UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

OR

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number: 001-37685

PAVMED INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware **(State or Other Jurisdiction of Incorporation or Organization)**	**47-1214177** **(IRS Employer Identification No.)**
One Grand Central Place **60 E. 42nd Street** **Suite 4600** **New York, NY 10165** **(Address of Principal Executive Offices)**	**10165** **(Zip Code)**

(212) 949-4319
(Registrant's Telephone Number, Including Area Code)

Securities registered under Section 12(b) of the Exchange Act:

Title of each Class	Name of each Exchange on which Registered
Common Stock, $0.001 par value per share	The NASDAQ Stock Market LLC
Series Z Warrants, each to purchase one share of Common Stock	The NASDAQ Stock Market LLC
Series W Warrants, each to purchase one share of Common Stock	The NASDAQ Stock Market LLC

Securities registered under Section 12(g) of the Exchange Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes [ ] No [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes[ ] No [X]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period the registrant was required to submit and post such files). Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent files pursuant to Item 405 of Regulation S-K (§229.405) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	[ ]	Accelerated filer	[ ]
Non-accelerated filer	[ ] ()	Smaller reporting company	[X]
Do not check if a smaller reporting company		Emerging Growth Company (EGC)	[X]

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [ ] No [X]

As of June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's voting stock held by non-affiliates was approximately $17.9 million, based on the last reported sales price per share of the registrant's common stock on such date.

As of March 29, 2019 there were 27,893,023 shares of the registrant's Common Stock, par value $0.001 per share, issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2019 annual meeting of stockholders are incorporated by reference into Part III of this Form 10-K where indicated. Such definitive proxy statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the year ended December 31, 2018.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K of PAVmed Inc. ("we", "us", "our" or "PAVmed" or the "Company") contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this Annual Report on Form 10-K, including statements regarding our future results of operations and financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements are not guarantees of future performance and the Company's actual results may differ significantly from the results discussed in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed in Item 1A of Part I of this Form 10-K under the heading "Risk Factors," which are incorporated herein by reference.

Important factors that may affect our actual results include:

- our limited operating history;
- our financial performance, including our ability to generate revenue;
- ability of our products to achieve market acceptance;
- success in retaining or recruiting, or changes required in, our officers, key employees or directors;
- potential ability to obtain additional financing when and if needed;
- ability to protect our intellectual property;
- ability to complete strategic acquisitions;
- ability to manage growth and integrate acquired operations;
- potential liquidity and trading of our securities;
- regulatory or operational risks;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing; and
- the time during which we will be an Emerging Growth Company ("EGC") under the Jumpstart Our Business Startups Act of 2012, or JOBS Act.

In addition, our forward-looking statements do not reflect the potential impact of any future financings, acquisitions, mergers, dispositions, joint ventures or investments we may make.

We may not actually achieve the plans, intentions, and /or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. You should read this Annual Report on Form 10-K and the documents we have filed as exhibits to this Annual Report on Form 10-K completely and with the understanding our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

PART I

Item 1. Business

Background and Overview

PAVmed is a highly-differentiated multi-product medical device company organized to advance a broad pipeline of innovative medical technologies we believe address unmet clinical needs and possess attractive market opportunities to commercialization. Since our inception on June 26, 2014, our activities have focused on advancing the lead products in our pipeline towards regulatory approval and commercialization, while protecting our intellectual property, and strengthening our corporate infrastructure and management team. As resources permit, we will continue to explore internal and external innovations that fulfill our project selection criteria without limiting ourselves to any target specialty or condition.

Since our inception in June 2014, we have financed our operations principally through issuances of our common stock, preferred stock, common stock purchase warrants, and debt, summarized as follows:

During 2018, we raised approximately $15.5 million of net proceeds, comprised of $20.5 million of gross proceeds, less $5.0 million used to repay debt ahead of the contractual maturity date, including:

* In January 2018, we raised $4.3 million of net cash proceeds in an underwritten public offering of 2,649,818 shares of our common stock pursuant to our previously filed effective shelf registration statement on SEC Form S-3 - File No. 333-220549.

* In June 2018, we raised approximately $9.2 million of net cash proceeds from an Equity Subscription Rights Offering - "ESRO" pursuant to our previously filed effective registration statement on SEC Form S-1 - File No. 333-222581, wherein, 9.0 million units were issued comprised of a corresponding number of shares of our common stock and Series Z Warrants exercisable to purchase 9.0 million shares of our common stock at an exercise price of $1.60 per share.

* In December 2018, we raised approximately $7.0 million of net cash proceeds, after payment of $750,000 of lender fees, from the issue of a Senior Secured Convertible Note with a face value principal of $7.75 million to an institutional investor in a private placement.

  Promptly after the consummation of the issue of the Senior Secured Convertible Note, we repaid in full the outstanding principal balance and all accrued but unpaid interest expense as of December 27, 2018 on the Senior Secured Note held by our existing lender, Scopia Holdings LLC, with such repayment consisting of a cash payment of $5.0 million the issue of 600,000 shares of our common stock.

Additionally during 2018, we also completed exchange offers of private securities and a Tender Offer of public warrants, including:

* In March 2018, in an exchange offer captioned the "Series A and Series A-1 Exchange Offer", we issued a total of 975,568 shares of Series B Convertible Preferred Stock for all of the issued and outstanding shares of each of the Series A Convertible Preferred Stock and the Series A-1 Convertible Preferred Stock, and issued a total of 2,739,190 Series Z Warrants for all of the issued and outstanding of each of the Series A Warrants and the Series A-1 Warrants.

* In April 2018, in an exchange offer captioned the "Series W Warrant Exchange Offer", the Company completed a Tender Offer whereby 96.4% of the then outstanding publicly traded Series W Warrants, or 10,151,682 Series W Warrants, were exchanged for 5,075, 849 Series Z Warrants.

  The Series Z Warrants are publicly traded on the NASDAQ Capital Market under the symbol PAVMZ, and each Series Z Warrant may be exercised to purchase a share of our common stock, initially at $3.00 per share through May 31, 2018, then $1.60 per share effective June 1, 2018, as a result of the Company's board of directors approval on May 15, 2018 of such exercise price adjustment.

During 2017 we raised a total of approximately $7.5 million of net cash proceeds from: a Note and Security Purchase Agreement with Scopia Holdings LLC, including the issuance of each of a Senior Secured Note with an initial face value principal of $5.0 million and Series S Warrants; the Series A-1 Preferred Stock Units private placement; and the Series A Preferred Stock Units private placement.

In April 2016 our IPO resulted in approximately $4.2 million of net cash proceeds, and prior to our IPO, we raised approximately $2.1 million of net cash proceeds from private offerings of our common stock and warrants.

Our multiple products are in various phases of development and have yet to receive regulatory approval. We have filed final nonprovisional patent applications for each of CarpX™ and PortIO™ and have obtained licenses for "DisappEAR™" from Tufts University and a group of academic centers, and for the "EsoCheck™ Technology" from Case Western Reserve University. We have recently hired a Chief Commercial Officer to further develop and implement our commercialization strategy in the United States and commercialization partnerships worldwide. The following is a brief overview of five lead products under development, including CarpX™, EsoCheck™, PortIO™, DisappEAR™, and NextFlo™.

Item 1. Business - continued

Background and Overview - continued

Our CarpX product is designed to be a minimally invasive device designed to treat carpal tunnel syndrome. The Company believes CarpX will dramatically reduce recovery times compared to traditional open surgery and target an estimated immediately addressable domestic market opportunity of over $1 billion. PAVmed has been working closely with the FDA to secure U.S. regulatory clearance of CarpX through the FDA's 510(k) pathway, which is based on demonstrating substantial equivalence (SE) to a previously cleared predicate device. CarpX is being manufactured in Massachusetts by a medical device contract manufacturer with lines scalable to accommodate demand for the foreseeable future following regulatory clearance. We have advanced, in partnership with our design and contract manufacturing partners, our CarpX product from concept to working prototypes, completed successful benchtop and cadaver testing confirming the device consistently cuts the transverse carpal ligament, as well as commercial design and development, and performed pre-submission verification and validation testing.

On November 27, 2017, we filed with the Federal Food and Drug Administration, or the "FDA," a premarket notification submission for CarpX under section 510(k) of the Food, Drug and Cosmetic Act, or the "FDCA," using a commercially available carpel tunnel release device as a predicate. The initial 510(k) application review period expired before the FDA's branches were able to reach a consensus on SE and it therefore recommended a 510(k) re-submission following an in-person pre-submission meeting held on January 7, 2019. During this meeting, the FDA recommended clinical testing to definitively document CarpX procedural safety in humans and indicated data from a properly structured clinical study outside of the U.S. would be acceptable, precluding the need to engage in the FDA's time-consuming Investigational Device Exemption (IDE) process required for U.S. studies. PAVmed offered to amend its previously planned first-in-human ("FIH") clinical trial (**ClinicalTrials.gov Identifier: NCT03747510**) in New Zealand to meet this clinical testing recommendation and postponed the initiation of the amended study until study parameters were finalized with the FDA. We recently reached a consensus with the FDA on the parameters of the CarpX FIH safety study, including pre- and post-operative electrodiagnostic testing to document device safety. The CarpX FIH safety study is a single-arm, two-center, two-surgeon, 20-patient study of the CarpX procedure in carpal tunnel syndrome patients, with a device safety primary endpoint defined as the absence of certain serious device-related adverse events over a limited 90-day follow-up period. Patients are currently undergoing pre-operative assessment and CarpX procedures are expected soon thereafter, subject-to customary procedure consents timely completed by each patient. We will also be preparing to submit CarpX for CE Mark clearance in Europe.

In May 2018, our majority-owned subsidiary Lucid Diagnostics Inc. entered into a license agreement with Case Western Reserve University, or "CWRU," - referred to as the "EsoCheck License Agreement," pursuant to which Lucid Diagnostics Inc. obtained the worldwide intellectual property rights to the "EsoCheck™ Technology". The EsoCheck™ Technology consists of the "EsoCheck™ Cell Collection Device™" - "EsoCheck™ CCD™" - and the "EsoCheck™ EsoGuard™", a panel of methylated DNA biomarkers. The EsoCheck™ Technology is intended for use to detect "Barrett's Esophagus" ("BE"), which is a primary precursor to esophageal cancer. At this time, the EsoCheck™ Technology is progressing through a two-phase regulatory and commercialization strategy which seeks to maximize the long-term commercial opportunity while providing near-term commercial milestones.

With respect to the first phase of the EsoCheck™ Technology strategy, we previously submitted EsoCheck™ CCD™ for FDA 510(k) clearance in late November 2018 and received an initial response from the FDA in late January 2019. This Additional Information ("AI") letter requested additional head-to-head effectiveness data relative to previously cleared esophageal cell collection devices. We have discussed this request with the FDA reviewer and will be submitting existing human cell count data of EsoCheck™ CCD™ vs. endoscopic brushings, collected from the ongoing NIH trial, to fulfill this request. The AI letter also requested some additional technical data related to the manufacturing and verification and validation testing of the device which will be ready for submission shortly. The EsoCheck™ EsoGuard™ methylated DNA biomarkers laboratory test is progressing toward achieving a Laboratory Developed Test ("LDT") designation at its designated clinical reference laboratory in Cleveland in early 2019. We are prepared to file for EsoCheck™ EsoGuard™ reimbursement codes through the American Medical Association's Proprietary Laboratory Analysis - "AMA PLA" - process as soon as the test is available as an LDT.

The second phase of our EsoCheck™ Technology regulatory and commercialization strategy seeks a specific indication for widespread BE screening based on existing American College of Gastroenterology ("ACG") guidelines, which recommend BE screening of up 20 million GERD patients. We have positioned resources to allow the EsoCheck™ EsoGuard™ second phase to move forward in an accelerated fashion. The multi-center NIH-funded clinical trial comparing EsoCheck™ CCD™ plus EsoCheck™ EsoGuard™ to endoscopy has enrolled 200 patients and interim results have been accepted for presentation at the major annual gastroenterology meeting, Digestive Diseases Week ("DDW"), which is scheduled for May 18 to 21, 2019. Draft protocol synopses for the Lucid Diagnostics Inc. sponsored clinical studies have been completed based upon input from former FDA officials retained through a leading regulatory consulting firm. Soon thereafter, we expect to file a pre-submission package with the FDA and secure a meeting date to discuss its clinical data requirements for a *de novo* or Pre-Market Approval ("PMA") pathway submission to support the EsoCheck™ EsoGuard™ second phase goal of a specific indication for widespread BE screening using EsoCheck™ Technology.

Background and Overview - continued

We have advanced, in partnership with our design and contract manufacturing partners, our PortIO product from concept to working prototypes, benchtop, animal, and cadaver testing, commercial design and development, verification and validation testing. We are pursuing an FDA clearance for use in patients with a need for vascular access up to seven days, under "de novo classification" of section 513(f)2 of the FDCA. The broader "seven days" clearance is being pursued in discussion with FDA following our previous initial submission to the FDA for a 510(k) premarket notification for use in patients only requiring 24-hour emergency type vascular access. The FDA-requested long-term GLP animal study implants and explants have been completed as has supplemental acute animal and cadaver studies designed to support the findings of the GLP study. The data will be submitted to the FDA once pathologic analysis of the implant sites is completed. Based on encouraging animal data, we are planning a long-term first-in-human ("FIH") series in dialysis patients in Colombia, South America and intend to fulfill the likely FDA request for human clinical data with an "outside-of-United States" ("OUS") study in New Zealand, CE Mark submission is scheduled for later this year, and we continue to explore potential strategic partnerships including acquisition of PortIO. Of significance toward our belief PortIO will one day become the answer to solve many of the current drawbacks intravenous access devices regularly encounter, our supplemental animal testing demonstrated PortIO was effective as a long-term vascular access device for the infusion of a daily dose of antibiotics over 60 days and also demonstrated PortIO remained patent in another animal despite not being accessed for 60 days.

We have advanced the development of our DisappEAR product in partnership with our design and contract manufacturing partners and our academic partners at Tufts University and Harvard Medical School. Our DisappEAR™ animal study to evaluate resorption rates was initiated in December 2018 with successful implants of machined silk ear tubes. The initial set of explants at three months look excellent and are currently undergoing pathologic analysis. Upon completion, data from this animal study will be used to support a planned FDA 510(k) submission later in 2019.

We have advanced the design and development of the NextFlo™ device, including a redesign which dramatically simplifies the product, lowers the projected cost of goods and expands its application to routine inpatient infusion sets, resulting in a proof of concept. NextFlo has generated favorable bench-top data, demonstrating it is able to passively adjust its resistance and deliver constant flow across a wide, clinically-relevant pressure range. The project has moved into the industrial and human factors design phase, whereby the technology will be incorporated into a standard intravenous infusion set. Full design verification and validation testing will follow to support an FDA 510(k) submission later this year and we believe will be limited to bench-top testing. Demonstration of this groundbreaking technology to interested strategic partners will commence soon and proceed in parallel with the regulatory process.

We have completed initial design work on the first product in the NextCath™ product line, completed head-to-head testing of retention forces, comparing our working prototype to several competing products, which has validated our approach and advanced the commercial design and development process focusing on optimizing the self-anchoring helical portion as well as cost of materials and manufacturing processes.

We are evaluating which initial applications for our Caldus™ disposable tissue ablation technology to pursue from a clinical and commercial point-of-view and will reinitiate development activity on this product once resources are available.

We are evaluating a number of product opportunities and intellectual property covering a spectrum of clinical conditions, which have been presented to us by clinician innovators and academic medical centers, for consideration of a partnership to develop and commercialize these products; we are also exploring opportunities to partner with larger medical device companies to commercialize our lead products as they move towards regulatory clearance and commercialization. In this regard, we remain actively engaged with our full-service regulatory consulting partner and who is working closely with our contract design, engineering and manufacturing partners as our products advance towards regulatory submission, clearance, and commercialization.

We are exploring other opportunities to grow our business and enhance shareholder value through the acquisition of pre-commercial or commercial stage products and /or companies with potential strategic corporate and commercial synergies.

Collectively, we - PAVmed Inc. and Lucid Diagnostics Inc. - have proprietary rights to the trademarks used herein, including, among others, PAVmed™, Lucid Diagnostics™, Caldus™, CarpX™, DisappEAR™, EsoCheck™, EsoCheck™ Cell Collection Device™, EsoCheck™ CCD™, EsoCheck™ EsoGuard™ , EsoCheck™ Technology, NextCath™, NextFlo™, PortIO™, and "Innovating at the Speed of Life" ™, among others. Solely as a matter of convenience, trademarks and trade names referred to herein may or may not be accompanied with the requisite marks of "™" or "®", however, the absence of such marks is not intended to indicate, in any way, each of PAVmed Inc. and /or Lucid Diagnostics Inc. will not assert, to the fullest extent possible under applicable law, its rights or the rights to such trademarks and trade names.

Item 1. Business - continued

Corporate History

PAVmed Inc. was incorporated on June 26, 2014 in the State of Delaware, initially as PAXmed Inc., then on April 19, 2015, we changed our name to PAVmed Inc. - referred to herein as "PAVmed" or "the Company". from PAXmed Inc., which was the Company's initial name.

Our principal business address is One Grand Central Place, 60 East 42nd Street, Suite 4600, New York, New York 10165, and our telephone number is (212) 949-4319. Our corporate website is www.PAVmed.com.

Our founders include three accomplished medical device entrepreneurs: Lishan Aklog M.D., Michael J. Glennon, and Brian J. deGuzman, M.D. In 2007, they founded Pavilion Holdings Group ("PHG"), a medical device holding company with a vision to create innovative single-product medical device companies using an outsourced business model focused on capital efficiency and speed to market. Two years later PHG formed Pavilion Medical Innovations ("PMI"), a venture-backed medical device incubator. Between 2008 and 2013, PHG and PMI founded four distinct, single-product medical device companies, three of which commercialized products and one of which was acquired, each as discussed below.

