in order to reduce their own Scope 3 footprint, as part of their net-zero targets (e.g. UK NHS). This could impact market access and revenue in some countries for high GWP products. Future revenue from our pMDI inhaled medicines portfolio could be 'at risk' should substitution become widespread before the transition to our next-generation low GWP pMDIs. These risks are currently low and limited to a few countries. Transitioning to low GWP respiratory products as part of AstraZeneca Ambition Zero Carbon, and understanding the positive impacts that early diagnosis and clinical intervention can have on the carbon footprint of specific patient care pathways, will provide business opportunities to improve the standard of care and clinical outcomes with a lower environmental footprint.	> AstraZeneca has life-cycle assessments (LCAs) in place for key brands (respiratory and wider) that includes the GHG footprint to help assess and manage risks and target interventions to reduce the environmental footprint of our products. For more information on product environmental stewardship, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability. > In 2020 we developed a Product Sustainability Index (PSI) as part of our Product Environmental Stewardship strategy. The PSI captures carbon and water intensity metrics per product, per patient, per annum – as well as measures of % renewable power and resource efficiency used to make that product. > As part of our $1 billion AstraZeneca Ambition Zero Carbon commitment, we will transition to low GWP propellants across our asthma and COPD products between 2025 and 2030. For more information on our GHG footprint, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability. > Patients whose treatment is optimised are more likely to have a lower carbon impact overall, through reduced reliever pMDI use and fewer unscheduled healthcare interventions. > We are working with academics and healthcare agencies to understand the environmental impact of respiratory care pathways for patients with controlled and uncontrolled asthma and the opportunities for improved clinical care with a lower environmental footprint. The output of these environmental and clinical studies will be communicated at scientific conferences and via peer-reviewed literature in 2021.

Taskforce on Climate-related Financial Disclosures Statement *continued*

Key
R Risk
O Opportunity

Risk or opportunity	Potential impact	How it is managed
Transitional risks and opportunities *continued*		
Review of the US, EU, UK and other national F-Gas Regulations and their impact on respiratory medicines used to treat asthma and COPD. R O	> The US and EU F-Gas review carries the potential risk that some F-gases used in pMDI-based respiratory products could be subject to emission restrictions from which they are currently exempt. Loss of the medicinal exemption, or failure to have a long-term phased transition, could prevent or limit availability of products in our pMDI inhaled medicines portfolio, should these restrictions become applicable before the transition to our next-generation low GWP pMDIs. > Inhaler device selection is a critical consideration as patient need or preference for a specific device type will influence adherence to treatment which in turn impacts clinical outcomes.	Patient-centric advocacy assesses both clinical and environmental outcomes. > As part of the $1 billion AstraZeneca Ambition Zero Carbon commitment, AstraZeneca will transition to low GWP propellants in its asthma and COPD products between 2025 and 2030. > We are advocating a phased transition to at least 2030 if the medicinal exemption is lifted to ensure transition to alternative low GWP propellants within the scope of the AstraZeneca Ambition Zero Carbon programme. > We are working with academics and healthcare agencies to understand the environmental impact of respiratory care pathways for patients with controlled and uncontrolled asthma, and the opportunities for improved clinical care with a lower environmental footprint.
Ban and/or restrictions on the sale of petrol and diesel vehicles in some markets. R O	AstraZeneca has approximately 16,900 leased vehicles as part of its commercial fleet, of which 51% are internal combustion engine (ICE), 39% are self-generating hybrids, 7% are plug-in hybrid electric vehicles (PHEVs) and 0.3% are battery electric vehicles (BEVs). With some countries banning or restricting sales of ICE vehicles in the future, AstraZeneca will need to transition to BEVs across its markets and there is an expectation that duties on fossil fuels associated with our fleet will increase over the next decade. There is also an increase in the number of clean air zones globally with cities or regions either restricting fossil fuel vehicles or charging a daily premium for ICE vehicles to access those regions. A proactive shift to BEVs opens up an opportunity to decrease the future cost of ownership and maintain access to these restricted clean air zones.	> As part of AstraZeneca Ambition Zero Carbon we will transition to 100% BEV by 2025 and we are signatories to the Climate Group's EV100 commitment. > A market readiness study has been conducted for our top markets and those countries that are BEV ready have been identified. Transitioning to BEVs will start in 2021 as part of the existing fleet renewal cycles in those market ready countries. Incremental costs can be offset by relatively small reductions in fleet number and kilometres driven or through adopting mobility as a service and digitalisation as described in the two bullet points below. > We are also looking at mobility options as a holistic service, where we will reduce our reliance on vehicles within urban regions and make more use of low carbon integrated private and public transport systems. > An increase in digitalisation (e-detailing) and virtual selling to reduce our reliance on a physical vehicle fleet is also being adopted.
Carbon pricing and future environmental taxation. R	There is uncertainty over the future environmental policy and fiscal landscape in many countries where we operate. We anticipate that carbon pricing and environmental taxation will increase over the medium to long term.	> Our AstraZeneca Ambition Zero Carbon commitment will help to mitigate exposure to future carbon pricing and environmental taxation for our operations and our wider value chain. Managed correctly, this presents a commercial opportunity where peers have yet to establish a path to net-zero or carbon zero. We are being positive advocates for science-based targets to address climate change across our industry and supply chain via trade associations and networks.