Vortex Medical Inc., founded in 2008 with $3.5 million in capital, created the AngioVac system, designed to remove large volume clots and other undesirable intravascular material without the need for open surgery. It received its initial U.S. Food and Drug Administration (FDA) clearance 16 months after the company was founded. AngioVac was commercially launched in 2009 and the first AngioVac procedure was performed at Harvard's Brigham and Women's Hospital later the same year. Vortex Medical marketed the AngioVac system across the United States until it was acquired in October 2012 by AngioDynamics Inc. (NASDAQ: ANGO) for $55.0 million in guaranteed consideration. At the time of its acquisition the company was cash-flow positive, carried no debt and did not require any additional capital beyond original $3.5 million raised.

Saphena Medical Inc., spun out of PMI in 2013 with $3.0 million in initial capital, created the VenaPax next-generation endoscopic vessel harvest device for use during coronary artery bypass surgery, which received FDA clearance in 18 months after the company was founded. VenaPax was first commercialized at Harvard's Massachusetts General Hospital in late 2014. VenaPax is currently being marketed across the United States.

Cruzar Medsystems Inc., spun out of PMI in 2013 with $2.5 million in capital, created a novel peripheral chronic total occlusion (CTO) device for use in peripheral arterial disease, which received its initial FDA 510(k) clearance in late 2015, and was first commercialized in May 2016, and is currently being marketed across the United States.

PAVmed was founded to adapt this model to a multi-product company with access to public capital markets. We believe this model allows us to conceive, develop and commercialize our pipeline of medical device products using significantly less capital and time than a typical medical device company, and provide a streamlined pathway to incorporate outside innovations.

Initial Public Offering - PAVmed Inc - April 28, 2016

The PAVmed Inc initial public offering ("IPO") was consummated on April 28, 2016 under a registration statement on Form S-1 - File No. 333-203569 - declared effective January 29, 2016, and resulted in approximately $4.2 million of net cash proceeds, after deducting cash selling agent discounts and commissions and offering expenses, from the issuance of 1,060,000 units at an offering price of $5.00 per unit, with each such "IPO Unit" comprised of one share of the Company's common stock and one warrant to purchase a share of common stock of the Company, with such warrant referred to as a "Series W Warrant".

The IPO Units were initially listed on the Nasdaq Capital Market ("Nasdaq") under the symbol "PAVMU", until July 27, 2016, when they ceased be listed on Nasdaq, with the underlying shares of common stock and the Series W Warrants being separately listed on Nasdaq, under the symbols of "PAVM" for the shares of common stock and "PAVMW" for the Series W Warrants.

Upon the issuance of the IPO Units on April 28, 2016, the 9,560,295 remaining unexercised common stock purchase warrants previously issued in private placements before the IPO were converted into identical Series W Warrants issued in the IPO. We refer to all such warrants collectively as "Series W Warrants", inclusive of those issued in the IPO and in the pre-IPO private placements. The Series W Warrants have an exercise price of $5.00 per share, with such exercise price not subject to further adjustment, except in the event of stock dividends, stock splits or similar events affecting the common stock, are currently exercisable, and expire on January 29, 2022 or earlier upon redemption by the Company, under certain conditions.

Corporate History - Continued

As of December 31, 2018, the following were issued and outstanding: 27,142,979 shares of common stock of the Company, along with common stock purchase warrants of: 16,815,039 Series Z Warrants, 381,818 Series W Warrants, and 1,199,383 Series S Warrants, as well as 53,000 Unit Purchase Options ("UPO-Z"); and 1,069,941 shares of Series B Convertible Preferred Stock.

As of December 31, 2017, the following were issued and outstanding: 14,551,234 shares of common stock of the Company, along with common stock purchase warrants of: 10,567,845 Series W Warrants, 1,473,640 Series S Warrants, 279,837 Series A-1 Warrants, and 268,001 Series A Warrants, as well as 53,000 Unit Purchase Options ("UPO-W"); and 249,667 shares of Series A Convertible Preferred Stock and 357,259 shares of Series A-1 Convertible Preferred Stock.

See herein below under "— Recent Events - Financing Transactions" for further information regarding the shares of common stock of the Company, the common stock purchase warrants, and the shares of preferred stock.

Recent Events

Regulatory Events

On November 21, 2018 our majority-owned subsidiary Lucid Diagnostics Inc. filed a 510(k) premarket notification submission with the FDA for the EsoCheck™ Cell Collection Device™ - EsoCheck™ CCD™ - which was accepted for substantive review in early December 2018. Subsequently, we received an initial response from the FDA in late January 2019. This Additional Information ("AI") letter requested additional head-to-head effectiveness data relative to previously cleared esophageal cell collection devices. We have discussed this request with the FDA reviewer and will be submitting existing human cell count data of EsoCheck™ CCD™ vs. endoscopic brushings collected from the ongoing NIH trial to fulfill this request. The AI letter also requested some additional technical data related to the manufacturing and verification and validation testing of the EsoCheck™ CCD™ which will be ready for submission shortly.

On August 22, 2018 we were notified by the lead FDA branch reviewing the 510(k) premarket notification submission for CarpX™ the lead branch had not reached a consensus with the consulting branch within the review period allotted under the FDA's rules and regulations. Accordingly, the lead branch recommended we take the appropriate steps to extend the review process through resubmission of the 510(k) premarket notification following an in-person pre-submission meeting which was conducted on January 7, 2019. During this meeting, the FDA recommended clinical testing to definitively document CarpX procedural safety in humans and indicated data from a properly structured clinical study outside of the U.S. would be acceptable, precluding the need to engage in the FDA's time-consuming Investigational Device Exemption (IDE) process required for U.S. studies. PAVmed offered to amend its previously planned first-in-human ("FIH") clinical trial (**ClinicalTrials.gov Identifier: NCT03747510**) in New Zealand to meet this clinical testing recommendation and postponed the initiation of the amended study until study parameters were finalized with the FDA. We recently reached a consensus with the FDA on the parameters of the CarpX FIH safety study, including pre- and post-operative electrodiagnostic testing to document device safety. The CarpX FIH safety study is a single-arm, two-center, two-surgeon, 20-patient study of the CarpX procedure in carpal tunnel syndrome patients, with a device safety primary endpoint defined as the absence of certain serious device-related adverse events over a limited 90-day follow-up period. Patients are currently undergoing pre-operative assessment and CarpX procedures are expected soon thereafter, subject-to customary procedure consents timely completed by each patient. We also will be preparing to submit CarpX for CE Mark clearance in Europe.

Item 1. Business - continued

Recent Events - continued

Financing Transactions

Overview - Financing

During 2018, we raised approximately $15.5 million of net proceeds, comprised of $20.5 million of gross proceeds, less $5.0 million used to repay debt ahead of the contractual maturity date, including:

* In January 2018, we raised $4.3 million of net cash proceeds in an underwritten public offering of 2,649,818 shares of our common stock pursuant to our previously filed effective shelf registration statement on SEC Form S-3 - File No. 333-220549.

* In June 2018, we raised approximately $9.2 million of net cash proceeds from an Equity Subscription Rights Offering - "ESRO" pursuant to our previously filed effective registration statement on SEC Form S-1 - File No. 333-222581, wherein, 9.0 million units were issued comprised of a corresponding number of shares of our common stock and Series Z Warrants exercisable to purchase 9.0 million shares of our common stock at an exercise price of $1.60 per share.

* In December 2018, we raised approximately $7.0 million of net cash proceeds, after payment of $750,000 of lender fees, from the issue of a Senior Secured Convertible Note with a face value principal of $7.75 million to an institutional investor in a private placement.

  Promptly after the consummation of the issue of the Senior Secured Convertible Note, we repaid in full the outstanding principal balance and all accrued but unpaid interest expense as of December 27, 2018 on the Senior Secured Note held by our existing lender, Scopia Holdings LLC, with such repayment consisting of a cash payment of $5.0 million the issue of 600,000 shares of our common stock.

  On January 25, 2019, we filed a registration statement on SEC Form S-3 - File No. 333-229372 - which became effective on February 14, 2019, for the shares of our common stock underlying the Senior Secured Convertible Note and the shares issued in connection with the repayment of the Senior Secured Note, with such filing dates consistent with the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement.

Additionally during 2018, we also completed exchange offers of private securities and a Tender Offer of public warrants, including:

* In March 2018, in an exchange offer captioned the "Series A and Series A-1 Exchange Offer", we issued a total of 975,568 shares of Series B Convertible Preferred Stock for all of the issued and outstanding shares of each of the Series A Convertible Preferred Stock and the Series A-1 Convertible Preferred Stock, and issued a total of 2,739,190 Series Z Warrants for all of the issued and outstanding of each of the Series A Warrants and the Series A-1 Warrants.

* In April 2018, in an exchange offer captioned the "Series W Warrant Exchange Offer", the Company completed a Tender Offer whereby 96.4% of the then outstanding publicly traded Series W Warrants, or 10,151,682 Series W Warrants, were exchanged for 5,075, 849 Series Z Warrants.

  The Series Z Warrants are publicly traded on the NASDAQ Capital Market under the symbol PAVMZ, and each Series Z Warrant may be exercised to purchase a share of our common stock, initially at $3.00 per share through May 31, 2018, then $1.60 per share effective June 1, 2018, as a result of the Company's board of directors approval on May 15, 2018 of such exercise price adjustment.

During 2017 we raised a total of approximately $7.5 million of net cash proceeds from: a Note and Security Purchase Agreement with Scopia Holdings LLC, including the issuance of each of a Senior Secured Note with an initial face value principal of $5.0 million and Series S Warrants; the Series A-1 Preferred Stock Units private placement; and the Series A Preferred Stock Units private placement.

Item 1. Business - continued

Recent Events - continued

Financing Transactions - continued

Debt Refinancing - Issue of Senior Secured Convertible Note & Repayment of Senior Secured Note - December 2018

In a private placement transaction with an institutional investor, we entered into a Securities Purchase Agreement under which we issued a Senior Secured Convertible Note, with an issue date of December 27, 2018, a contractual maturity date of December 31, 2020, a face value principal of $7.75 million, and a stated interest rate of 7.875% per annum - referred to as the "Senior Convertible Note". At the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company.

The Senior Convertible Note proceeds were $7.0 million after payment of $750,000 of lender fees. The Company incurred total offering costs of $614,940, inclusive of the payment of a $455,000 placement agent fee and legal fees.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note, we repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue of 600,000 shares of our common stock to the lender, Scopia Holdings LLC. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions. See below for further information with respect to the Senior Secured Note.

The Senior Convertible Note requires bi-monthly payments, with such payments due and payable on each of the 15th calendar day of each month and the Last Trading Day of each month, with the first bi-monthly payment date of January 15, 2019 and the last bi-monthly payment date of December 31, 2020. The bi-monthly payments have two components: a bi-monthly "Installment Repayment" which commences June 28, 2019 through Dec 31, 2020, and a bi-monthly "Non-Installment Payment" which commences Jan 15, 2019 through the Dec 31, 2020. The bi-monthly Installment Repayments are prescribed and the bi-monthly Non-Installment Repayments are a function of the remaining Senior Convertible Note face value principal outstanding.

As noted, at the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company. The Holder may make the conversion election at any time after the December 27, 2018 issue date at an initial contractual stated conversion price of $1.60 per share of common stock of the Company. The conversion price per share is subject-to adjustment for the effect of stock dividends, stock splits, or similar events affecting the common stock of the Company - i.e. "plain vanilla standard anti-dilution provisions". The conversion price may also be adjusted: if we issue or agree to issue any variable rate securities, in which case the Holder shall be entitled to substitute the variable price for the initial stated conversion price; or if certain Events of Default occur, as defined, in which case the Holder is entitled to convert all or a portion of the Senior Convertible Note at the lower of (i) the actual conversion price then in effect or (ii) 80% of the market price of the Company's common stock, as defined, but not lower than a floor price of $0.19 per share. The initial stated conversion price of $1.60 per share may be reduced at any time during the term of the Senior Convertible Note at our discretion, subject to the Holder's written consent.

We have filed with the SEC an effective registration statement on Form S-3 - File No. 333- 229372 - referred to as the "Senior Convertible Note Registration Statement" - registering for resale the maximum number of shares of common stock of the Company issuable upon conversion of the Senior Convertible Note and the shares issued in connection with the repayment of the Senior Secured Note. The Company timely filed with SEC the initial Senior Convertible Note Registration Statement on January 25, 2019 and such registration statement became effective on February 14, 2019, with each such date consistent with the requirements of the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement discussed above. If the Senior Convertible Note Registration Statement effectiveness is not maintained, then, the Company is required to make payments of 1% of the Senior Convertible Note face value principal payable on the date of such event, and every thirty days thereafter until the effectiveness failure is cured.

See *Liquidity and Capital Resources* herein below for further information regarding the Senior Secured Convertible Note.

Item 1. Business - continued

Recent Events - continued

Financing Transactions - continued

Equity Subscription Rights Offering - June 2018

Our Equity Subscription Rights Offering - "ESRO" - closed on June 12, 2018, after the June 7, 2018 expiration date of the equity subscription period. The ESRO was completed under a registration statement on Form S-1 - File No. 333-222581 - declared effective by the SEC on May 23, 2018.

The ESRO involved the Company distributing one non-transferable equity subscription for each of the 17,509,654 issued and outstanding shares of common stock of the Company, as of the record date of May 21, 2018, subject-to the acceptance by the Company of a maximum of 9.0 million fully-paid equity subscriptions tendered as of the June 7, 2018 expiration date of the equity subscription period. The equity subscription provided for the purchase of a common stock unit at a $1.15 per unit, which immediately separated upon issue into one share of common stock of the Company and one Series Z Warrant to purchase one share of common stock of the Company at an exercise price of $1.60 per share.

The ESRO resulted in approximately $10.4 million of gross cash proceeds, before approximately $1.0 million of commissions and fees to the dealer-managers, and approximately $0.2 million of offering costs incurred by the Company, upon the issue on June 12, 2018 of 9.0 million common stock units, comprised of one share of common stock of the Company and one Series Z Warrant. See below for further information with respect to the Series Z Warrant.

Issue of Common Stock - Underwritten Public Offering - January 2018

In January 2018, we conducted an underwritten public offering resulting in the issue of a total of 2,649,818 shares of common stock of the Company pursuant to our previously filed and effective shelf registration statement on SEC Form S-3 - File No. 333-220549 - declared effective October 6, 2017, along with a corresponding prospectus supplement dated January 19, 2018. On January 19, 2018, the Company entered into an underwriting agreement with Dawson James Securities, Inc., as sole underwriter, under which we agreed to issue to the underwriter at $1.80 per share, 2,415,278 shares of common stock on a firm commitment basis and up to an additional 362,292 shares solely to cover underwriter over-allotments, if any, at the option of the underwriter, exercisable within 45 calendar days from January 19, 2018. We issued the 2,415,278 shares of common stock of the Company on January 23, 2018, and on January 25, 2018, we issued an additional 234,540 shares of common stock of the Company, under the underwriter's over-allotment, resulting in cash proceeds, net of the underwriter's discount of $4,388,099, before $113,438 of offering costs incurred by us.

Series A and Series A-1 Exchange Offer - March 2018

On March 15, 2018, the "Series A and Series A-1 Exchange Offer" was completed, wherein, two shares of Series B Convertible Preferred Stock were issued-upon-exchange of one share of Series A Convertible Preferred Stock, and five Series Z Warrants were issued-upon-exchange of one Series A Warrant; and, 1.33 shares of Series B Convertible Preferred Stock were issued-upon-exchange of one share of Series A-1 Convertible Preferred Stock, and five Series Z Warrants were issued-upon-exchange of one Series A-1 Warrant. Collectively, such exchanges are referred to as the "Series A and Series A-1 Exchange Offer" and the "March 15, 2018 Exchange Date". The Series A and Series A-1 Exchange Offer was offered to and accepted by all holders of the Series A Convertible Preferred Stock and Series A Warrants and the Series A-1 Convertible Preferred Stock and Series A-1 Warrants.

On the March 15, 2018 Exchange Date: a total of 975,568 shares of Series B Convertible Preferred Stock were issued-upon-exchange, including 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange of 249,667 shares of Series A Convertible Preferred Stock and 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange of 357,259 shares of Series A-1 Convertible Preferred Stock; and, a total of 2,739,190 Series Z Warrants were issued-upon-exchange, including 1,340,005 Series Z Warrants issued-upon-exchange of 268,001 Series A Warrants and 1,399,185 Series Z Warrants issued-upon-exchange of 279,837 Series A-1 Warrants.

As of the Series A and Series A-1 Exchange Offer March 15, 2018 Exchange Date, there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants, nor shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants, as each were fully exchanged-upon-issue of shares of the corresponding Series B Convertible Preferred Stock and Series Z Warrants, respectively. See below for further information with respect to each of the Series B Convertible Preferred Stock and the Series Z Warrant.

Item 1. Business - continued

Recent Events - continued

Financing Transactions - continued

Series W Warrants Exchange Offer - April 5, 2018 & Series W Warrant Temporary Exercise Price Reduction - February 2018

On April 5, 2018, the "Series W Warrants Exchange Offer" was completed, resulting in 5,075,849 Series Z Warrants issued-upon-exchange of 10,151,682 Series W Warrants, pursuant to an offer-to-exchange letter dated February 20, 2018, as included in a Tender Offer Statement on Schedule TO filed with the SEC on February 20, 2018, wherein, the Company offered to issue one Series Z Warrant in exchange for two Series W Warrants. Such Series W Warrants Exchange Offer commenced on February 20, 2018 and had April 2, 2018 expiration date. The Series W Warrants Offer-to-Exchange was completed after expiration of the guaranteed delivery period on April 5, 2018.

On January 11, 2018, the Company filed with the SEC a Tender Offer Statement on Schedule TO offering Series W Warrants holders a temporary reduced exercise price of $2.00 per share. As of the February 8, 2018 expiry date, a total of 34,345 Series W Warrants were exercised at the temporary reduced exercise price of $2.00 per share, resulting in $68,690 of cash proceeds, before offering costs of $50,520.

As of December 31, 2018 and 2017, there were 381,818 and 10,567,845 Series W Warrants issued and outstanding, respectively. The Series W Warrants have an exercise price of $5.00 per share, with such exercise price not subject to further adjustment, except in the event of stock dividends, stock splits or similar events affecting the common stock of the Company, and became exercisable on October 28, 2016 and expire on January 29, 2022, or earlier upon redemption by the Company, as discussed below.