Monitoring our progress

Since 2015, we have invested over $100 million in a natural resource reduction programme that has reduced our carbon emissions from operations by almost one third and our water consumption by almost one fifth.

For more information, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

In 2020, we sourced 99.9% of our imported electricity globally from renewable sources and generated over 5 GWh from solar PV installations on our own sites from renewable sources.

In 2019, the Science Based Targets Initiative confirmed that our Scope 1 and Scope 2 emissions targets aligned with the more progressive Paris Agreement target to limit global warming to 1.5°C. In 2019, AstraZeneca was also the first pharmaceutical company to join the EV100 initiative for electric vehicles.

AstraZeneca is the first pharmaceutical company worldwide to reinforce its commitment to sustainability and climate control by joining all three of the Climate Group's initiatives: RE100 (renewable energy), EV100 (electric vehicles) and EP100 (energy productivity).

We are one of only three companies worldwide to have been CDP A rated for Climate Change and Water Security for the last five years.

Trade Marks

AstraZeneca, the AstraZeneca logotype, and the AstraZeneca symbol are all trade marks of the Group.

The following medicine names which appear in italics in this Annual Report are trade marks of the Group:

Trade mark			
Arimidex[1]	*Crestor*	*Kombiglyze*	*Qternmet*
Atacand[2]	*Daliresp*	*Komboglyze*	*Qtrilmet*
Atacand HCT	*Daxas*	*Koselugo*	*Seloken*
Atacand Plus[2]	*Epanova*	*Losec*[4]	*Seroquel*[5]
BCise	*Equidacent*[3]	*Lokelma*	*Seroquel XR*[5]
Bevespi Aerosphere	*Farxiga*	*Lynparza*	*Symbicort*
Breztri	*Fasenra*	*Movantik*	*Symbicort Turbuhaler*
Breztri Aerosphere	*Fasenra Pen*	*Moventig*	*Symlin*
Brilinta	*Faslodex*	*Nexium*	*Tagrisso*
Brilique	*Fluenz*	*Omepral*[4]	*Toprol-XL*
Bydureon	*FluMist*	*Onglyza*	*Trixeo Aerosphere*
Byetta	*Forxiga*	*Prilosec*	*Turbuhaler*
Calquence	*Genuair*	*Provisacor*	*Vimovo*[6]
Casodex[1]	*Imfinzi*	*Pulmicort*	*Xigduo*
Cosudex	*Iressa*	*Qtern*	*Zoladex*

1 AstraZeneca divested these trade marks in a number of European, African and other markets to Juvisé Pharmaceuticals effective 19 December 2019.
2 AstraZeneca divested these trade marks in Europe to Cheplapharm effective 28 September 2018, and in more than 70 other markets effective 31 December 2020.
3 Owned by Centus Biotherapeutics Limited, which is a joint venture between AstraZeneca and Fujifilm Kyowa Kirin Biologics Co., Ltd.
4 AstraZeneca divested the global rights (excluding China, Japan, US and Mexico) for these trade marks to Cheplapharm effective 30 September 2019.
5 AstraZeneca divested these trade marks in Europe and Russia to Cheplapharm effective 13 December 2019.
6 AstraZeneca divested the global rights (excluding the US and Japan) for this trade mark to Grünenthal, effective 3 December 2018.