Commencing April 28, 2017, the Company may redeem the outstanding Series W Warrants (other than those outstanding prior to the IPO held by the Company's management, founders, and members thereof, but including the warrants held by the initial investors), at the Company's option, in whole or in part, at a price of $0.01 per warrant: at any time while the warrants are exercisable; upon a minimum of 30 days' prior written notice of redemption; if, and only if, the volume weighted average price of the Company's common stock equals or exceeds $10.00 (subject-to adjustment) for any 20 consecutive trading days ending three business days before the Company issues its notice of redemption, and provided the average daily trading volume in the stock is at least 20,000 shares per day; and, if, and only if, there is a current registration statement in effect with respect to the shares of common stock of the Company underlying such warrants. The right to exercise will be forfeited unless the Series W Warrants are exercised prior to the date specified in the notice of redemption. On and after the redemption date, a record holder of an Series W Warrant will have no further rights except to receive the redemption price for such holder's Series W Warrant upon its surrender.

UPO Exchange Offer - August 2018

On the April 28, 2016 closing date of the Company's IPO, as discussed above, a total of 53,000 unit purchase options were issued to the IPO selling agents, with each such unit purchase option issued on April 28, 2016 referred to as an "UPO-W". The UPO-W, with an exercise price of $5.50 per unit, could have been exercised to purchase the same unit issued in the Company's IPO, with such "IPO Unit" comprised of one share of common stock of the Company and one Series W Warrant to purchase one share of common stock of the Company at an exercise price of $5.00 per share. The UPO-W had a January 29, 2021 expiration date. Subsequently, on August 22, 2018, the "UPO Exchange Offer" was completed, wherein, 53,000 "UPO-Z" were issued-upon-exchange of all the previously issued and outstanding 53,000 UPO-W. The UPO-Z, with an exercise price of $5.50 per unit, may be exercised to purchase a unit comprised of one share of common stock of the Company and one Series Z Warrant to purchase one share of common stock of the Company at an exercise price of $1.60 per share. The UPO-Z has a January 29, 2021 expiration date. See below for further information with respect to the Series Z Warrant.

Series A Exchange Offer - November 17, 2017

On November 17, 2017, the "Series A Exchange Offer" was completed, wherein the 28 holders of the Series A Convertible Preferred Stock and Series A Warrants were offered the opportunity to exchange of one share Series A Convertible Preferred Stock for 1.5 shares of Series A-1 Convertible Preferred Stock, and, one Series A Warrant for one Series A-1 Warrant, resulting in 13 holders exchanging 154,837 shares of Series A Convertible Preferred Stock for 232,259 shares of Series A-1 Convertible Preferred Stock, and 154,837 Series A Warrants for 154,837 Series A-1 Warrants. Additionally, in November and December 2017, a total of 18,334 shares of Series A Convertible Preferred Stock were converted into 22,093 shares of common stock of the Company. Accordingly, as of December 31, 2017, there were 249,667 shares of Series A Convertible Preferred Stock and 268,001 Series A Warrants issued and outstanding, and 357,259 shares of Series A-1 Convertible Preferred Stock and 279,837 Series A-1 Warrants issued and outstanding.

Item 1. Business - continued

Recent Events - continued

Financing Transactions - continued

Series Z Warrants

As of December 31, 2018, 16,815,039 Series Z Warrants were issued and outstanding, resulting from the initial issue of 2,739,190 Series Z Warrants on the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as such exchange offer is discussed above; the issue of 5,075,849 Series Z Warrants on the April 5, 2018 Exchange Date of the "Series W Warrants Exchange Offer", as such exchange offer is discussed above; and the issue of 9,000,000 Series Z Warrants on the June 12, 2018 close date of the Equity Subscription Rights Offering, as such offering is discussed above.

The Series Z Warrant is a common stock purchase warrant with an exercise price initially of $3.00 per share through May 31, 2018, and then $1.60 per share effective June 1, 2018, wherein, on May 15, 2018, the Company's board of directors approved a reduction to the Series Z Warrant exercise price to $1.60 per share, effective June 1, 2018, upon completion of the period-of-notice to the then-current Series Z Warrant holders. The Series Z Warrant $1.60 exercise price is not subject-to further adjustment, unless by action of the PAVmed Inc board of directors, or the effect of stock dividends, stock splits or similar events affecting the common stock of the Company. The Series Z Warrants expire after the close of business on April 30, 2024, if not earlier redeemed by the Company, as discussed below.

Commencing on May 1, 2019, the Company may redeem the outstanding Series Z Warrants, at the Company's option, in whole or in part, at a price of $0.01 per Series Z Warrant at any time while the Series Z Warrants are exercisable, upon a minimum of 30 days' prior written notice of redemption, if, and only if, the volume weighted average closing price of the common stock of the Company equals or exceeds $9.00 (subject to adjustment) for any 20 out of 30 consecutive trading days ending three business days before the Company issues its notice of redemption, and provided the average daily trading volume in the common stock of the Company during such 30-day period is at least 20,000 shares per day; and if, and only if, there is a current registration statement in effect with respect to the shares of Common Stock underlying such Series Z Warrants.

Series B Convertible Preferred Stock

As of December 31, 2018, 1,069,941 shares of Series B Convertible Preferred Stock were issued and outstanding, including: 975,568 shares issued-upon-exchange in the March 15, 2018 Exchange Offer, as such exchange offer is discussed above, 33,325 shares of Series B Convertible Preferred Stock converted into a corresponding number of shares of common stock of the Company in July 2018, at the holders election, and a total of 127,698 shares issued in settlement of the aggregate Series B Convertible Preferred Stock dividend payouts, as discussed below.

The Series B Convertible Preferred Stock has a par value of $0.001 per share, no voting rights, a stated value of $3.00 per share, and is immediately convertible upon its issuance. At the holders' election, a share of Series B Convertible Preferred Stock is convertible into a number of shares of common stock of the Company at a common stock conversion exchange factor equal to a numerator and denominator of $3.00, with each such numerator and denominator not subject to further adjustment, except for the effect of stock dividends, stock splits or similar events affecting the Company's common stock.

The Series B Convertible Preferred Stock provides for dividends at a rate of 8% per annum based on the $3.00 per share stated value of the Series B Convertible Preferred Stock, with such dividends compounded quarterly, accumulate, and are payable in arrears upon being declared by the Company's board of directors. The Series B Convertible Preferred Stock dividends from April 1, 2018 through October 1, 2021 are payable-in-kind ("PIK") in additional shares of Series B Convertible Preferred Stock. The dividends may be settled after October 1, 2021, at the option of the Company, through any combination of the issuance of additional Series B Convertible Preferred Stock, shares of common stock, and /or cash payment.

To-date through December 31, 2018, the Company's board of directors have declared Series B Convertible Preferred Stock dividend payment of earned but unpaid dividends as of September 30, 2018, payable as of October 1, 2018, of an aggregate of $382,920, with such dividend payment settled by the issue of an additional 127,698 shares of Series B Convertible Preferred Stock. Subsequently, in January 2019, the Company's board-of-directors declared a Series B Convertible Preferred Stock dividend payment of earned but unpaid dividends as of December 31, 2018, payable as of January 1, 2019, of $64,196, with such dividend payment settled by the issue of an additional 21,413 shares of Series B Convertible Preferred Stock.

Item 1. Business - continued

Recent Events - continued

Financing Transactions - continued

Note and Security Purchase Agreement with Scopia Holdings LLC - July 2017

In July 2017, we previously entered into a Note and Security Purchase Agreement with Scopia Holdings LLC ("Scopia" or the "Lender"), whereupon Scopia delivering to us $4.8 million in net cash proceeds, we issued to Scopia, a Senior Secured Note with an initial principal of $5.0 million, referred to herein as the "Senior Secured Note", and also issued 2,660,000 Series S Warrants to Scopia to purchase a corresponding number of shares of common stock of the Company.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note as discussed above, we repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue to Scopia of 600,000 shares of common stock of the Company. The Senior Secured Note repayment was executed under a Notice of Prepayment agreement dated December 27, 2018. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions.

The Senior Secured Note annual interest rate was 15.0%, with interest payable semi-annually in arrears on June 30 and December 30 of each calendar year, commencing December 30, 2017 ("15% interest expense"). At our sole discretion, we were able to defer payment of up to 50% of each of the semi-annual 15% interest expense payable, with such deferred amount added to the outstanding interest-bearing principal balance of the Senior Secured Note. In this regard, the Senior Secured Note principal balance was $5,780,116 and $5,188,542, as of December 27, 2018 and December 31, 2017, respectively, with each such principal amount comprised of the initial principal of $5.0 million and the total unpaid semi-annual interest as of December 27, 2018 and December 31, 2017, respectively.

The Senior Secured Note total interest expense of $2,392,447 and $724,684, for the year ended December 31, 2018 and 2017, respectively, was comprised of $786,145 and $377,083, respectively, resulting from the 15% interest expense and $1,606,302 and $347,601, respectively, resulting from the amortization of Senior Secured Note debt discount. The Senior Secured Note remaining unamortized debt discount was $1,637,972 as of December 27, 2018 and $3,244,274 as of December 31, 2017.

On the December 27, 2018 repayment date, we recognized as other income (expense), a debt extinguishment loss of $1.4 million resulting from the difference between a $5.5 million debt reacquisition price and a $4.1 million debt carrying value, net, of the Senior Secured Note as of December 27, 2018.

There were 1,199,383 and 1,473,640 Series S Warrants issued and outstanding as of December 31, 2018 and 2017, respectively. In March 2018, a total of 274,257 Series S Warrants exercised for $2,743 of cash proceeds, resulting in the issue of a corresponding number of a shares of common stock of the Company. In each of October 2017 and November 2017, 532,000 (or a total of 1,064,000) Series S Warrants were exercised for total cash proceeds of $10,640, resulting in the issuance of a corresponding number of shares of common stock of the Company, and in November 2017, a total of 122,360 Series S Warrants were exercised on a cashless basis, resulting in the issuance of a total of 122,080 shares of common stock of the Company.

The Series S Warrants were immediately exercisable upon issuance, have an exercise price of $0.01 per share, with such exercise price not subject to further adjustment, except in the event of stock dividends, stock splits or similar events affecting the common stock of the Company, may be exercised for cash or on a cashless basis, and expire June 30, 2032, with any Series S Warrants outstanding on the expiration date automatically exercised on a cashless basis.

See *Liquidity and Capital Resources* herein below for further information regarding the Note and Security Purchase Agreement with Scopia Holdings LLC.

Item 1. Business - continued

Recent Events - continued

Financing Transactions - continued

Series A-1 Preferred Stock Units Private Placement - August 4, 2017

On the Series A-1 Preferred Stock Units private placement August 4, 2017 closing date, we issued a total of 125,000 Series A-1 Preferred Stock Units for aggregate proceeds of $500,000. We did not incur placement agent fees in connection with the Series A-1 Preferred Stock Units private placement. The Series A-1 Preferred Stock Unit was comprised of one share of Series A-1 Convertible Preferred Stock convertible into one share of our common stock, and one Series A-1 Warrant exercisable for one share of our common stock, or could have been exchanged for five Series W Warrants or four Series X-1 Warrants each of which would have been exercisable for a corresponding number of shares of our common stock. As discussed above, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants.

Series A Preferred Stock Units Private Placement - Three Months Ended March 31, 2017

On the January 26, 2017 initial closing date of the Series A Preferred Stock Units private placement, and on subsequent closings on January 31, 2017 and March 8, 2017, a total of 422,838 Series A Preferred Stock Units were issued for aggregate gross proceeds of approximately $2.5 million and net proceeds of approximately $2.2 million, after payment of placement agent fees and closing costs. A Series A Preferred Stock Unit was comprised of one share of Series A Convertible Preferred Stock convertible into one share of our common stock, and one Series A Warrant exercisable for one share of common stock of the Company, or could have been exchanged for four Series X Warrants, each of which would have been exercisable for corresponding number of shares of our common stock.

As discussed above, as a result of the “November 17, 2017 Series A Exchange Offer” and the “March 15, 2018 Series A and Series A-1 Exchange Offer”, and the conversion of shares of Series A Convertible Preferred Stock in each of November and December 2017, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants.

See *Liquidity and Capital Resources* herein below for further information regarding the Series A-1 Preferred Stock Units private placement, Series A-1 Convertible Stock, and Series A-1 Warrants.

Item 1. Business - continued

Recent Events - continued

Other Events

EsoCheck™ License Agreement

On May 8, 2018, Lucid Diagnostics Inc., a majority-owned subsidiary of the Company, was incorporated in the State of Delaware. On May 12, 2018, Lucid Diagnostics Inc. entered into the "EsoCheck™ License Agreement" with Case Western Reserve University ("CWRU"), with respect to the "EsoCheck™ Technology". The EsoCheck™ License Agreement provides for the exclusive worldwide license of the intellectual property rights for the proprietary technologies of two distinct components, including: the "EsoCheck™ Cell Collection Device™" or the "EsoCheck™ CCD™", and the EsoCheck™ EsoGuard™, a panel of methylated DNA biomarkers, referred to collectively as the "EsoCheck™ Technology".

Lucid Diagnostics Inc. issued a total of 10 million shares of its common stock for a purchase price of $0.001 per share, including: the issue of 8,187,499 shares to PAVmed Inc.; the issue of 943,464 shares to CWRU; and, the issue of 289,679 shares to each of the three individual physician inventors of the "EsoCheck™ Technology. Furthermore, Lucid Diagnostics Inc. board of directors adopted the Lucid Diagnostics, Inc. 2018 Long-term Incentive Equity plan and reserved for issuance 2 million shares of common stock under the plan.

Under a management services agreement, PAVmed Inc. is providing certain operational management services to Lucid Diagnostics Inc. for which Lucid Diagnostics Inc. paid a $20,000 monthly fee from May 15, 2018 to February 15, 2019, then such monthly fee was $60,000 effective February 16, 2019.

Under the EsoCheck™ License Agreement, Lucid Diagnostics Inc. incurred a payment obligation to CWRU of approximately $273,000, referred to as the "EsoCheck™ License Agreement Fee". The Company has made a $50,000 initial payment of the EsoCheck™ License Agreement Fee, and is required to make future quarterly payments of $50,000 until such fee is paid-in-full, provided, however, the commencement of such quarterly payments is subject to Lucid Diagnostics Inc. consummation of a bona fide financing with an unrelated third-party in excess of $500,000. The EsoCheck™ License Agreement also provides for potential payments upon the achievement of certain product development and regulatory clearance milestones. If Lucid Diagnostics Inc. does not meet certain milestones listed in the EsoCheck™ License Agreement, then CWRU has the right, in its sole discretion, to require the Company to transfer to CWRU a percentage, varying up to 100%, of the shares of common stock of Lucid Diagnostics Inc. held by the Company. Lucid Diagnostics Inc. will also be required to pay a minimum annual royalty commencing the year after the first commercial sale of products resulting from the commercialization of the EsoCheck™ Technology, with the minimum amount rising based on net sales of such product(s), if any.

The three physician inventors of the EsoCheck™ Technology each entered into consulting agreements with Lucid Diagnostics Inc. to continue to support the development of the EsoCheck™ Technology. In addition to cash compensation based on a contractual rate per hour, additional compensation under each such consulting agreement includes: the grant of stock options under the Lucid Diagnostics Inc 2018 Long-Term Incentive Equity Plan to each individual to purchase 100,000 shares of common stock of Lucid Diagnostics Inc. at an exercise price of $0.50 per share of such common stock; and, the grant under the PAVmed Inc. 2014 Long-Term Incentive Plan of stock options to each individual to purchase 25,000 shares of PAVmed Inc. common stock at an exercise price of $1.59 per share of such common stock.

In June 2018, Lucid Diagnostics Inc. entered into a contract development and manufacturing organization (CDMO) agreement with an unrelated third-party for the supply of the "EsoCheck™ CCD™, principally for use in research and development activities - referred to herein as the "EsoCheck™ CCD™ CDMO Supply Agreement". The EsoCheck™ CCD™ CDMO Supply Agreement contains a firm price per unit, and a contractual device purchase minimum quantity, is cancellable with 10 day notice, among other routine and customary provisions. With respect to the device purchase contractual minimum quantity, if Lucid Diagnostics Inc. terminates the EsoCheck™ CCD™ CDMO Supply Agreement without "good reason", as defined, prior to placing purchase orders for 5,000 units of the EsoCheck™ CCD™, then Lucid Diagnostics Inc. will make a single one-time $50,000 payment to the unrelated third-party CDMO. The minimum quantity contingent payment, if any, will be recognized as a current period expense if and when such payment obligation is incurred. Further, in June 2018 Lucid Diagnostics Inc. entered into a separate consulting agreement with the owner of the CDMO, with the sole compensation under such consulting agreement being the June 2018 issue of 75,000 Lucid Diagnostics Inc. stock options with an exercise price of $1.00 per share of common stock of Lucid Diagnostics Inc.

Item 1. Business - continued

Recent Events - continued

Other Events - *continued*

Executive Vice President of Strategic Projects for PAVmed Inc. and Chief Medical Officer of Lucid Diagnostics Inc.

On February 16, 2019, the Company entered into at-will employment with David F. Wurtman, M.D. to serve as Executive Vice President of Strategic Projects for PAVmed Inc. and Chief Medical Officer of Lucid Diagnostics Inc. Previously, Dr. Wurtman had been engaged as a consultant to each of PAVmed Inc. and Lucid Diagnostics Inc. In connection with his employment, Dr. Wurtman was granted the following stock options: (i) 150,000 stock options were granted under the PAVmed Inc. 2014 Long-Term Incentive Equity Plan to purchase shares of common stock of PAVmed Inc. at an exercise price of $1.00 per share of common stock of PAVmed Inc., with a grant date of March 7, 2019, vesting ratably on a quarterly basis commencing March 31, 2019 and ending December 31, 2021, and a ten year contractual term from date-of-grant; and, (ii) 300,000 stock options were granted under the Lucid Diagnostics Inc. 2018 Long-Term Incentive Equity Plan to purchase shares of common stock of Lucid Diagnostics Inc. at an exercise price of $1.00 per share of common stock of Lucid Diagnostics Inc., with a grant date of February 18, 2019, and vesting of 200,000 of such stock options vesting immediately upon grant, and 100,000 of such stock options vesting ratably on a quarterly basis commencing March 31, 2019 and ending December 31, 2021, and a ten year contractual term from date-of-grant. In addition to the 300,000 Lucid Diagnostics Inc. stock options granted on February 18, 2019, Dr. Wurtman is eligible for a separate grant of 200,000 Lucid Diagnostics Inc stock options upon achievement of certain product development objective(s), with the achievement of such objective(s) determined solely by the Lucid Diagnostics Inc. board of directors.

See our consolidated financial statements Note 10,*Stock-Based Compensation*, for information regarding each of the “PAVmed Inc. 2014 Long-Term Incentive Plan” and the “Lucid Diagnostics Inc 2018 Long-Term Incentive Equity Plan”.

Tufts Patent License Agreement - Antibiotic-Eluting Resorbable Ear Tubes

In November 2016, we executed the Tufts Patent License Agreement with the Licensors. Pursuant to the Tufts Patent License Agreement, the Licensors granted us the exclusive right and license to certain patents owned or controlled by the Licensors in connection with the development and commercialization of antibiotic-eluting resorbable ear tubes based on a proprietary aqueous silk technology. Upon execution of the Tufts Patent License Agreement, we paid the Licensors a $50,000 up-front non-refundable payment. The Tufts Patent License Agreement also provides for payments by us to the Licensors upon the achievement of certain product development and regulatory clearance milestones as well as royalty payments on net sales upon the commercialization of products developed utilizing the licensed patents.

Item 1. Business - continued

Our Business Model

In contrast to pharmaceuticals and other life science technologies, which typically require long and capital-intensive paths to translate cellular or biochemical processes into commercially-viable therapeutics or diagnostics, we believe that medical devices have the potential to move much more rapidly from concept to commercialization with significantly less capital investment. Many commercially successful medical devices are often elegant solutions to important and prevalent clinical problems. Most medical device companies, however, are not structurally or operationally equipped to fulfill this potential. According to a report by Josh Makower, M.D., Consulting Professor of Medicine at Stanford University, the typical medical device company will spend over $31.0 million and take approximately five years to develop and commercialize a product through the FDA's 510(k) pathway and over $100.0 million and seven or more years through the FDA's Premarket Approval ("PMA") pathway.

Prior to forming PAVmed, our leadership team established a model to realize this potential in single-product companies by advancing medical device products from concept to commercialization using significantly less capital and time than a typical medical device company. When previously applied to single-product venture backed companies, the model utilized a virtual business structure. PAVmed's structure enables us to retain the model's tight focus on capital and time efficiency and the core elements which drive efficiency, including limited infrastructure and low fixed costs, while taking advantages of the economies of scale and flexibility inherent in a multi-product company.

Project Selection

A key element of our model is the project selection process. We choose projects to develop and commercialize based on characteristics which contribute to a strong commercial opportunity. We place a heavy emphasis on medical device products with the potential for high-margins and high-impact in attractive markets without regard to the target specialty or clinical area.

Our project selection process begins with the identification of an unmet clinical need. We seek prevalent medical conditions where we believe an opportunity exists to advance the care of the patient through improvements in existing technologies or the introduction of new platform technologies. In the current healthcare environment, this usually means our products must be less invasive and more cost effective. We select projects which we believe have the potential to lessen procedural invasiveness and/or the opportunity to shift care from the surgical operating room to lower-cost venues such as the interventional suite or the ambulatory setting. We expect our products to decrease complications, hospital stays, recovery times and indirect costs associated with a patient's loss of productivity.

Additional characteristics which impact a project's commercial opportunity are its technology, regulatory and reimbursement profiles. We typically select projects with strong intellectual property position, low to moderate technological complexity, low to moderate manufacturing costs and primarily disposable products do not require significant capital equipment.

One of the most important features we consider is the project's regulatory pathway, both in the U.S. and internationally. The FDA's less arduous 510(k) pathway requires us to demonstrate our product is safe and substantially equivalent to FDA-cleared predicates. The FDA's costlier and more prolonged PMA pathway requires us to demonstrate our product is safe and effective through randomized clinical studies. A product which is eligible for the 510(k) pathway will require substantially less capital and time than one that requires full PMA clearance. With all our products we are very aggressive about identifying what we believe are the quickest paths to regulatory clearance, paying very careful attention to selection of the best predicates and references as well as careful attention to precisely crafting the primary indications for use language. Although we favor products eligible for the FDA's 510(k) pathway, with or without clinical safety studies, we may also pursue PMA pathway products with large addressable markets, or in the case of one of our lead products, PortIO™, pursue classification under section 513(f)(2) of the Federal Food, Drug, and Cosmetic Act, also referred to as *de novo* classification, which could be more rigorous than the 510(k) pathway, but generally require substantially less time and resources than a PMA pathway. We have a variety of options to commercialize such products more efficiently by initially, or even exclusively, targeting European or emerging markets which have shorter, less costly regulatory pathways for such projects. We also attempt to identify narrower applications and indications with lower regulatory hurdles will allow us to start commercializing our product, while broader applications and indications with higher hurdles move through the regulatory process.

The project's reimbursement profile, both in the U.S. and internationally, is another very important component of the project's commercial opportunity. We prefer projects with existing reimbursement codes, the opportunity to seek reimbursement under higher-value surgical procedure codes or the potential to seek reimbursement under narrow, product-specific codes as opposed to bundled procedure codes.

Development and Commercialization Processes

Once we add a project to our pipeline, we map out development and commercialization processes specifically tailored to the product seeking to optimize capital and time efficiency and maximize value creation. The model emphasizes parallel development processes, such as engineering, quality, regulatory, supply chain, and manufacturing, utilizing outsourced, best-in-class process experts on an as-needed basis. We initially select the shortest, most-efficient path to commercialization of a safe and effective first-generation product. We then proceed with iterative product development based on real-life product performance and user feedback.

We intend to continue to utilize outsourced best-in-class process experts. We have strong relationships with a network of experts in design engineering, regulatory affairs, quality systems, supply chain management and manufacturing, including many with highly specialized skills in areas critical to our current and future pipeline. We will not be reluctant, however, to in-source certain heavily utilized process experts when and if we decide such a move will enhance our ability to execute on our strategy. As we grow, we expect to maintain a lean management infrastructure while expanding our bandwidth primarily with skilled project managers.

Although the PHG and PMI companies were created with a credible path to self-commercialization, they were fundamentally "built to sell." We believe our structure will enhance our flexibility to commercialize our products compared to these and other single-product, development-stage companies. Each of our products generally follow one of three commercialization pathways. For certain products with one or more natural strategic acquirers such as PortIO and NextFlo, we may seek an early acquisition of the product prior to or soon after regulatory clearance, providing us with a source of non-dilutive capital. For certain groundbreaking high-margin products with large market opportunities such as CarpX™ and the EsoCheck™ Technology, we retain the flexibility to fully commercialize our products for the foreseeable future. For certain other high-volume, lower sale price products such as DisappEAR, we may seek to co-market them with strategic partners through sales and distribution agreements. We may also choose to monetize products through licensing agreements or the sale of the products' underlying technology if consistent with our broader business strategy. For products we choose to commercialize ourselves, we may do through a network of independent U.S. medical distributors. We eventually may, however, choose to build (or obtain through a strategic acquisition) our own sales and marketing team, initially utilizing a hybrid model with national /regional sales management of independent distributors moving towards direct sales as warranted. As our pipeline grows, we may choose to jointly commercialize subsets of related products which target certain medical specialties or healthcare locations

Research and development expenses are recognized in the period they are incurred and consist principally of internal and external expenses incurred for the research and development of our products. We incurred approximately $9.1 million in cumulative research and development expenses from June 26, 2014 (inception) through December 31, 2018, inclusive of approximately $4.3 million and $2.6 million in each of the years ended December 31, 2018 and 2017, respectively. We plan to increase our research and development expenses for the foreseeable future as we continue development of our products. Our current research and development activities are focused principally on obtaining FDA approval and clearance and initializing commercialization of the lead products in our product portfolio pipeline - CarpX™, EsoCheck™ and PortIO™ - and advancing DisappEAR™ and NextFlo through development. The research and development activities on the other portfolio products is commensurate with available sufficient capital resources. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Results of Operations, herein below, for a further discussion of research and development expenses.

Our Products Pipeline

Since our inception, we have conceived and developed a pipeline of products which fulfill our selection criteria. Our five lead products provide groundbreaking approaches to carpal tunnel syndrome (CarpX™), precancerous conditions of the esophagus (EsoCheck™), vascular access (PortIO™), pediatric ear infections (DisappEAR™) and medical infusions (NextFlo™). The company is also developing innovative products in other areas, such as catheters and tissue ablation, while seeking to further expand its pipeline through engagements with clinician innovators and leading academic medical centers. We will need to receive regulatory clearance in order to commercialize these products. Additional capital will be required for us to commercialize these products and/or pursue additional regulatory clearances. Further, there is no assurance any of our products will ever be commercialized or, if commercialized, will achieve the results we expect. In December 2016, we filed a 510(k) premarket notification submission with the FDA for our first product, PortIO™, and in October 2017 decided instead to pursue classification under section 513(f)(2) of the Federal Food, Drug, and Cosmetic Act, also referred to as de novo classification under a broader indication, for up to seven days and consequently filed its de novo pre-submission package with the FDA for PortIO™ on October 30, 2017. Furthermore, on November 27, 2017 we filed a 510(k) premarket notification submission with the FDA for our CarpX™ minimally invasive device designed to treat carpal tunnel syndrome. As discussed above, on November 21, 2018, our majority-owned subsidiary Lucid Diagnostics Inc. filed a 510(k) premarket notification submission with the FDA for our EsoCheck™ CCD™. We anticipate additional submissions in 2019 and beyond for the products in our pipeline.

Our product pipeline is dynamic, and we adjust our development and commercialization plans based on real-time progress, changes in market conditions, commercial opportunity and availability of resources. As such, we have designated CarpX™, EsoCheck™ , PortIO™, NextFlo™, and DisappEAR™ as lead products which are moving aggressively towards regulatory clearance and commercialization.

Item 1. Business - continued

Our Products Pipeline - continued

CarpX™ - Percutaneous Device to Treat Carpal Tunnel Syndrome

The Market. Carpal tunnel syndrome ("CTS") is the most common cumulative trauma disorder and accounts for over half of all occupational injuries. The carpal tunnel is an anatomic compartment in the wrist through which tendons and the median nerve pass. Cumulative trauma leads to inflammation which manifests itself clinically through its compressive effect on the median nerve, resulting in motor and sensory dysfunction in the hand. A survey published in the Journal of the American Medical Association reported 2.5% of U.S. adults, or approximately five million individuals, have CTS and about 600,000 surgical procedures are performed annually for CTS. According to the CDC, CTS accounts for two million office visits per year. According to the Agency for Health Care Policy and Research CTS costs the U.S. over $20.0 billion in annual workers' compensation costs.

Current Devices and their Limitations. Patients who have failed to improve with physical therapy or other non-invasive treatments are candidates for interventions which seek to relieve the compression of the median nerve by cutting the transverse carpal ligament, which forms the superficial wall of the carpal tunnel. Traditional surgical approaches are effective, but invasive and must be performed in a surgical operating room. Endoscopic approaches are less invasive, but are more technically challenging, more expensive and have been associated with higher complication rates. These approaches still require a surgical incision and some surgical dissection before the endoscope is passed into the carpal tunnel. Two less-invasive devices are currently on the market. One device attempts to use transillumination to guide blind passage of a protected knife and the other passes a saw-like device blindly or by ultrasound guidance. Technical limitations have hindered market acceptance of these devices.

Our Solution. We are developing CarpX as a minimally invasive device to treat CTS. We believe our device will allow the physician to relieve the compression on the median nerve without an open incision or the need for endoscopic or other imaging equipment. To use our device, the operator first advances a guidewire through the carpal tunnel under the ligament. Our device is then advanced over the wire and positioned in the carpal tunnel under ultrasonic and/or fluoroscopic guidance. When the balloon is inflated it creates tension in the ligament positioning the cutting electrodes underneath it and creates space within the tunnel, providing anatomic separation between the target ligament and critical structures such as the median nerve. Radiofrequency energy is briefly delivered to the electrodes, rapidly cutting the ligament and relieving the pressure on the nerve. We believe our device will be significantly less invasive than existing treatments. We also believe it will allow for more extensive lateral dissection within the tunnel and more reliable division of the ligament, resulting in lower recurrence rates than some of the endoscopic approaches. We have filed a nonprovisional patent application and advanced, in partnership with our design and contract manufacturing partners, our CarpX™ product from concept to working prototypes, completed successful benchtop and cadaver testing confirming the device consistently cuts the transverse carpal ligament, as well as commercial design and development, and performed pre-submission verification and validation testing.

On November 27, 2017, we filed with the Federal Food and Drug Administration, or the "FDA," a premarket notification submission for CarpX under section 510(k) of the Food, Drug and Cosmetic Act, or the "FDCA," using a commercially available carpel tunnel release device as a predicate. On July 24, 2018, the FDA received our response to its requests-for-information regarding non-clinical support for our 510(k) premarket notification submission. Our July 24, 2018 response to the FDA included results from an animal study, which documented the device's bipolar electrode design results in minimal spread of thermal energy – less than one-millimeter thermal injury by pathologic analysis - and no increase in tissue temperatures except directly over the cutting electrodes. Our July 24, 2018 response to the FDA also included additional physician usability testing, wherein each of the hand surgeons successfully performed the CarpX procedure multiple times in cadavers. On August 22, 2018 we were notified by the lead FDA branch reviewing the 510(k) premarket notification submission it had not reached a consensus with the consulting branch within the review period allotted under the FDA's rules and regulations. Accordingly, the lead branch recommended we take the appropriate steps to extend the review process through resubmission of the 510(k) premarket notification following an in-person pre-submission meeting which was conducted on January 7, 2019. During this meeting, the FDA recommended clinical testing to definitively document CarpX procedural safety in humans and indicated data from a properly structured clinical study outside of the U.S. would be acceptable, precluding the need to engage in the time-consuming FDA Investigational Device Exemption (IDE) process required for U.S. studies. PAVmed offered to amend its previously planned first-In-human ("FIH") clinical trial (**ClinicalTrials.gov Identifier: NCT03747510**) in New Zealand to meet this clinical testing recommendation and postponed the initiation of the amended study until study parameters were finalized with the FDA. We recently reached a consensus with the FDA on the parameters of the CarpX FIH safety study, including both pre-operative and post-operative electrodiagnostic testing to document device safety. The CarpX FIH safety study is a single-arm, two-center, two-surgeon, 20-patient study of the CarpX procedure in carpal tunnel syndrome patients, with a device safety primary endpoint defined as the absence of certain serious device-related adverse events over a limited 90-day follow-up period. Patients are currently undergoing pre-operative assessment and CarpX procedures are expected soon thereafter, subject-to customary procedure consents timely completed by each patient. Additionally, we will be preparing to submit CarpX for CE Mark clearance in Europe.

Once this product is commercialized, we believe it will have the potential to (i) decrease procedural costs by shifting the procedure from the operating room to an office setting while retaining similar reimbursement to traditional surgical approaches, (ii) reduce post-operative pain, (iii) accelerate the patient's return to full activity and (iv) lower the threshold for intervention for patients "suffering in silence" who chose to delay surgery until symptoms become debilitating. Our device may also be applicable to other clinical situations where percutaneous division of a fibrous structure can be used for therapeutic effect such as plantar fasciitis and extremity compartment syndromes resulting from trauma or ischemia.

Item 1. Business - continued

Our Products Pipeline - continued

EsoCheck™ Technology - Non-Invasive Cell Collection Device & DNA Biomarkers to Detect Esophageal Cancer Precursor

The Market. The incidence of esophageal adenocarcinoma, or "EAC," the most common cancer of the esophagus, has quadrupled over the past 30 years. Its prognosis, however, remains dismal, with less than 20% of patients surviving five years. We are pursuing the development of the EsoCheck™ Technology to provide the estimated 50 million at-risk patients a non-invasive, less costly test to detect Barrett's Esophagus, so as to enable treatment of esophageal cancer at an early stage. The primary cause of the EAC form of esophageal cancer is Gastroesophageal Reflux Disease, or "GERD," commonly known as chronic heartburn or acid reflux, wherein stomach acid refluxes into the esophagus. GERD affects 20-40% of Western adult populations, according to published epidemiological data. The repeated exposure to stomach acid can lead to pre-cancerous changes in the esophagus lining, a condition known as "Barrett's Esophagus."

Current Devices and their Limitations. Nearly all patients diagnosed with EAC have evidence of previously undetected Barrett's Esophagus ("BE"). If detected before the EAC esophagus cancer develops, BE can be successfully treated, usually with non-surgical approaches. Heartburn symptoms, commonly seen in patients with acid reflux with or without BE, can easily be treated with over-the counter medications, while endoscopy, the current standard-of-care diagnostic test, is expensive, invasive, and requires sedation. As a result, wide screening for BE is not practical or cost-effective.

Our Solution. In May 2018, our majority-owned subsidiary, Lucid Diagnostics Inc., entered into a license agreement, the "EsoCheck™ License Agreement," with Case Western Reserve University, or "CWRU," pursuant to which Lucid Diagnostics Inc. obtained the worldwide intellectual property rights to the "EsoCheck™ Technology". The EsoCheck™ Technology, which is intended for use to detect BE, a primary precursor to esophageal cancer, includes the following proprietary technologies:

- "EsoCheck™ Cell Collection Device™ - EsoCheck™ CCD™. In a five-minute office-based test, the patient swallows the EsoCheck™ CCD™, which is a vitamin-sized silicone-covered capsule containing a small inflatable balloon attached to a thin catheter, which swabs the target area for cell collection as the catheter is withdrawn.