The following medicine names, which appear in italics in this Annual Report, are trade marks licensed to the Group by the entities set out below:

Trade mark	Licensor or Owner
Anticalin	Pieris AG
Duaklir	Almirall, S.A.
Eklira	Almirall, S.A.
Enhertu	Daiichi Sankyo Company, Limited
Linzess	Ironwood
Lumoxiti	Innate Pharma
Tudorza	Almirall, S.A.

The following medicine names, which appear in italics throughout this Annual Report, are not owned by or licensed to the Group and are owned by the entities set out below:

Trade mark	Owner
Keytruda	MSD
messenger RNA Therapeutics	Moderna
Synagis	Depending on geography, the trade mark is owned by Sobi or AbbVie

Glossary

Market definitions

Region	Country				
US	US				
Europe	Albania*	Czech Republic	Hungary	Luxembourg*	Serbia and Montenegro*
	Austria	Denmark	Iceland*	Malta*	Slovakia*
	Belgium	Estonia*	Ireland	Netherlands	Slovenia*
	Bosnia and Herzegovina*	Finland	Israel*	Norway	Spain
	Bulgaria	France	Italy	Poland	Sweden
	Croatia	Germany	Latvia*	Portugal*	Switzerland
	Cyprus*	Greece	Lithuania*	Romania	UK
Established ROW	Australia	Canada	Japan	New Zealand	
Emerging Markets	Algeria	Costa Rica	Iraq*	Pakistan*	Syria*
	Argentina	Cuba*	Jamaica*	Palestine*	Taiwan
	Aruba*	Dominican Republic*	Jordan*	Panama	Thailand
	Bahamas*	Ecuador*	Kazakhstan	Peru	Trinidad and Tobago*
	Bahrain*	Egypt	Kuwait*	Philippines	Tunisia*
	Barbados*	El Salvador	Lebanon*	Qatar*	Turkey
	Belarus*	Georgia*	Libya*	Russia	Ukraine*
	Belize*	Guatemala	Malaysia	Saudi Arabia	United Arab Emirates
	Bermuda*	Honduras	Mexico	Singapore	Uruguay*
	Brazil	Hong Kong	Morocco*	South Africa	Venezuela*
	Chile	India	Nicaragua	South Korea	Vietnam
	China	Indonesia	Oman*	Sri Lanka*	Yemen*
	Colombia	Iran*	Other Africa*	Sudan*	

* Q3 2020 IQVIA, IQVIA Midas Quantum Q3 2020 data are not available or AstraZeneca does not subscribe for IQVIA quarterly data for these countries.

The above table is not an exhaustive list of all the countries in which AstraZeneca operates, and excludes countries with revenue in 2020 of less than $1 million.

Established Markets means US, Europe and Established ROW.

North America means US.

Other Established ROW means Australia and New Zealand.

Other Emerging Markets means all Emerging Markets except China.

Other Africa includes Angola, Botswana, Ethiopia, Ghana, Kenya, Mauritius, Mozambique, Namibia, Nigeria, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

Asia Area comprises India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand and Vietnam.

US equivalents

Terms used in this Annual Report	US equivalent or brief description
Accruals	Accrued expenses
Called-up share capital	Issued share capital
Creditors	Liabilities/payables
Debtors	Receivables and prepaid expenses
Earnings	Net income
Employee share schemes	Employee stock benefit plans
Fixed asset investments	Non-current investments
Freehold	Ownership with absolute rights in perpetuity
Loans	Long-term debt
Prepayments	Prepaid expenses
Profit	Income
Share premium account	Additional paid-in capital or paid-in surplus (not distributable)
Short-term investments	Redeemable securities and short-term deposits

The following abbreviations and expressions have the meanings given below when used in this Annual Report:

AACR – The American Association for Cancer Research.