- EsoCheck™ EsoGuard™ - The collected cell sample can then be tested against a panel of the proprietary EsoCheck™ EsoGuard™ methylated DNA biomarkers, which have recently been shown to be highly accurate in detecting BE.

The first phase of our EsoCheck™ Technology regulatory and commercialization strategy included the November 21, 2018 submission of our EsoCheck™ CCD™ FDA 510(k) clearance application which was accepted for substantive review in early December 2018. The EsoCheck EsoGuard™ methylated DNA biomarker laboratory test is undergoing a battery of tests to secure CLIA certification which will allow it to be marketed under a Laboratory Developed Test, or "LDT," designation without further regulatory review. In anticipation of these milestones we have engaged a leading consulting firm with expertise in securing reimbursement for LDT's and we have begun the process to apply for EsoCheck™ Technology related codes through the AMA's Proprietary Laboratory Analysis - "AMA PLA" - process upon receiving LDT designation for EsoCheck™ EsoGuard™.

The second phase of our EsoCheck™ Technology regulatory and commercialization strategy seeks a specific indication for widespread BE screening through the FDA's PMA medical device pathway, based on existing American College of Gastroenterology ("ACG") guidelines, which recommend BE screening for up 20 million GERD patients. We have positioned resources to allow our EsoCheck™ EsoGuard™ second phase strategy to move forward in an accelerated fashion.

The multi-center NIH-funded clinical trial comparing EsoCheck™ CCD™ plus EsoCheck™ EsoGuard™ to endoscopy has enrolled 200 patients and interim results have been accepted for presentation at the major annual gastroenterology meeting, Digestive Diseases Week ("DDW"), scheduled for May 18 through 21, 2019. Draft protocol synopses for the Lucid Diagnostics Inc sponsored clinical studies have been completed and will be finalized in the near future at an important meeting with former FDA officials retained through a leading regulatory consulting firm.

Soon thereafter, we expect to file a pre-submission package with the FDA and secure a meeting date to discuss its clinical data requirements for a*de novo* or Pre-Market Approval (PMA) pathway submission to support the EsoCheck™ EsoGuard™ second phase's goal of a specific indication for widespread BE screening using the EsoCheck™ Technology.

Item 1. Business - continued

Our Products Pipeline - continued

PortIO™ - Implantable Intraosseous Vascular Access Device

The Market. Vascular access devices, including peripheral intravenous catheters, central venous lines, peripherally inserted central catheters, tunneled catheters or implanted ports, are used to deliver various medications, fluids, blood products, nutrition or other therapeutic agents to patients with a wide variety of clinical conditions over multiple episodes spanning a period of days to weeks to months. A report by iData Research Group estimates the market for such devices to be several billion dollars annually. The market is moderately fragmented and highly commoditized, with slight premium pricing for modest features, including anti-infective coating, anti-thrombotic properties, tip location and power injector compatibility.

Current Devices and their Limitations Many chronically ill patients requiring long-term vascular access devices have poor or no central venous access as a result of repeated instrumentation of the veins or the presence of pacemaker and defibrillator leads, resulting in thrombosis or scarring. In addition, patients with renal failure need preservation of their peripheral and central veins for future dialysis access. The decades-old core technologies underlying currently available long-term vascular access devices have several limitations which relate directly to the intravascular component of the device. Up to 10% of such devices become infected, which can lead to costly and severe complications and even death (van de Wetering, Cochrane Database 2013). Since they are in constant contact with the blood stream, current devices require regular flushes to clear stagnant blood and prevent thrombus formation and occlusion. Despite these maneuvers, up to one-third of long-term vascular access devices become occluded at some point during their implantation period (Baskin, et al., Lancet 2009) and the resulting clot can dislodge as an embolism causing further downstream complications. This complication requires treatment with clot-dissolving agents or removal and implantation of a new device at an alternative site which in turn can lead to additional complications. Finally, most long-term vascular access devices require surgical insertion and removal, radiographic confirmation of tip placement and careful handling by trained clinicians to prevent the introduction of air into the circulation.

Our Solution. The intraosseous route provides a means for infusing fluids, medications and other substances directly into the bone marrow cavity which communicates with the central venous circulation via nutrient and emissary veins. This route is well established, having been used for decades in a variety of settings including trauma, especially military trauma, and pediatric emergencies. It has been shown to be bioequivalent to the intravenous route. Complication rates are low and there are few contraindications. Recently, physicians have expanded the use of the intraosseous route to non-emergent clinical scenarios. Currently available intraosseous devices pass through the skin into the bone and are therefore limited to short term use. We have developed a novel, implantable intraosseous vascular access device which does not require accessing the central venous system and does not have an indwelling intravascular component. It is designed to be highly resistant to occlusion and, we believe, may not require regular flushing. It features simplified, near-percutaneous insertion and removal, without the need for surgical dissection or radiographic confirmation. It provides a near limitless number of potential access sites and can be used in patients with chronic total occlusion of their central veins. We believe the absence of an intravascular component will result in a very low infection rate.

We have filed a final nonprovisional patent application and advanced, in partnership with our design and contract manufacturing partners, our PortIO™ product from concept to working prototypes, benchtop, animal, and cadaver testing, commercial design and development, verification and validation testing, and an initial submission to the FDA for 510(k) market clearance for use in patients requiring 24-hour emergency type vascular access.

After further discussion with the FDA, we decided to pursue a broader clearance for use in patients with a need for vascular access up to seven days under section 513(f)2 of the Federal Food, Drug and Cosmetic Act, also referred to as *de novo* classification. We filed a *de novo* pre-submission package with the FDA which was followed by an in-person meeting on January 9, 2018 to discuss the risk assessment and proposed mitigation testing for the *de novo* application. Based on their recommendations, the FDA-requested long-term GLP animal study implants and explants have been completed as has supplemental acute animal and cadaver studies designed to support the findings of the GLP study. The data will be submitted to FDA once pathologic analysis of the implant sites is completed.

Of significance toward our belief PortIO will one day become the answer to solve many of the current drawbacks intravenous access devices regularly encounter, our supplemental animal testing demonstrated PortIO was effective as a long-term vascular access device. In parallel with the GLP animal study, we also conducted a long-term pilot study to assess PortIO function and patency for up to 60 days. PortIO devices were used to infuse antibiotics, saline, albumin and blood at various intervals and over various implant durations. The device with the longest implant duration was simply left in place, untouched, with no infusions or flushes for a period of 62 days following implantation. Prior to removal, it's function and patency were confirmed by injecting intravenous contrast material and visualizing brisk flow into the bone marrow and central veins. There was no evidence of clots, bony ingrowth or infection in any device or implant site. Based on this encouraging animal data, we are planning a long-term FIH series during in dialysis patients in Colombia, South America with a 90-day implant duration and intend to fulfill the likely FDA request for human clinical data with an outside-of-United States (OUS") study in New Zealand, The CE Mark submission is scheduled for later this year.

Item 1. Business - continued

Our Products Pipeline - continued

DisappEAR™ - Antimicrobial Resorbable Ear Tubes

The Market. Each year up to one million children, generally between the ages of 2 and 5, with persistent ear infections (otitis media) or middle ear fluid collections (effusions) undergo placement of metal, plastic or latex bilateral ear tubes to ventilate and drain the middle ear. This procedure, formally known as bilateral tympanostomy, is the most common pediatric surgical procedure in the United States. The procedure is performed under general anesthesia. After the procedure, the patients are typically treated with a one-week course of antibiotic ear drops administered twice a day. The tubes are regularly monitored and allowed to remain in place for at least one year until the natural drainage pathway of the middle ear (the Eustachian tube) opens up as the child grows and the surrounding tonsillar tissue regresses. A second procedure, again under general anesthesia, is often needed to remove the tubes once they are no longer needed or if they become dislodged and do not fall out of the ear canal on their own. Although the tubes themselves are marketed as a moderately priced item, the antibiotics course can cost $300 or more. Thus, there is a significant market opportunity of up to $300 million for a system which can replace the post-operative antibiotic drops and reduce the need for future procedures.

Current Devices and their Limitations. As noted, the currently available pediatric ear tubes require general anesthesia for insertion and removal and a course of antibiotic ear drops. The ear drops can be quite difficult for parents to administer in children of younger age which can lead to poor compliance. Furthermore, tube dislodgement is not uncommon. When the tube dislodges into the ear canal it can get embedded in wax and lead to inflammation, obscured visualization of the ear drum, pain and bleeding. When the tube dislodges into the middle ear, where the fragile bones that transduce sound to the inner ear reside, parents and physicians become concerned about long-term damage and hearing loss. As a result, both situations usually require a second procedure, again under general anesthesia. Up to 50% of patients undergoing ear tube placement require a second procedure.

Our Solution. In November 2016, we entered in a licensing agreement with a group of leading academic institutions, including Tufts University and two Harvard Medical School teaching hospitals - Massachusetts Eye and Ear Infirmary and Massachusetts General Hospital. The agreement provides PAVmed with an exclusive worldwide license for the life of the underlying patents to develop and commercialize antimicrobial resorbable ear tubes based on a proprietary aqueous silk technology conceived and developed at these institutions. One of the visionaries behind this technology, Christopher J. Hartnick, M.D., Professor of Otolaryngology at Harvard Medical School and Chief of Pediatric Otolaryngology at Massachusetts Eye and Ear Infirmary and Massachusetts General Hospital, joined our Medical Advisory Board in October 2016. We are working closely with Dr. Hartnick and Dr. David Kaplan, Stern Family Professor of Engineering, Chair of the Department of Biomedical Engineering and Director of Bioengineering and Biotechnology Center at Tufts University. We have committed to a timeline with certain milestones on the path to commercialization. Once commercialized, the institutions will receive royalties based on revenue and a portion of certain additional proceeds from the sale or sublicensing of the technology to a third party. We believe the resorbable ear tubes will eliminate the need for a second procedure to remove retained or dislodged tubes in most patients. Having the device embedded with antimicrobial agents will eliminate the difficult-to administer post-procedure antibiotic ear tube regimen. Our partners previously completed successful animal studies using working prototypes of the device. Our DisappEAR™ animal study to evaluate resorption rates was initiated in December 2018 with successful implants of machined silk ear tubes. The initial set of explants at three months look excellent and are currently undergoing pathologic analysis. Upon completion, data from this animal study will be used to support a planned FDA 510(k) submission later in 2019. Once this product is commercialized, we believe it will garner premium pricing based on improving compliance and eliminating the significant cost related to the post-procedure antibiotic regimen, the need for second procedure and fewer complications.

Our Products Pipeline - continued

NextCath™ - Self-Anchoring Short-Term Catheters

The Market. A wide variety of short-term catheters are used in clinical practice to infuse fluids, medications or other substances into a vein or other structures, to monitor physiologic parameters and to drain visceral organs or cavities. Interventional radiology catheters, in particular, are widely used to drain various structures and cavities including the pleural space, obstructed kidneys and abscess cavities. There is an increasing appreciation, however, of the importance of catheter securement in preventing complications of all indwelling catheters. There has been an explosion of separate propriety devices marketed to facilitate catheter securement. A report by iData Research Group estimates the catheter securement market to be approximately $4.0 billion annually.

Current Devices and their Limitations. Currently marketed short-term catheters are not self-anchoring, they have been traditionally anchored to the skin with simple tape or some other adhesive incorporated into the sterile dressing. According to a report by Dr. Gregory J. Schears, a pediatric anesthesiologist and expert on catheter securement, both microscopic and macroscopic movements from inadequate catheter securement can lead to complications including vascular injury and dislodgment. Catheter dislodgement leads to increased pain, increased costs and potentially more serious complications arising from interruption of critical treatments or bleeding. These of course can also adversely impact quality of care. Monitoring catheter patency and security and reinserting dislodged catheters is labor intensive. Many types of catheters are sutured to the skin, a process which leads to increased pain and exposure to needle sticks. Dislodgement of interventional radiology catheters are a significant concern since they can lead to serious complications and may require another visit to the procedural suite to replace or reposition the catheter. A wide variety of catheter securement devices are currently marketed. Some have been shown to decrease complications relative to traditional techniques but add cost and complexity to the process.

Our Solution. We are developing self-anchoring short-term catheters which do not require suturing, traditional anchoring techniques or costly add-on catheter securement devices. We are initially focusing on interventional radiology catheters which are less commoditized and result in significantly greater risk when dislodged. Our self-anchoring technique, however, is applicable to most, if not all, short-term catheters. The self-anchoring mechanism is integral to the catheter. It allows insertion with standard techniques and the use of simple clear sterile dressings. It allows the hub of the catheter to be flat and the tubing to come out eccentrically, or parallel to the skin, improving patient comfort and catheter management. We have filed a nonprovisional patent application, engaged design and contract manufacturing firms with experience in extrusions which have completed initial design work on the first product in the NextCath™ product line, and completed head-to-head testing of retention forces, comparing our working prototype to several competing products, which has validated our approach and advanced the commercial design and development process focusing on optimizing the self-anchoring helical portion as well as cost of materials and manufacturing processes. Further development of NextCath™ is subject to availability of additional financial resources. Once this product is commercialized, we believe it will garner premium pricing based on fewer complications and reduced overall costs.

Item 1. Business - continued

Our Products Pipeline - continued

NextFlo™ - Highly-Accurate Disposable Infusion System

The Market. Each day, over one million patients receive some type of infusion and 90% of hospitalized patients receive an intravenous infusion at some point during their hospital stay. (Husch et al. Quality & Safety in Health Care 2005; 14:80-86). Unlike twenty years ago, nearly all inpatient infusions, including routine ones which do not require flow adjustment, are delivered by expensive electric infusion pumps instead of with simple gravity. An increasing number of these patients are receiving infusions of medications or other substances outside of a hospital, in ambulatory facilities and at home. In addition, disposable infusion pumps ("DIPs") have many attractive features favor their use in these settings over outpatient electric infusion pumps. Patients tend to favor DIPs because they are small, disposable, simple to operate, easy to conceal, and allow for greater mobility. They are used to deliver medications including antibiotics, local anesthetics and opioids. According to a report by Transparency Market Research, the overall global infusion market is estimated to be over $5.0 billion annually. DIPs account for approximately 10% of this market and inpatient infusion sets for about 20%.

Current Devices and their Limitations. Infusion pump errors are a serious ongoing problem and represent a large share of the overall human and economic burden of medical errors. Electronic infusion pumps have become expensive, high-maintenance devices and have been plagued in recent years with recalls due to serious software and hardware problems. These pumps are designed for fine titration of infusions in complex patients such as those in a critical care setting. Using them for routine administration of medications or fluids is technological overkill. We believe there is a significant market opportunity for a simple, disposable device which can be incorporated into a standard infusion set and eliminate the need for expensive, problem-prone infusion pumps for routine inpatient infusions. In terms of outpatient infusions, currently marketed DIPs are powered by elastomeric membranes, compressed springs, compressed gas or vacuum and controlled by mechanical flow limiters. The primary limitation of DIPs is they can be highly inaccurate in actual use because they can be susceptible to changes in operating conditions (e.g. temperature, atmospheric pressure, viscosity, back pressure, partial filing and prolonged storage). As a result, their safety profiles make them unsuitable for use with medications, such as chemotherapeutics, where flow accuracy is critical to achieve the desired therapeutic effect and avoid complications. The FDA's MAUDE database includes numerous reports of complications and even deaths as a result of DIPs infusing a particular medication too slowly or too fast. We believe there is a significant market opportunity for highly accurate disposable infusion pumps for outpatient use.

Our Solution. We are developing highly-accurate infusion systems with variable flow resistors. We acquired U.S. Patent 8,622,976 issued January 7, 2014 and associated U.S. and international patent applications, "*System and Methods for Infusion of Fluids Using Stored Potential Energy and a Variable Flow Resistor*". We have built on the principles underlying this patent and developed a new concept whereby the variable resistor does not have to be mechanically-linked to the infusion drive mechanism. This simplifies the design and expands the range of potential follow-on products. We have performed extensive computer simulation testing on various embodiments and have demonstrated highly-accurate flow rates across a wide range of driving pressures. We have advanced the design and development of the NextFlo™ device, including a redesign which dramatically simplifies the product, lowers the projected cost of goods and expands its application to routine inpatient infusion sets, resulting in a proof of concept. NextFlo has generated favorable bench-top data, demonstrating it is able to passively adjust its resistance and deliver constant flow across a wide, clinically-relevant pressure range. The project has moved into the industrial and human factors design phase, whereby the technology will be incorporated into a standard intravenous infusion set. Full design verification and validation testing will follow to support an FDA 510(k) submission later this year and we believe will be limited to bench-top testing. Once this product is commercialized, we believe it will command a premium price over existing inpatient infusion sets and low-accuracy, DIPs. We believe infusion sets incorporating this product will permit hospitals to return to gravity and eliminating expensive infusions pumps for the most inpatient infusions. We also believe the accuracy of our device incorporated into DIPs will allow them to be used with a broader range of drugs, thereby significantly expanding the addressable market. Demonstration of this groundbreaking technology to interested strategic partners will commence soon and proceed in parallel with the regulatory process.

Item 1. Business - continued

Our Products Pipeline - continued

Caldus™ - Disposable Tissue Ablation Devices

The Market. Tissue ablation involves the targeted destruction of tumors or benign tissues with pathologic impact (e.g. gastrointestinal, endometrial and cardiac) using one of a variety of commercially-available ablation devices based on a specific energy source (e.g. radiofrequency, microwave, laser, ultrasound, cryoablation). With the exception of cryoablation, all of these devices act through a common pathway of cellular hyperthermia. A 2014 report by Transparency Market Research estimates the tissue ablation market generates $4.0 billion to $5.0 billion in annual revenue. One target which has not been successfully treated with ablation is fistula tracts, specifically *fistula-in-ano*. Up to 100,000 patients present with this condition annually. More recently, the renal nerves have been identified as a therapeutic target for ablation in patients with refractory hypertension. Despite a widely publicized clinical trial which failed to meet its endpoint, many believe renal denervation remains an attractive clinical and commercial opportunity with approximately 10 million U.S. and 100 million worldwide patients with resistant hypertension (Pimenta et al. Circulation 2012; 125-1594-96).

Current Devices and their Limitations. All commercially-available devices or those under development for renal denervation rely on some form of a console to generate the ablation energy. These consoles, whether sold or leased as capital equipment or incorporated into the disposable costs, represent a significant portion of the cost of the technology and the procedure. These costs can significantly impact procedural margins and marketing in emerging countries with limited biomedical staff. Another limitation of current devices is they depend on maintaining the conductivity of its energy through the tissue during the ablation period. For example, radiofrequency ablation depends on electrical conductivity to generate heat, but creating too much heat near the probe can generate charring which increases impedance and decreases the effective range of the ablation. A wide variety of technologies and techniques have been developed to accommodate the challenges of ablating across large distances using radiofrequency (e.g. multi-electrode probes, cooling, irrigation and complex power algorithms). As a result, these tissue ablation modalities typically require a complex, external console to assure the precise amount of energy is delivered to the tissue. In addition, the consoles require on-going maintenance and monitoring by the manufacturer and local facility technical staff to assure they remain safe for use in patients. This can be particularly burdensome when commercializing such devices in emerging markets where access to qualified technical personnel may be limited.

Our Solution. We are developing completely disposable tissue ablation devices, including for renal denervation, based on direct thermal ablation of the tissue using heated fluid. We are evaluating which initial applications for our Caldus™ disposable tissue ablation technology to pursue from a clinical and commercial point-of-view and will reinitiate development activity on this product upon resources becoming available. Once this product is commercialized, we believe our completely disposable system will have significantly lower procedural costs and higher margins than existing technologies.

Additional Products

We are evaluating a number of other product opportunities and intellectual property covering a spectrum of clinical conditions, which have been presented to us by clinician innovators and academic medical centers, for consideration of a partnership to develop and commercialize these products. We are also exploring opportunities to partner with larger medical device companies to commercialize our lead products as they move towards regulatory clearance and commercialization; we are evaluating strategic merger and acquisition opportunities which synergize with our growth strategy. Furthermore, we are exploring other opportunities to grow our business and enhance shareholder value through the acquisition of pre-commercial or commercial stage products and /or companies with potential strategic corporate and commercial synergies.

Our Implementation Strategy

We intend to advance our lead products towards commercialization as quickly and efficiently as possible and expand our product pipeline by advancing our conceptual phase projects through patent submission and early testing.

Although we will continue to conceive and develop products internally, as we grow and expand our resources, we intend to expand our pipeline with innovative products sourced from third parties. In contrast to pharmaceuticals and other life sciences technologies, medical device innovation often begins with one, or at most a few, clinicians and/or engineers identifying an unmet clinical need and proposing a technological solution to address such need. Many academic medical centers and other large institutions try to aggregate their intellectual property through technology transfer centers and, more recently, through "innovation" centers which do not merely secure and transfer intellectual property, but actually advance projects internally prior to spinning them out for eventual commercialization.

It is our belief, despite these efforts, only a small fraction of the potential pool of intellectual capital (i.e. the universe of individual clinicians with innovative product ideas) is participating in medical device innovation. These clinicians rarely engage in the process for a variety of reasons, including the belief they are too busy, can't afford to divert time away from their practice or that the upfront out-of-pocket costs are too great. Other clinicians believe they lack the knowledge or connections to successfully navigate the process. Technology transfer and full-fledged innovation centers have only had modest success in getting their clinicians to bring them innovative product ideas and even less success getting these products commercialized. Even centers with extensive resources are usually limited in their ability to advance products beyond the pre-clinical phase and are dependent on a shrinking pool of early-stage medical device venture capital to bring their products to market. Furthermore, some technology transfer and innovation centers associated with not-for-profit hospitals, universities, endowments and charitable organizations may be precluded from directly engaging in commercial sales of medical devices, creating opportunities for us to commercialize and market their intellectual property.

Our capital and time efficient model put us in strong position to partner with innovative clinicians and academic medical centers focusing on medical device innovation. We have developed a collaboration model focused on licensing technologies for development and commercialization. Since our founding, we have been contacted by clinicians and centers inquiring about opportunities to work with us on developing and commercializing their ideas and technologies. In November 2016, we signed a definitive licensing agreement with a group of leading academic institutions, including Tufts University and two Harvard Medical School teaching hospitals - Massachusetts Eye and Ear Infirmary and Massachusetts General Hospital. The agreement provides us with an exclusive worldwide license to develop and commercialize antibiotic-eluting resorbable ear tubes based on a proprietary aqueous silk technology conceived and developed at these institutions, a product we have dubbed DisappEAR™. Once commercialized, the institutions will receive royalties based on revenue and a portion of certain additional proceeds from the sale or sublicensing of the technology to a third party.

Whether internally or externally sourced, we seek to maintain balance within our pipeline with shorter-term, lower-risk products which offer the opportunity for more rapid commercialization, generating revenue to support development of longer-term products. As each product moves through our pipeline from concept to commercialization, we continuously reassess the product's long-term commercial potential, balance it against other products in the pipeline and re-allocate resources accordingly. As such, we expect to have much greater flexibility to move products through our pipeline based on the actual developments and the overall interests of our company. We may accelerate, decelerate, pause or abandon a product and increase or decrease resources applied to a product based on a variety of factors including available capital, shifts in the regulatory, clinical, market and/or intellectual property landscape for a particular product, the emergence of one or more products with significantly greater commercial potential, or any other factor which may impact its long-term commercial potential.

Sales and Marketing

We currently expect to commercialize our products through a network of independent U.S. medical distributors. We focus on high-margin products which are particularly suitable to this mode of distribution. A high gross margin allows us to properly incentivize our distributors, which in turn allows us to attract the top distributors with the most robust networks in our targeted specialties. Independent distributors play an even larger role in many parts of Europe, most of Asia and emerging markets worldwide.

We eventually may, however, choose to build (or obtain through a strategic acquisition) our own sales and marketing team to commercialize some or all of our products if it is in our long-term interests. We may also choose to enter into distribution agreements with larger strategic partners whereby we take full responsibility for the manufacturing of our products but outsource some or all of its distribution to a partner with its own robust distribution channels. Such agreements may include regional carve outs, minimum sales volumes, margin splitting and/or an option or right of first offer to purchase the technology at a future date. As our pipeline grows, we may choose to jointly commercialize subsets of related products which target certain medical specialties or healthcare locations.

Manufacturing

We currently have no plans to manufacture our own products because the fixed overhead costs and limited flexibility that come with owning manufacturing facilities are not consistent with our capital efficient model. The entire medical device industry, including many of its largest players, depends heavily on contract manufacturers operating in the United States and abroad. Medical device manufacturers are subject to extensive regulation by the FDA and other authorities. Compliance with these regulations is costly and particularly onerous on small, development-phase companies. Contract manufacturers can also take advantage of significant economies of scale in terms of purchasing, machining, tooling, specialized personnel, sub-contracting or even off-shoring certain processes to lower-cost operators. These economies are simply not available to us.

We have relationships with many contract manufacturers, including those with specialized skills in several processes important to our devices. We expect them to have sufficient capacity to handle our manufacturing needs and anticipate our growth will be better served by deploying our resources to expand our pipeline and commercialization efforts.

We intend to work closely with our contract manufacturing partners to establish and manage our products' supply chain, dual sourcing whenever possible. We expect to help them design and build our products' manufacturing lines including subassembly, assembly, sterilization and packaging and to work closely with them to manage our quality system, to assure compliance with all regulations and to handle inspections or other queries with regulatory bodies. Our contract manufacturers have the ability to add lines and shifts to increase the manufacturing capacity of our products as our demand dictates. We may ship our products directly from our contract manufacturers, but we may also choose to utilize third-party regional warehousing and distribution services.

Intellectual Property

Our business will depend on our ability to create or acquire proprietary medical device technologies to commercialize. We intend to vigorously protect our proprietary technologies' intellectual property rights in patents, trademarks and copyrights, as available through registration in the United States and internationally. We currently have applied for or own 72 patents across 10 families of products. Patent protection and other proprietary rights are thus essential to our business. Our policy is to aggressively file patent applications to protect our proprietary technologies including inventions and improvements to inventions. We seek patent protection, as appropriate, on:

- the product itself including all embodiments with future commercial potential;
- the methods of using the product; and
- the methods of manufacturing the product.

In addition to filing and prosecuting patent applications in the United States, we intend to file counterpart patent applications in Europe, Canada, Japan, Australia, China and other countries worldwide. Foreign filings can be cumbersome and expensive, and we will pursue such filings when we believe they are warranted as we try to balance our international commercialization plans with our desire to protect the global value of the technology.

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing a non-provisional patent application. In the United States, a patent's term may be shortened if a patent is terminally disclaimed over another patent or as a result of delays in patent prosecution by the patentee, and a patent's term may be lengthened by patent term adjustment, which compensates a patentee for administrative delays by the U.S. Patent and Trademark Office in granting a patent.

We intend to continuously reassess and fine-tune our intellectual property strategy in order to fortify our position in the United States and internationally. Prior to acquiring or licensing a technology from a third party, we will evaluate the existing proprietary rights, our ability to adequately obtain and protect these rights and the likelihood or possibility of infringement upon competing rights of others.

We will also rely upon trade secrets, know-how, continuing technological innovation, and may rely upon licensing opportunities in the future, to develop and maintain our competitive position. We intend to protect our proprietary rights through a variety of methods, including confidentiality agreements and/or proprietary information agreements with suppliers, employees, consultants, independent contractors and other entities who may have access to proprietary information. We will generally require employees to assign patents and other intellectual property to us as a condition of employment with us. All of our consulting agreements will pre-emptively assign to us all new and improved intellectual property that arise during the term of the agreement.

Coverage and Reimbursement

Our ability to successfully commercialize our products will depend in part on the extent to which governmental authorities, private health insurers and other third-party payors provide coverage for and establish adequate reimbursement levels for the procedures during which our products are used.

In the United States, third-party payors continue to implement initiatives that restrict the use of certain technologies to those that meet certain clinical evidentiary requirements. In addition to uncertainties surrounding coverage policies, there are periodic changes to reimbursement. Third-party payors regularly update reimbursement amounts and also from time to time revise the methodologies used to determine reimbursement amounts. This includes annual updates to payments to physicians, hospitals and ambulatory surgery centers for procedures during which our products are used. An example of payment updates is the Medicare program's updates to hospital and physician payments, which are done on an annual basis using a prescribed statutory formula. In the past, when the application of the formula resulted in lower payment, Congress has passed interim legislation to prevent the reductions.

A product's reimbursement profile, both in the U.S. and internationally, is an important component of the product's commercial opportunity. We prefer projects with existing reimbursement codes, the opportunity to seek reimbursement under higher-value surgical procedure codes or the potential to seek reimbursement under narrow, product-specific codes as opposed to bundled procedure codes. For those products that have high strategic value, but with less defined reimbursement, we have engaged reimbursement experts and support from industry associations to accelerate the acquisition of satisfactory reimbursement levels.

Competition

Developing and commercializing new products is highly competitive. The market is characterized by extensive research and clinical efforts and rapid technological change. We face intense competition worldwide from medical device, biomedical technology and medical products and combination products companies, including major medical products companies. We may be unable to respond to technological advances through the development and introduction of new products. Most of our existing and potential competitors have substantially greater financial, marketing, sales, distribution, manufacturing and technological resources. These competitors may also be in the process of seeking FDA or other regulatory approvals, or patent protection, for new products. Our competitors may commercialize new products in advance of our products. Our products also face competition from numerous existing products and procedures, some of which currently are considered part of the standard of care. We believe the principal competitive factors in our markets are:

- the quality of outcomes for medical conditions;
- acceptance by surgeons and the medical device market generally;
- ease of use and reliability;
- technical leadership and superiority;
- effective marketing and distribution;
- speed to market; and
- product price and qualification for coverage and reimbursement.

We will also compete in the marketplace to recruit and retain qualified scientific, management and sales personnel, as well as in acquiring technologies and licenses complementary to our products or advantageous to our business. We are aware of several companies that compete or are developing technologies in our current and future products areas. In order to compete effectively, our products will have to achieve market acceptance, receive adequate insurance coverage and reimbursement, be cost effective and be simultaneously safe and effective.

Government Regulation

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, recordkeeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of products such as those we are developing. The following is a summary of the government regulations applicable to our business.

Healthcare Reform

Current and future legislative proposals to further reform healthcare or reduce healthcare costs may result in lower reimbursement for our products, or for the procedures associated with the use of our products, or limit coverage of our products. The cost containment measures payors and providers are instituting and the effect of any healthcare reform initiative implemented in the future could significantly reduce our revenues from the sale of our products. Alternatively, the shift away from fee-for-service agreements to capitated payment models may support the value of our products which can be shown to decrease resource utilization and lead to cost saving - for both payors and providers.

The implementation of the Affordable Care Act is an example that has the potential to substantially change healthcare financing and delivery by both governmental and private insurers, and significantly impact the pharmaceutical and medical device industries.

The Affordable Care Act imposed, among other things, a new federal excise tax on the sale of certain medical devices. The Consolidated Appropriations Act, 2016 (Pub. L. 114-113), signed into law on Dec. 18, 2015, included a two-year moratorium on the medical device excise tax imposed by Internal Revenue Code section 4191. Because of the moratorium, the medical device excise tax did not apply to sales of taxable medical devices during the period beginning on January 1, 2016 and ending on December 31, 2017. The moratorium expired on Dec. 31, 2017. On January 22, 2018 as part of a stop gap spending bill, President Trump signed into law a moratorium for an additional two years retroactive to January 1, 2018. The tax will not go into effect until January 1, 2020.

In addition, the ACA implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models. In addition, other legislative changes have been proposed and adopted since the Patient Protection and Affordable Care Act, ("PPACA") was enacted. On August 2, 2011, President Obama signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes reductions to Medicare payments to providers of 2.0% per fiscal year, which went into effect on April 1, 2013, and will stay in effect through 2024 unless congressional action is taken. On January 2, 2013, the American Taxpayer Relief Act of 2012 took effect, which, among other things, reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. We expect additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts federal and state governments will pay for healthcare products and services, which could result in reduced demand for our products or additional pricing pressure. Additionally, there is no assurance the PPACA, in whole or in part, will not be repealed in the future. Any impact such a repeal would have on the medical device industry remains unclear.

Item 1. Business - continued

Government Regulation - continued

FDA Regulation

Any product we may develop must be cleared by the FDA before it is marketed in the United States. Before and after approval or clearance in the United States, our products are subject to extensive regulation by the FDA under the Federal Food, Drug, and Cosmetic Act and/or the Public Health Service Act, as well as by other regulatory bodies. FDA regulations govern, among other things, the development, testing, manufacturing, labeling, safety, storage, recordkeeping, market clearance or approval, advertising and promotion, import and export, marketing and sales, and distribution of medical devices and products.

In the United States, medical devices are subject to varying degrees of regulatory control and are classified in one of three classes depending on the extent of controls the FDA determines are necessary to reasonably ensure their safety and efficacy:

- *Class I:* general controls, such as labeling and adherence to quality system regulations;
- *Class II:* special controls, pre-market notification (often referred to as a 510(k) application), specific controls such as performance standards, patient registries, post-market surveillance, additional controls such as labeling and adherence to quality system regulations; and
- *Class III:* special controls and approval of a PMA application.

In general, the higher the classification, the greater the time and cost to obtain approval to market. There are no "standardized" requirements for approval, even within each class. For example, the FDA could grant 510(k) status, but require a human clinical trial, a typical requirement of a PMA. They could also initially assign a device Class III status but end up approving a device as a 510(k) device if certain requirements are met. The range of the number and expense of the various requirements is significant. The quickest and least expensive pathway would be 510(k) approval with just a review of existing data. The longest and most expensive path would be a PMA with extensive randomized human clinical trials. We cannot predict how the FDA will classify our products, nor predict what requirements will be placed upon us to obtain market approval, or even if they will approve our products at all.

To request marketing authorization by means of a 510(k) clearance, we must submit a pre-market notification demonstrating the proposed device is substantially equivalent to another currently legally marketed medical device, has the same intended use, and is as safe and effective as a currently legally marketed device and does not raise different questions of safety and effectiveness than does a currently legally marketed device. 510(k) submissions generally include, among other things, a description of the device and its manufacturing, device labeling, medical devices to which the device is substantially equivalent, safety and biocompatibility information, and the results of performance testing. In some cases, a 510(k) submission must include data from human clinical studies. Marketing may commence only when the FDA issues a clearance letter finding substantial equivalence. After a device receives 510(k) clearance, any product modification that could significantly affect the safety or effectiveness of the product, or would constitute a significant change in intended use, requires a new 510(k) clearance or, if the device would no longer be substantially equivalent, would require PMA, or possibly, a de novo pathway under section 513(f)2 of the Federal Food, Drug and Cosmetic Act .. In addition, any additional claims the Company wished to make at a later date may require a PMA. If the FDA determines the product does not qualify for 510(k) clearance, they will issue a Not Substantially Equivalent letter, at which point the Company must submit and the FDA must approve a PMA or issue premarket clearance using the de novo before marketing can begin.

In 1997, the Food and Drug Administration Modernization Act (FDAMA) added the de novo classification pathway under section 513(f)(2) of the FD&C Act, establishing an alternate pathway to classify new devices into Class I or II that had automatically been placed in Class III after receiving a Not Substantially Equivalent (NSE) determination in response to a 510(k) submission. In this process, a sponsor who receives an NSE determination may, within 30 days of receiving notice of the NSE determination, request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act.

In 2012, section 513(f)(2) of the FD&C Act was amended by section 607 of the Food and Drug Administration Safety and Innovation Act (FDASIA), to provide a second option for de novo classification. In this second pathway, a sponsor who determines there is no legally marketed device upon which to base a determination of substantial equivalence may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act without first submitting a 510(k).

During the review of a 510(k) submission, the FDA may request more information or additional studies and may decide the indications for which we seek approval or clearance should be limited. In addition, laws and regulations and the interpretation of those laws and regulations by the FDA may change in the future. We cannot foresee what effect, if any, such changes may have on us.