AbbVie – AbbVie Inc.

Acerta Pharma – Acerta Pharma B.V.

Actavis – Actavis plc.

ADC – antibody drug conjugate(s).

ADRs – American Depositary Receipts.

ADSs – American Depositary Shares.

AGM – an Annual General Meeting of the Company.

AI – artificial intelligence.

Alexion – Alexion Pharmaceuticals, Inc.

Almirall – Almirall, S.A.

Amgen – Amgen, Inc.

Amplimmune – Amplimmune, Inc.

ANDA – an abbreviated new drug application, which is a marketing approval application for a generic drug submitted to the FDA.

Annual Report – this Annual Report and Form 20-F Information 2020.

API – active pharmaceutical ingredient.

Aralez – Aralez Pharmaceuticals Trading DAC.

Ardea – Ardea Biosciences, Inc.

Articles – the Articles of Association of the Company.

Aspen – Aspen Global Incorporated.

Astellas – Astellas Pharma Inc.

Astra – Astra AB, being the company with whom the Company merged in 1999.

AstraZeneca – the Company and its subsidiaries.

AstraZeneca HealthCare Foundation – a Delaware, US not-for-profit corporation and a 501(c)(3) entity, separate from AstraZeneca Pharmaceuticals, organised for charitable purposes, including to promote public awareness and education of healthcare issues and support eligible non-profit organisations in alignment with its mission. The Foundation has received $30 million in contributions to date from AstraZeneca to support the *Connections for Cardiovascular Health*℠ programme.

Atnahs – Atnahs Pharma UK Ltd.

Avillion – Avillion LLP.

biologic(s) or biologic medicine(s) – a class of drugs that are produced in living cells.

biosimilars – a copy of a biologic that is sufficiently similar to meet regulatory requirements.

BMS – Bristol-Myers Squibb Company.

Board – the Board of Directors of the Company.

Bureau Veritas – Bureau Veritas UK Limited.

C19VAZ *– COVID-19 Vaccine AstraZeneca*

CDP (formerly the Carbon Disclosure Project) – a not-for-profit organisation that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

CEO – the Chief Executive Officer of the Company.

CER – constant exchange rates.

CFO – the Chief Financial Officer of the Company.

Cheplapharm – Cheplapharm Arzneimittel GmbH.

Circassia – Circassia Pharmaceuticals plc.

CIS – Commonwealth of Independent States.

CKD – chronic kidney disease.

CLL – chronic lymphocytic leukaemia.

Code of Ethics – the Group's Code of Ethics, see pages 61 and 118.

Company or Parent Company – AstraZeneca PLC (formerly Zeneca Group PLC (Zeneca)).

COPD – chronic obstructive pulmonary disease.

COVAX – the vaccines pillar of the Access to COVID-19 Tools (Act) Accelerator. COVAX is co-led by CEPI, the Coalition for Epidemic Preparedness Innovations; Gavi, the Vaccines Alliance, and the WHO, working in partnership with developed and developing country vaccine manufacturers, UNICEF, the World Bank and others.

COVID-19 – the official WHO name for the disease caused by the 2019 novel coronavirus.

Covis – Covis Pharma B.V.

CREST – UK-based securities settlement system.

CROs – contract research organisations.

CV – cardiovascular.

CVOT – cardiovascular outcomes trial.

CVRM – Cardiovascular, Renal & Metabolism.

Daiichi Sankyo – Daiichi Sankyo, Inc. or a company within the Daiichi Sankyo group of companies.

DDR – DNA damage response.

Definiens – Definiens AG.

Director – a director of the Company.

DOJ – the United States Department of Justice.

DTR – UK Disclosure Guidance and Transparency Rules.

earnings per share (EPS) – profit for the year after tax and non-controlling interests, divided by the weighted average number of Ordinary Shares in issue during the year.

EBITDA – Reported Profit before tax plus net finance expense, share of after tax losses of joint ventures and associates and charges for depreciation, amortisation and impairment.

EC – European Commission.

EFPIA – European Federation of Pharmaceutical Industries and Associations.

EGFR – epidermal growth factor receptor.

EMA – European Medicines Agency.

ESG – environmental, social and governance.

ESMO – European Society for Medical Oncology.

EVP – Executive Vice-President.

EU – the European Union.

Fc receptor – Fragment crystallisable receptor.

Glossary
continued

FDA – the US Food and Drug Administration, which is part of the US Department of Health and Human Services Agency, which is the regulatory authority for all pharmaceuticals (including biologics and vaccines) and medical devices in the US.

FibroGen – FibroGen, Inc.

FRC – the UK Financial Reporting Council.

GAAP – Generally Accepted Accounting Principles.

GHG – greenhouse gas.

GLP1 – glucagon-like peptide-1.

gross margin – the margin, as a percentage, by which sales exceed the cost of sales, calculated by dividing the difference between the two by the sales figure.

Group – AstraZeneca PLC and its subsidiaries.

Grünenthal – Grünenthal Group.

GSK – GlaxoSmithKline plc.

GWP – global warming potential.

HCPs – healthcare practitioners.

HF – heart failure.

HHA – Healthy Heart Africa programme.

HMRC – Her Majesty's Revenue & Customs, the UK tax authority.

HNSCC – head and neck squamous cell carcinoma.

HR – human resources.

HTA – health technology assessment.

IA – the Group's Internal Audit Services function.

IAS – International Accounting Standards.

IASB – International Accounting Standards Board.

ICS – inhaled oral corticosteroid.

IFPMA – International Federation of Pharmaceutical Manufacturers and Associations.

IFRS – International Financial Reporting Standards or International Financial Reporting Standard, as the context requires.

IMF – International Monetary Fund.

Innate Pharma – Innate Pharma S.A.

IO – immuno-oncology.

IP – intellectual property.

IQVIA – IQVIA Solutions HQ Limited. For more information, see page 284.

Ironwood – Ironwood Pharmaceuticals, Inc.

IS – information services.

ISAs – International Standards on Auditing.

IT – information technology.

Johnson & Johnson – Johnson & Johnson.

KPI – key performance indicator.

krona or SEK – references to the currency of Sweden.

Kyowa Kirin – Kyowa Kirin International plc, a subsidiary of Kyowa Hakko Kirin Co., Ltd.

LABA – long-acting beta2-agonist.

LAMA – long-acting muscarinic antagonist.

LCM projects – significant life-cycle management projects (as determined by potential revenue generation), or line extensions.

Lilly – Eli Lilly and Company.

LRTI – lower respiratory tract infection.

Luye Pharma – Luye Pharma Group.

mAb – monoclonal antibody, a biologic that is specific, meaning it binds to and attacks one particular antigen.

major market – US, Europe, Japan and China.

MAT – moving annual total.

MedImmune – MedImmune, LLC (formerly MedImmune, Inc.).

mRNA – Messenger RNA.

MHRA – Medicines and Healthcare products Regulatory Agency, the UK's regulator of medicines, medical devices and blood components for transfusion.

MI – myocardial infarction.

Moderna – Moderna Therapeutics, Inc.

MSD – Merck & Co., Inc., which is known as Merck in the US and Canada and MSD in other territories.

n/m – not meaningful.

Nasdaq – Nasdaq Global Select Market.

Nasdaq Stockholm – previously the Stockholm Stock Exchange.

New Medicines – Roxadustat, *Koselugo, Enhertu*, *Tagrisso*, *Imfinzi*, *Lynparza*, *Calquence*, *Farxiga*, *Brilinta*, *Lokelma*, *Fasenra*, *Bevespi* and *Breztri*.

New CVRM – New CVRM sales platform includes *Brilinta*, *Onglyza* franchise (*Onglyza* and *Kombiglyze*), *Farxiga* franchise (*Farxiga* and *Xigduo*), exenatide total (*Byetta* and *Bydureon*), *Symlin*, *Qtern*, roxadustat and *Lokelma*.

NME – new molecular entity.