Government Regulation - continued

FDA Regulation - continued

Clinical Trials of Medical Devices

One or more clinical trials may be necessary to support an FDA submission. Clinical studies of unapproved or uncleared medical devices or devices being studied for uses for which they are not approved or cleared (investigational devices) must be conducted in compliance with FDA requirements. If an investigational device could pose a significant risk to patients, the sponsor company must submit an Investigational Device Exemption, or IDE application to the FDA prior to initiation of the clinical study. An IDE application must be supported by appropriate data, such as animal and laboratory test results, showing it is safe to test the device on humans and the testing protocol is scientifically sound. The IDE will automatically become effective 30 days after receipt by the FDA unless the FDA notifies the company the investigation may not begin. Clinical studies of investigational devices may not begin until an institutional review board ("IRB") has approved the study.

During any study, the sponsor must comply with the FDA's IDE requirements. These requirements include investigator selection, trial monitoring, adverse event reporting, and record keeping. The investigators must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of investigational devices, and comply with reporting and record keeping requirements. We, the FDA, or the IRB at each institution at which a clinical trial is being conducted may suspend a clinical trial at any time for various reasons, including a belief the subjects are being exposed to an unacceptable risk. During the approval or clearance process, the FDA typically inspects the records relating to the conduct of one or more investigational sites participating in the study supporting the application.

Post-Approval Regulation of Medical Devices

After a device is cleared or approved for marketing, numerous and pervasive regulatory requirements continue to apply. These include:

* the FDA Quality Systems Regulation (QSR), which governs, among other things, how manufacturers design, test manufacture, exercise quality control over, and document manufacturing of their products;

* labeling and claims regulations, which prohibit the promotion of products for unapproved or "off-label" uses and impose other restrictions on labeling; and

* the Medical Device Reporting regulation, which requires reporting to the FDA of certain adverse experience associated with use of the product.

We will continue to be subject to inspection by the FDA to determine our compliance with regulatory requirements.

Manufacturing cGMP Requirements

Manufacturers of medical devices are required to comply with FDA manufacturing requirements contained in the FDA's current Good Manufacturing Practices (cGMP) set forth in the quality system regulations promulgated under section 520 of the Food, Drug and Cosmetic Act. cGMP regulations require, among other things, quality control and quality assurance as well as the corresponding maintenance of records and documentation. Failure to comply with statutory and regulatory requirements subjects a manufacturer to possible legal or regulatory action, including the seizure or recall of products, injunctions, consent decrees placing significant restrictions on or suspending manufacturing operations, and civil and criminal penalties. Adverse experiences with the product must be reported to the FDA and could result in the imposition of marketing restrictions through labeling changes or in product withdrawal. Product approvals may be withdrawn if compliance with regulatory requirements is not maintained or if problems concerning safety or efficacy of the product occur following the approval. We expect to use contract manufacturers to manufacture our products for the foreseeable future we will therefore be dependent on their compliance with these requirements to market our products. We work closely with our contract manufacturers to assure our products are in strict compliance with these regulations.

Other U.S. Regulation

In addition to FDA restrictions on marketing and promotion of drugs and devices, other federal and state laws restrict our business practices. These laws include, without limitation, anti-kickback and false claims laws, data privacy and security laws, as well as transparency laws regarding payments or other items of value provided to healthcare providers.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available under such laws, it is possible some of our business activities, including certain sales and marketing practices and the provision of certain items and services to our customers, could be subject to challenge under one or more of such laws. If our operations are found to be in violation of any of the health regulatory laws described above or any other laws that apply to us, we may be subject to penalties, including potentially significant criminal and civil and administrative penalties, damages, fines, disgorgement, imprisonment, exclusion from participation in government healthcare programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. To the extent any of our products are sold in a foreign country, we may be subject to similar foreign laws, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Physician Payment Sunshine Act

There has been a recent trend of increased federal and state regulation of payments and transfers of value provided to healthcare professionals or entities. On February 8, 2013, the Centers for Medicare & Medicaid Services, or CMS, released its final rule implementing section 6002 of the Affordable Care Act known as the Physician Payment Sunshine Act that imposes new annual reporting requirements on device manufacturers for payments and other transfers of value provided by them, directly or indirectly, to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their family members. A manufacturer's failure to submit timely, accurately and completely the required information for all payments, transfers of value or ownership or investment interests may result in civil monetary penalties of up to an aggregate of $150,000 per year, and up to an aggregate of $1 million per year for "knowing failures." Manufacturers that produces at least one product reimbursed by Medicare, Medicaid, or Children's Health Insurance Program and i.) If the product is a drug or biological, and it requires a prescription (or physician's authorization) to administer; or ii.) If the product is a device or medical supply, and it requires premarket approval or premarket notification by the FDA are required to comply with the Open Payments (commonly referred to as the Sunshine Act) filing requirements under CMS. We currently do not have any products covered by Medicare, Medicaid, or Children's Health Insurance Program as none of our products have premarket approval or clearance notification. We expect once our products receive regulatory clearance, we will be required to comply with the Sunshine Act provisions.

Certain states, such as California and Connecticut, also mandate implementation of commercial compliance programs, and other states, such as Massachusetts and Vermont, impose restrictions on device manufacturer marketing practices and require tracking and reporting of gifts, compensation and other remuneration to healthcare professionals and entities. The shifting commercial compliance environment and the need to build and maintain robust and expandable systems to comply with different compliance or reporting requirements in multiple jurisdictions increase the possibility a healthcare company may fail to comply fully with one or more of these requirements.

Federal Anti-Kickback Statute

The Federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any good, facility, item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all its facts and circumstances. Several courts have interpreted the statute's intent requirement to mean if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the Anti-Kickback Statute has been violated.

Additionally, the intent standard under the Anti-Kickback Statute was amended by the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, collectively the Affordable Care Act, to a stricter standard such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation. In addition, the Affordable Care Act codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act.

Other U.S. Regulation - continued

Federal False Claims Act

The False Claims Act prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment or approval to the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes "any request or demand" for money or property presented to the U.S. government. The False Claims Act also applies to false submissions that cause the government to be paid less than the amount to which it is entitled, such as a rebate. Intent to deceive is not required to establish liability under the False Claims Act. Several pharmaceutical, device and other healthcare companies have been prosecuted under these laws for, among other things, allegedly providing free product to customers with the expectation the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies' marketing of products for unapproved, and thus noncovered uses.

The government may further prosecute, as a crime, conduct constituting a false claim under the False Claims Act. The False Claims Act prohibits the making or presenting of a claim to the government knowing such claim to be false, fictitious, or fraudulent and, unlike civil claims under the False Claims Act, requires proof of intent to submit a false claim.

The Foreign Corrupt Practices Act

The Foreign Corrupt Practices Act, or the FCPA, prohibits any U.S. individual or business from paying, offering, or authorizing payment or offering of anything of value, directly or indirectly, to any foreign official, political party or candidate for the purpose of influencing any act or decision of the foreign entity in order to assist the individual or business in obtaining or retaining business. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring the company to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. Activities that violate the FCPA, even if they occur wholly outside the United States, can result in criminal and civil fines, imprisonment, disgorgement, oversight, and debarment from government contracts.

International Regulation

In order to market any product outside of the United States, we would need to comply with numerous and varying regulatory requirements of other countries and jurisdictions regarding quality, safety and efficacy and governing, among other things, clinical trials, marketing authorization, commercial sales and distribution of our products. We may be subject to regulations and product registration requirements in the areas of product standards, packaging requirements, labeling requirements, import and export restrictions and tariff regulations, duties and tax requirements. Whether or not we obtain FDA approval for a product, we would need to obtain the necessary approvals by the comparable foreign regulatory authorities before we can commence clinical trials or marketing of the product in foreign countries and jurisdictions. The time required to obtain clearance required by foreign countries may be longer or shorter than required for FDA clearance, and requirements for licensing a product in a foreign country may differ significantly from FDA requirements.

European Union

The European Union or EU will require a CE mark certification or approval in order to market our products in the various countries of the European Union or other countries outside the United States. To obtain CE mark certification of our products, we will be required to work with an accredited European notified body organization to determine the appropriate documents required to support certification in accordance with existing medical device directive. The predictability of the length of time and cost associated with such a CE mark may vary or may include lengthy clinical trials to support such a marking. Once the CE mark is obtained, we may market our product in the countries of the EU.

European Good Manufacturing Practices

In the European Union, the manufacture of medical devices is subject to good manufacturing practice (GMP), as set forth in the relevant laws and guidelines of the European Union and its member states. Compliance with GMP is generally assessed by the competent regulatory authorities. Typically, quality system evaluation is performed by a Notified Body, which also recommends to the relevant competent authority for the European Community CE Marking of a device. The Competent Authority may conduct inspections of relevant facilities, and review manufacturing procedures, operating systems and personnel qualifications. In addition to obtaining approval for each product, in many cases each device manufacturing facility must be audited on a periodic basis by the Notified Body. Further inspections may occur over the life of the product.

Employees

Currently, we have nine full-time compensated employees, including our Chairman of the Board of Directors and Chief Executive Officer ("CEO"), our Executive Vice President ("EVP") and Chief Financial Officer ("CFO"), and our Chief Medical Officer ("CMO"), each of whom are named executive officers, along with our Vice Chairman, who is currently not a compensated employee of the Company, but is a member of our board of directors. No employees are covered by a collective bargaining agreement. We consider our relationship with our employees to be good.

Available Information

We make available free of charge through our website our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, or the "Exchange Act." We make these reports available through our website as soon as reasonably practicable after we electronically file such reports with, or furnish such reports to the SEC. We also make available, free of charge on our website, the reports filed with the SEC by our executive officers, directors and 10% stockholders pursuant to Section 16 under the Exchange Act as soon as reasonably practicable after copies of those filings are provided to us by those persons. The public also may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE., Washington, DC 20549, on official business days during the hours of 10 a.m. to 3 p.m. The public may obtain information on the operation of the Public Reference Room by calling the Commission at 1-800-SEC-0330. The SEC also maintains an Internet site (http://www.sec.gov) that contains reports, proxy and information statements, and other information regarding us that we file electronically with the SEC.

Our website address is http://www.pavmed.com. The content of our website is not incorporated by reference into this Annual Report on Form 10-K, nor in any other report or document we file with the SEC, and any reference to our website are intended to be inactive textual references only.

Item 1A Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be carefully considered. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or we presently deem less significant may also impair our business operations. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected.

Risks Related to Financial Position and Capital Resources

We have incurred operating losses since our inception and may not be able to achieve profitability.

We have incurred net losses since our inception.

In 2018, we incurred a net loss attributable to PAVmed Inc. common stockholders of approximately $18.8 million and net cash flows used in operating activities of approximately $8.8 million for the year ended December 31, 2018. We had an accumulated deficit of approximately $37.0 million and negative working capital of approximately $2.5 million, with such working capital inclusive of approximately $7.9 million of the Senior Secured Convertible Note classified as a current liability and approximately $8.2 million of cash as of December 31, 2018.

In 2017, we incurred a net loss attributable to PAVmed Inc. common stockholders of approximately $10.4 million and net cash flows used in operating activities of approximately $6.6 million for the year ended December 31, 2017. We had an accumulated deficit of approximately $17.9 million and negative working capital of approximately $(0.9) million, with such working capital inclusive of approximately $1.0 million of derivative liabilities and approximately $1.5 million of cash as of December 31, 2017.

To date, since our inception in June 2014, we have financed our operations principally through issuances of common stock, preferred stock, warrants, and debt, in both private placements and underwritten public offerings of our securities. Our ability to generate sufficient revenue from any of our products in development, and to transition to profitability and generate consistent positive cash flows is dependent upon factors that may be outside of our control. We expect our operating expenses will continue to increase as we continue to build our commercial infrastructure, develop, enhance and commercialize new products and incur additional operational and reporting costs associated with being a public company. As a result, we expect to continue to incur operating losses for the foreseeable future.

We have concluded there is substantial doubt of our ability to continue as a going concern and our independent registered public accounting firm's report on our financial statements contains an explanatory paragraph describing our ability to continue as a going concern.

In our December 31, 2018 consolidated financial statements, we have concluded and stated our recurring losses from operations, recurring cash flows used in operations, accumulated deficit, and the requirement to raise additional capital to support our operating and capital expenditures, raise substantial doubt regarding our ability to continue as a going concern. Correspondingly, our independent registered public accounting firm's report on our consolidated financial statements also includes an explanatory paragraph expressing substantial doubt about our ability to continue as a going concern. Our plans to address this going concern risk include, pursuing additional offerings of debt and /or equity securities. The consolidated financial statements do not include any adjustments might result from our inability to consummate such offerings or our ability to continue as a going concern. Moreover, there is no assurance if we consummate additional offerings, we will raise sufficient proceeds in such offerings to pay our financial obligations as they become due. These factors raise substantial doubt about our ability to continue as a going concern.

We may need substantial additional funding and may be unable to raise capital when needed, which could force us to delay, reduce, eliminate or abandon growth initiatives or product development programs.

We intend to continue to make investments to support our business growth. Because we have not generated any revenue or cash flow to date, we will require additional funds to:

- continue our research and development;
- protect our intellectual property rights or defend, in litigation or otherwise, any claims we infringe third-party patents or other intellectual property rights;
- fund our operations;
- deliver our new products, if any such products receive regulatory clearance or approval for commercial sale;
- achieve market acceptance of our products;
- establish and expand our sales, marketing and distribution capabilities; and
- invest in businesses, products and technologies, although we currently have no commitments or agreements relating to do so.

If we do not have, or are not able to obtain, sufficient funds, we may have to delay product development initiatives or license to third parties the rights to commercialize products or technologies we would otherwise seek to market. We also may have to reduce marketing, customer support or other resources devoted to our products.

Risks Associated with Our Business

Since we have a limited operating history, and have not generated any revenues, you will have little basis upon which to evaluate our ability to achieve our business objective.

Since we have a limited operating history, and have not generated any revenues, you will have little basis upon which to evaluate our ability to achieve our business objective. We are subject to all of the problems, expenses, delays and other risks inherent in any new business, as well as problems inherent in establishing a name and business reputation.

The markets in which we operate are highly competitive, and we may not be able to effectively compete against other providers of medical devices, particularly those with greater resources.

We face intense competition from companies with dominant market positions in the medical device industry. These competitors have significantly greater financial, technical, marketing and other resources than we have and may be better able to:

- respond to new technologies or technical standards;
- react to changing customer requirements and expectations;
- acquire other companies to gain new technologies or products may displace our products;
- manufacture, market and sell products;
- acquire, prosecute, enforce and defend patents and other intellectual property;
- devote resources to the development, production, promotion, support and sale of products; and
- deliver a broad range of competitive products at lower prices.

We expect competition in the markets in which we participate to continue to increase as existing competitors improve or expand their product offerings.

Our future performance will depend largely on the success of products we have not yet developed.

Technology is an important component of our business and growth strategy, and our success depends on the development, implementation and acceptance of our products. Commitments to develop new products must be made well in advance of any resulting sales, and technologies and standards may change during development, potentially rendering our products outdated or uncompetitive before their introduction. Our ability to develop products to meet evolving industry requirements and at prices acceptable to our customers will be significant factors in determining our competitiveness. We may expend considerable funds and other resources on the development of our products without any guarantee these products will be successful. If we are not successful in bringing one or more products to market, whether because we fail to address marketplace demand, fail to develop viable technologies or otherwise, we may not generate any revenues and our results of operations could be seriously harmed.

Our products may never achieve market acceptance.

To date, we have not generated any revenues. Our ability to generate revenues from product sales and to achieve profitability will depend upon our ability to successfully commercialize our products. Because we have not yet begun to offer any of our products for sale, we have no basis to predict whether any of our products will achieve market acceptance. A number of factors may limit the market acceptance of any of our products, including:

- the timing of regulatory approvals of our products and market entry compared to competitive products;
- the effectiveness of our products, including any potential side effects, as compared to alternative treatments;
- the rate of adoption of our products by hospitals, doctors and nurses and acceptance by the health care community;
- the product labeling or product inserts required by regulatory authorities for each of our products;
- the competitive features of our products, including price, as compared to other similar products;
- the availability of insurance or other third-party reimbursement, such as Medicare, for patients using our products;
- the extent and success of our marketing efforts and those of our collaborators; and
- unfavorable publicity concerning our products or similar products.

Any products we may develop may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, thereby harming our business.

The regulations that govern marketing approvals, pricing and reimbursement for new products vary widely from country to country. Some countries require approval of the sale price of a product before it can be marketed. In many countries, the pricing review period begins after marketing approval is granted. In some foreign markets, pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain regulatory approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product and negatively impact the revenue we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more other products we may develop, even if our other products we may develop obtain regulatory approval.

Our ability to commercialize any products we may develop successfully also will depend in part on the extent to which reimbursement for these products and related treatments becomes available from government health administration authorities, private health insurers and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which treatments they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and these third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular treatments. We cannot be sure reimbursement will be available for any product we commercialize and, if reimbursement is available, what the level of reimbursement will be. Reimbursement may impact the demand for, or the price of, any product for which we obtain marketing approval. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any product we successfully develop.

Moreover, eligibility for reimbursement does not imply any product will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Payment rates may vary according to the use of the product and the clinical setting in which it is used, may be based on payments allowed for lower cost products that are already reimbursed and may be incorporated into existing payments for other services. Net prices for products may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of products from countries where they may be sold at lower prices than in the U.S. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. Our inability to promptly obtain coverage and profitable payment rates from both government funded and private payors could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product to other available therapies. Our business could be materially harmed if reimbursement of any products we may develop, if any, is unavailable or limited in scope or amount or if pricing is set at unsatisfactory levels.

Any products we may develop may cause serious adverse side effects or even death or have other properties that could delay or prevent their regulatory approval, limit the commercial desirability of an approved label or result in significant negative consequences following any marketing approval.

The risk of failure of clinical development is high. It is impossible to predict when or if any products we may develop will prove safe enough to receive regulatory approval. Undesirable side effects caused by any products we may develop could cause us or regulatory authorities to interrupt, delay or halt clinical trials. They could also result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authority.