NMPA – National Medical Products Administration, formerly the China Food and Drug Administration (CFDA).

Novartis – Novartis Pharma AG.

NRDL – National Reimbursement Drug List, China.

NSCLC – non-small cell lung cancer.

NYSE – the New York Stock Exchange.

OECD – the Organisation for Economic Co-operation and Development.

OMICs – refers to a field of study in biology ending in 'omics', such as genomics, proteomics or metabolomics.

operating profit – sales, less cost of sales, less operating costs, plus operating income.

Ordinary Share – an ordinary share of $0.25 each in the share capital of the Company.

Orphan Drug – a drug that has been approved for use in a relatively low-incidence indication (an orphan indication) and has been rewarded with a period of market exclusivity; the period of exclusivity and the available orphan indications vary between markets.

Paediatric Exclusivity – in the US, a six-month period of exclusivity to market a drug which is awarded by the FDA in return for certain paediatric clinical studies using that drug. This six-month period runs from the date of relevant patent expiry. Analogous provisions are available in certain other territories (such as European Supplementary Protection Certificate (SPC) paediatric extensions).

PARP – an oral poly ADP-ribose polymerase.

PD-L1 – an anti-programmed death-ligand 1.

Pearl Therapeutics – Pearl Therapeutics, Inc.

Pfizer – Pfizer, Inc.

PFS – progression-free survival. The length of time during and after the treatment of a disease, such as cancer, that a patient lives with the disease without it getting worse.

PhRMA – Pharmaceutical Research and Manufacturers of America.

Phase I – the phase of clinical research where a new drug or treatment is tested in small groups of people (20 to 80) to check that the drug can achieve appropriate concentrations in the body, determine a safe dosage range and identify side effects. This phase includes healthy volunteer studies.

Phase II – the phase of clinical research which includes the controlled clinical activities conducted to evaluate the effectiveness of the drug in patients with the disease under study and to begin to determine the safety profile of the drug. Phase II studies are typically conducted in small- or medium-sized groups of patients and can be divided into Phase IIa studies, which tend to be designed to assess dosing requirements, and Phase IIb studies, which tend to assess safety and efficacy.

Phase III – the phase of clinical research which is performed to gather additional information about effectiveness and safety of the drug, often in a comparative setting, to evaluate the overall benefit/risk profile of the drug. Phase III studies usually include between several hundred and several thousand patients.

Pieris Pharmaceuticals – Pieris Pharmaceuticals, Inc.

pMDI – pressurised metered-dose inhaler.

pound sterling, £, GBP or pence – references to the currency of the UK.

Pozen – POZEN, Inc.

primary care – general healthcare provided by physicians who ordinarily have first contact with patients and who may have continuing care for them.

Proof of Concept – data demonstrating that a candidate drug results in a clinical change on an acceptable endpoint or surrogate in patients with the disease.

ProTACs – a proteolysis targeting chimera, which is a heterobifunctional small molecule composed of two active domains and a linker capable of removing specific unwanted proteins.

PTE – Patent Term Extension, an extension of up to five years in the term of a US patent relating to a drug which compensates for delays in marketing resulting from the need to obtain FDA approval. The analogous right in the EU is an SPC.

Pulse Survey – an AstraZeneca employee opinion survey, which seeks employees' views of the business.

PwC – PricewaterhouseCoopers LLP.

R&D – research and development.

Recordati – Recordati S.p.A.

Redeemable Preference Share – a redeemable preference share of £1 each in the share capital of the Company.

RedHill – RedHill Biopharma.

Regulatory Exclusivity – any of the IP rights arising from generation of clinical data and includes Regulatory Data Protection, Paediatric Exclusivity and Orphan Drug status.

RNA – ribonucleic acid.

Roche – F. Hoffmann-La Roche AG.

ROW – rest of world.

RSV – respiratory syncytial virus.

RWE – Real-World Evidence.

SABA – short-acting beta2-agonist.

Samsung Biologics – Samsung Biologics Co., Ltd.

sales platforms – previously referred to as Growth Platforms, consisting of Emerging Markets, Respiratory & Immunology, New CVRM, Japan and Oncology.

Sanofi – Sanofi S.A./Sanofi Pasteur, Inc.

Sarbanes-Oxley Act – the US Sarbanes-Oxley Act of 2002.

SEC – the US Securities and Exchange Commission, the governmental agency that regulates the US securities industry and stock markets.

SEK – Swedish krona (or kronor).

SET – Senior Executive Team.

SG&A costs – selling, general and administrative costs.

Shionogi – Shionogi & Co., Ltd.

Silence Therapeutics – Silence Therapeutics Ltd.

sNDA – supplemental New Drug Application.

Sobi – Swedish Orphan Biovitrum AB.

SPC – supplementary protection certificate.

specialty care – specific healthcare provided by medical specialists who do not generally have first contact with patients.

Spirogen – Spirogen Sàrl.

SoC – standard of care. Treatment that is accepted by medical experts as a proper treatment for a certain type of disease and that is widely used by healthcare professionals.

Takeda – Takeda Pharmaceutical Company Limited.

TCFD – Task Force on Climate-related Financial Disclosures.

TerSera – TerSera Therapeutics LLC.

Total Revenue – the sum of Product Sales and Collaboration Revenue.

TSR – total shareholder return, being the total return on a share over a period of time, including dividends reinvested.

UK – United Kingdom of Great Britain and Northern Ireland.

UK Corporate Governance Code – the UK Corporate Governance Code published by the FRC in July 2018 that sets out standards of good practice in corporate governance for the UK.

US – United States of America.

US dollar, US$, USD or $ – references to the currency of the US.

VBP – value-based procurement.

Viela Bio – Viela Bio, Inc.

WHO – World Health Organization, the United Nations' specialised agency for health.

ZS Pharma – ZS Pharma, Inc.

Important information for readers of this Annual Report

Cautionary statement regarding forward-looking statements

The purpose of this Annual Report is to provide information to the members of the Company. The Company and its Directors, employees, agents and advisers do not accept or assume responsibility to any other person to whom this Annual Report is shown or into whose hands it may come and any such responsibility or liability is expressly disclaimed. In order, among other things, to utilise the 'safe harbour' provisions of the US Private Securities Litigation Reform Act of 1995 and the UK Companies Act 2006, we are providing the following cautionary statement:

This Annual Report contains certain forward-looking statements with respect to the operations, performance and financial condition of the Group, including, among other things, statements about expected revenues, margins, earnings per share or other financial or other measures. Forward-looking statements are statements relating to the future which are based on information available at the time such statements are made, including information relating to risks and uncertainties. Although we believe that the forward-looking statements in this Annual Report are based on reasonable assumptions, the matters discussed in the forward-looking statements may be influenced by factors that could cause actual outcomes and results to be materially different from those predicted. The forward-looking statements reflect knowledge and information available at the date of the preparation of this Annual Report and the Company undertakes no obligation to update these forward-looking statements. We identify the forward-looking statements by using the words 'anticipates', 'believes', 'expects', 'intends' and similar expressions in such statements. Important factors that could cause actual results to differ materially from those contained in forward-looking statements, certain of which are beyond our control, include, among other things:

- the risk of failure or delay in delivery of pipeline or launch of new medicines
- the risk of failure to meet regulatory or ethical requirements for medicine development or approval
- the risk of failure to obtain, defend and enforce effective intellectual property (IP) protection and IP challenges by third parties
- the impact of competitive pressures including expiry or loss of IP rights, and generic competition
- the impact of price controls and reductions
- the impact of economic, regulatory and political pressures
- the impact of uncertainty and volatility in relation to the UK's exit from the EU
- the risk of failures or delays in the quality or execution of our commercial strategies
- the risk of failure to maintain supply of compliant, quality medicines
- the risk of illegal trade in our medicines
- the impact of reliance on third-party goods and services
- the risk of failure in information technology, data protection or cybercrime
- the risk of failure of critical processes
- any expected gains from productivity initiatives are uncertain
- the risk of failure to attract, develop, engage and retain a diverse, talented and capable workforce, including following the Alexion transaction
- the risk of failure to adhere to applicable laws, rules and regulations
- the risk of the safety and efficacy of marketed medicines being questioned
- the risk of adverse outcome of litigation and/or governmental investigations, including relating to the Alexion transaction
- the risk of failure to adhere to increasingly stringent anti-bribery and anti-corruption legislation
- the risk of failure to achieve strategic plans or meet targets or expectations
- the risk of failure in financial control or the occurrence of fraud
- the risk of unexpected deterioration in our financial position
- the impact that the COVID-19 global pandemic may have or continue to have on these risks, on our ability to continue to mitigate these risks, and on our operations, financial results or financial condition
- the risk that a condition to the closing of the transaction with Alexion may not be satisfied, or that a regulatory approval that may be required for the transaction is delayed or is obtained subject to conditions that are not anticipated
- the risk that we are unable to achieve the synergies and value creation contemplated by the Alexion transaction, or that we are unable to promptly and effectively integrate Alexion's businesses
- and the risk that management's time and attention are diverted on transaction-related issues or that disruption from the Alexion transaction makes it more difficult to maintain business, contractual and operational relationships.

Certain of these factors are discussed in more detail elsewhere in this Annual Report including, without limitation, in the Risk section from page 254 of this Annual Report. Nothing in this Annual Report should be construed as a profit forecast.

Inclusion of Reported performance, Core financial measures and constant exchange rate growth rates

AstraZeneca's determination of non-GAAP measures together with our presentation of them within our financial information may differ from similarly titled non-GAAP measures of other companies.

Statements of competitive position, growth rates and sales

In this Annual Report, except as otherwise stated, market information regarding the position of our business or products relative to its or their competition is based upon published statistical sales data for the 12 months ended 30 September 2020 obtained from IQVIA, a leading supplier of statistical data to the pharmaceutical industry. Unless otherwise noted, for the US, dispensed new or total prescription data and audited sales data are taken, respectively, from IQVIA National Prescription Audit and IQVIA National Sales Perspectives for the 12 months ended 31 December 2020; such data are not adjusted for Medicaid and similar rebates. Except as otherwise stated, these market share and industry data from IQVIA have been derived by comparing our sales revenue with competitors' and total market sales revenues for that period, and except as otherwise stated, growth rates are given at CER. For the purposes of this Annual Report, unless otherwise stated, references to the world pharmaceutical market or similar phrases are to the 50 countries contained in the IQVIA database, which amounted to approximately 94% (in value) of the countries audited by IQVIA. Changes in data subscriptions, exchange rates and subscription coverage, as well as restated IQVIA data, have led to the restatement of total market values for prior years.

AstraZeneca websites

Information on or accessible through our websites, including www.astrazeneca.com, and www.astrazenecaclinicaltrials.com and on any websites referenced in this Annual Report, does not form part of and is not incorporated into this Annual Report.

External/third-party websites

Information on or accessible through any third-party or external website does not form part of and is not incorporated into this Annual Report.

Figures

Figures in parentheses in tables and in the Financial Statements are used to represent negative numbers.

Design and production
Superunion, London.
www.superunion.com

Board photography
Marcus Lyon

SET photography
Scott Nibauer
Graham Carlow
Hannes Kirchhof

Image on page 33
©David Levene/Guardian/
eyevine

This Annual Report is printed on Heaven 42 which is FSC®-certified virgin fibre. This product is made of material from well-managed, FSC®-certified forests and other controlled sources. It is printed in the UK by Pureprint using its *pure***print**® environmental printing technology, and vegetable inks were used throughout. Pureprint is a CarbonNeutral® company. Both the manufacturing mill and the printer are registered to the Environmental Management System ISO 14001 and are Forest Stewardship Council® chain-of-custody certified.

FSC
www.fsc.org
MIX
Paper from responsible sources
FSC® C022913

Registered office and corporate headquarters
AstraZeneca PLC
1 Francis Crick Avenue
Cambridge Biomedical Campus
Cambridge CB2 0AA
UK
Tel: +44 (0)20 3749 5000

This Annual Report is also available on our website,
www.astrazeneca.com/annualreport2020