Additionally, after receipt of marketing approval of any products we may develop, if we or others later identify undesirable side effects or even deaths caused by such product, a number of potentially significant negative consequences could result, including:

- we may be forced to recall such product and suspend the marketing of such product;
- regulatory authorities may withdraw their approvals of such product;
- regulatory authorities may require additional warnings on the label that could diminish the usage or otherwise limit the commercial success of such products;
- the FDA or other regulatory bodies may issue safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warnings about such product;
- the FDA may require the establishment or modification of Risk Evaluation Mitigation Strategies or a comparable foreign regulatory authority may require the establishment or modification of a similar strategy that may, for instance, restrict distribution of our products and impose burdensome implementation requirements on us;
- we may be required to change the way the product is administered or conduct additional clinical trials;
- we could be sued and held liable for harm caused to subjects or patients;
- we may be subject to litigation or product liability claims; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular product.

Risks Associated with Our Business - continued

Product liability lawsuits against us could cause us to incur substantial liabilities and to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the sale of any products we may develop. The marketing, sale and use of any products we may develop could lead to the filing of product liability claims against us if someone alleges product failures, product malfunctions, manufacturing flaws, or design defects, resulted in injury to patients. We may also be subject to liability for a misunderstanding of, or inappropriate reliance upon, the information we provide. If we cannot successfully defend ourselves against claims that any product, we may develop caused injuries, we may incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for our products;
- injury to our reputation and significant negative media attention;
- withdrawal of patients from clinical studies or cancellation of studies;
- significant costs to defend the related litigation and distraction to our management team;
- substantial monetary awards to patients;
- loss of revenue; and
- the inability to commercialize any products that we may develop.

In addition, insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

We may not be able to protect or enforce our intellectual property rights, which could impair our competitive position.

Our success depends significantly on our ability to protect our rights to the patents, trademarks, trade secrets, copyrights and all the other intellectual property rights used, or expected to be used, in our products. Protecting intellectual property rights is costly and time consuming. We rely primarily on patent protection and trade secrets, as well as a combination of copyright and trademark laws and nondisclosure and confidentiality agreements to protect our technology and intellectual property rights. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or maintain any competitive advantage. Despite our intellectual property rights practices, it may be possible for a third party to copy or otherwise obtain and use our technology without authorization, develop similar technology independently or design around our patents.

We cannot be assured that any of our pending patent applications will result in the issuance of a patent to us. The U.S. Patent and Trademark Office, or PTO, may deny or require significant narrowing of claims in our pending patent applications, and patents issued as a result of the pending patent applications, if any, may not provide us with significant commercial protection or be issued in a form that is advantageous to us. We could also incur substantial costs in proceedings before the PTO. Patents that may be issued to or licensed by us in the future may expire or may be challenged, invalidated or circumvented, which could limit our ability to stop competitors from marketing related technologies. Upon expiration of our issued or licensed patents, we may lose some of our rights to exclude others from making, using, selling or importing products using the technology based on the expired patents. There is no assurance that competitors will not be able to design around our patents.

Further, we may not be able to obtain patent protection or secure other intellectual property rights in all the countries in which we operate, and under the laws of such countries, patents and other intellectual property rights may be unavailable or limited in scope. If any of our patents fails to protect our technology, it would make it easier for our competitors to offer similar products. Our trade secrets may be vulnerable to disclosure or misappropriation by employees, contractors and other persons. Any inability on our part to adequately protect our intellectual property may have a material adverse effect on our business, financial condition and results of operations.

We also rely on unpatented proprietary technology. We cannot assure you that we can meaningfully protect all our rights in our unpatented proprietary technology or that others will not independently develop substantially equivalent proprietary products or processes or otherwise gain access to our unpatented proprietary technology. We seek to protect our know-how and other unpatented proprietary technology, as trade secrets or otherwise, with confidentiality agreements and/or intellectual property assignment agreements with our team members, independent distributors and consultants. However, such agreements may not be enforceable or may not provide meaningful protection for our proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements or in the event that our competitors discover or independently develop similar or identical designs or other proprietary information. Our trade secrets may be vulnerable to disclosure or misappropriation by employees, contractors and other persons.

In addition, we intend to rely on the use of registered and common law trademarks with respect to the brand names of some of our products. Common law trademarks provide less protection than registered trademarks. Loss of rights in our trademarks could adversely affect our business, financial condition and results of operations.

Risks Associated with Our Business - continued

We may be subject to intellectual property infringement claims by third parties which could be costly to defend, divert management's attention and resources, and may result in liability.

The medical device industry is characterized by vigorous protection and pursuit of intellectual property rights. Companies in the medical device industry have used intellectual property litigation to gain a competitive advantage in the marketplace. From time to time, third parties may assert against us their patent, copyright, trademark and other intellectual property rights relating to technologies that are important to our business. Searching for existing intellectual property rights may not reveal important intellectual property and our competitors may also have filed for patent protection, which is not publicly-available information, or claimed trademark rights that have not been revealed through our availability searches. We may be subject to claims that our team members have disclosed, or that we have used, trade secrets or other proprietary information of our team members' former employers. Our efforts to identify and avoid infringing on third parties' intellectual property rights may not always be successful. Any claims that our products or processes infringe these rights, regardless of their merit or resolution, could be costly, time consuming and may divert the efforts and attention of our management and technical personnel. In addition, we may not prevail in such proceedings given the complex technical issues and inherent uncertainties in intellectual property litigation.

Any claims of patent or other intellectual property infringement against us, even those without merit, could:

- increase the cost of our products;
- be expensive and/or time consuming to defend;
- result in our being required to pay significant damages to third parties;
- force us to cease making or selling products that incorporate the challenged intellectual property;
- require us to redesign, reengineer or rebrand our products and technologies;
- require us to enter into royalty or licensing agreements in order to obtain the right to use a third party's intellectual property on terms that may not be favorable or acceptable to us;
- require us to develop alternative non-infringing technology, which could require significant effort and expense;
- require us to indemnify third parties pursuant to contracts in which we have agreed to provide indemnification for intellectual property infringement claims; and,
- result in our customers or potential customers deferring or limiting their purchase or use of the affected products impacted by the claims until the claims are resolved.

Any of the foregoing could affect our ability to compete or have a material adverse effect on our business, financial condition and results of operations.

Competitors may violate our intellectual property rights, and we may bring litigation to protect and enforce our intellectual property rights, which may result in substantial expense and may divert our attention from implementing our business strategy.

We believe that the success of our business depends, in significant part, on obtaining patent protection for our products and technologies, defending our patents and preserving our trade secrets. Our failure to pursue any potential claim could result in the loss of our proprietary rights and harm our position in the marketplace. Therefore, we may be forced to pursue litigation to enforce our rights. Future litigation could result in significant costs and divert the attention of our management and key personnel from our business operations and the implementation of our business strategy.

We or our third-party manufacturers may not have the manufacturing and processing capacity to meet the production requirements of clinical testing or consumer demand in a timely manner.

Our capacity to conduct clinical trials and commercialize our products will depend in part on our ability to manufacture or provide our products on a large scale, at a competitive cost and in accordance with regulatory requirements. We must establish and maintain a commercial scale manufacturing process for all of our products to complete clinical trials. We or our third-party manufacturers may encounter difficulties with these processes at any time that could result in delays in clinical trials, regulatory submissions or the commercialization of products.

For some of our products, we or our third-party manufacturers will need to have sufficient production and processing capacity in order to conduct human clinical trials, to produce products for commercial sale at an acceptable cost. We have no experience in large-scale product manufacturing, nor do we have the resources or facilities to manufacture most of our products on a commercial scale. We cannot guarantee that we or our third-party manufacturers will be able to increase capacity in a timely or cost-effective manner, or at all. Delays in providing or increasing production or processing capacity could result in additional expense or delays in our clinical trials, regulatory submissions and commercialization of our products.

The manufacturing processes for our products have not yet been tested at commercial levels, and it may not be possible to manufacture or process these materials in a cost-effective manner.

Risks Associated with Our Business - continued

Our business may suffer if we are unable to manage our growth.

If we fail to effectively manage our growth, our ability to execute our business strategy could be impaired. The anticipated rapid growth of our business may place a strain on our management, operations and financial systems. We need to improve existing systems and controls or implement new systems and controls in response to anticipated growth.

We will be dependent on third-party manufacturers since we will not initially directly manufacture our products.

Initially, we will not directly manufacture our products and will rely on third parties to do so for us. If our manufacturing and distribution agreements are not satisfactory, we may not be able to develop or commercialize products as planned. In addition, we may not be able to contract with third parties to manufacture our products in an economical manner. Furthermore, third-party manufacturers may not adequately perform their obligations, may delay clinical development or submission of products for regulatory approval or otherwise may impair our competitive position. We may not be able to enter into or maintain relationships with manufacturers that comply with good manufacturing practices. If a product manufacturer fails to comply with good manufacturing practices, we could experience significant time delays or we may be unable to commercialize or continue to market the products. Changes in our manufacturers could require costly new product testing and facility compliance inspections. In the United States, failure to comply with good manufacturing practices or other applicable legal requirements can lead to federal seizure of violative products, injunctive actions brought by the federal government, and potential criminal and civil liability on the part of a company and its officers and employees. Because of these and other factors, we may not be able to replace our manufacturing capacity quickly or efficiently in the event that our manufacturers are unable to manufacture our products at one or more of their facilities. As a result, the sale and marketing of our products could be delayed or we could be forced to develop our own manufacturing capacity, which could require substantial additional funds and personnel and compliance with extensive regulations.

We may be dependent on the sales and marketing efforts of third parties if we choose not to develop an extensive sales and marketing staff.

Initially, we will depend on the efforts of third parties (including sales agents and distributors) to carry out the sales and marketing of our products. We anticipate that each third party will control the amount and timing of resources generally devoted to these activities. However, these third parties may not be able to generate demand for our products. In addition, there is a risk that these third parties will develop products competitive to ours, which would likely decrease their incentive to vigorously promote and sell our products. If we are unable to enter into co-promotion agreements or to arrange for third-party distribution of our products, we will be required to expend time and resources to develop an effective internal sales force. However, it may not be economical for us to market our own products or we may be unable to effectively market our products. Therefore, our business could be harmed if we fail to enter into arrangements with third parties for the sales and marketing of our products or otherwise fail to establish sufficient marketing capabilities.

Our officers will allocate their time to other businesses thereby potentially limiting the amount of time they devote to our affairs. This conflict of interest could have a negative impact on our operations.

Our officers are not required to commit their full time to our affairs, which could create a conflict of interest when allocating their time between our operations and their other commitments. We presently expect each of our employees to devote such amount of time as they reasonably believe is necessary to our business. All of our officers are engaged in several other business endeavors and are not obligated to devote any specific number of hours to our affairs. If our officers' other business affairs require them to devote more substantial amounts of time to such affairs, it could limit their ability to devote time to our affairs and could have a negative impact on our operations. We cannot assure you these conflicts will be resolved in our favor.

Our ability to be successful will be totally dependent upon the efforts of our key personnel.

Our ability to successfully carry out our business plan is dependent upon the efforts of our key personnel. We cannot assure you that any of our key personnel will remain with us for the immediate or foreseeable future. The unexpected loss of the services of our key personnel could have a detrimental effect on us. We may also be unable to attract and retain additional key personnel in the future. An inability to do so may impact our ability to continue and grow our operations.

Risks Associated with Our Business - continued

Our officers have fiduciary obligations to other companies and, accordingly, may have conflicts of interest in determining to which entity a particular business opportunity should be presented.

Certain of our officers have fiduciary obligations to other companies engaged in medical device business activities, namely Saphena Medical, Kaleidoscope Medical and Cruzar Medsystems. Accordingly, they may participate in transactions and have obligations that may be in conflict or competition with our business. As a result, a potential business opportunity may be presented by certain members of our management team to another entity prior to its presentation to us and we may not be afforded the opportunity to engage in such a transaction.

Our business, financial condition and results of operations could be adversely affected by the political and economic conditions of the countries in which we conduct business.

Our business, financial condition and results of operations could be adversely affected by the political and economic conditions of the countries in which we conduct business. These factors include:

- challenges associated with cultural differences, languages and distance;
- differences in clinical practices, needs, products, modalities and preferences;
- longer payment cycles in some countries;
- credit risks of many kinds;
- legal and regulatory differences and restrictions;
- currency exchange fluctuations;
- foreign exchange controls that might prevent us from repatriating cash earned in certain countries;
- political and economic instability and export restrictions;
- variability in sterilization requirements for multi-usage surgical devices;
- potential adverse tax consequences;
- higher cost associated with doing business internationally;
- challenges in implementing educational programs required by our approach to doing business;
- negative economic developments in economies around the world and the instability of governments, including the threat of war, terrorist attacks, epidemic or civil unrest;
- adverse changes in laws and governmental policies, especially those affecting trade and investment;
- pandemics, such as the Ebola virus, the enterovirus and the avian flu, which may adversely affect our workforce as well as our local suppliers and customers;
- import or export licensing requirements imposed by governments;
- differing labor standards;
- differing levels of protection of intellectual property;
- the threat that our operations or property could be subject to nationalization and expropriation;
- varying practices of the regulatory, tax, judicial and administrative bodies in the jurisdictions where we operate; and
- potentially burdensome taxation and changes in foreign tax.

Any products we may develop may not be approved for sale in the U.S. or in any other country.

Neither we nor any future collaboration partner can commercialize any products we may develop in the U.S. or in any foreign country without first obtaining regulatory approval for the product from the FDA or comparable foreign regulatory authorities. The approval route in the U.S. for any products we may develop may be either via the PMA process, a *de novo* 510(k) pathway, or traditional 510(k). The PMA approval process is more complex, costly and time consuming than the 510(k) process. Additional randomized, controlled clinical trials may be necessary to obtain approval. The approval process may take several years to complete and may never be obtained. Before obtaining regulatory approvals for the commercial sale of any product we may develop in the U.S., we must demonstrate with substantial evidence, gathered in preclinical and well-controlled clinical studies, that the planned products are safe and effective for use for that target indication. We may not conduct such a trial or may not successfully enroll or complete any such trial. Any products we may develop may not achieve the required primary endpoint in the clinical trial and may not receive regulatory approval. We must also demonstrate that the manufacturing facilities, processes and controls for any products we may develop are adequate. Moreover, obtaining regulatory approval in one country for marketing of any products we may develop does not ensure we will be able to obtain regulatory approval in other countries, while a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in other countries.

Even if we or any future collaboration partner were to successfully obtain a regulatory approval for any product we may develop, any approval might contain significant limitations related to use restrictions for specified age groups, warnings, precautions or contraindications, or may be subject to burdensome post-approval study or risk management requirements. If we are unable to obtain regulatory approval for any products, we may develop in one or more jurisdictions, or any approval contains significant limitations, we may not be able to obtain sufficient revenue to justify commercial launch. Also, any regulatory approval of a product, once obtained, may be withdrawn. If we are unable to successfully obtain regulatory approval to sell any products we may develop in the U.S. or other countries, our business, financial condition, results of operations and growth prospects could be adversely affected.

Risks Related to Government Regulation

The regulatory approval process is expensive, time consuming and uncertain, and may prevent us or our partners from obtaining approval for the commercialization of any products we may develop. Approval of products in the U.S. or other territories may require that we, or a partner, conduct randomized, controlled clinical trials.

The regulatory pathway in the U.S. for approval of the products we are currently developing has not been determined. However, it is possible the FDA will require us to file for approval via the PMA pathway for one or more of our planned products. In this case, the FDA is likely to require that randomized, controlled clinical trials be conducted before an application for approval can be filed. These are typically expensive and time consuming and require substantial commitment of financial and personnel resources from the sponsoring company. These clinical trials also entail significant risk, and the resulting data may not be sufficient to support approval by the FDA or other regulatory bodies.

Furthermore, regulatory approval of a PMA or a 510(k) pathway is not guaranteed, and the filing and approval process itself is expensive and may take several years. The FDA also has substantial discretion in the approval process. Despite the time and expense exerted, failure may occur at any stage, and we could encounter problems that cause us to abandon or repeat clinical studies. The FDA can delay, limit, or deny approval of a future product for many reasons, including but not limited to:

- a future product may not be deemed to be safe and effective;
- FDA officials may not find the data from clinical and preclinical studies sufficient;
- the FDA may not approve our or our third-party manufacturer's processes or facilities; or
- the FDA may change its approval policies or adopt new regulations.

If any products we may develop fail to demonstrate safety and efficacy in further clinical studies may be required, or do not gain regulatory approval, our business and results of operations will be materially and adversely harmed.

Even if we receive regulatory approval for any product we may develop, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and subject us to penalties if we fail to comply with applicable regulatory requirements.

Once regulatory approval has been obtained, the approved product and its manufacturer are subject to continual review by the FDA or non-U.S. regulatory authorities. Our regulatory approval for any products we may develop may be subject to limitations on the indicated uses for which the product may be marketed. Future approvals may contain requirements for potentially costly post-marketing follow-up studies to monitor the safety and efficacy of the approved product. In addition, we are subject to extensive and ongoing regulatory requirements by the FDA and other regulatory authorities with regard to the labeling, packaging, adverse event reporting, storage, advertising, promotion and recordkeeping for our products. In addition, we are required to comply with cGMP regulations regarding the manufacture of any products we may develop, which include requirements related to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Further, regulatory authorities must approve these manufacturing facilities before they can be used to manufacture drug products, and these facilities are subject to continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMP regulations. If we or a third party discover previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory authority may impose restrictions on that product, the manufacturer or us, including requiring withdrawal of the product from the market or suspension of manufacturing.

Failure to obtain regulatory approvals in foreign jurisdictions will prevent us from marketing our products internationally.

We intend to seek distribution and marketing partners for one or more of the products we may develop in foreign countries. The approval procedures vary among countries and can involve additional clinical testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Moreover, clinical studies or manufacturing processes conducted in one country may not be accepted by regulatory authorities in other countries. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one or more foreign regulatory authorities does not ensure approval by regulatory authorities in other foreign countries or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in others. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all. We may not be able to file for regulatory approvals and even if we file, we may not receive necessary approvals to commercialize our products in any market.

Risks Related to Government Regulation - continued

Healthcare reform measures could hinder or prevent our products' commercial success.

In the U.S., there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system in ways that could affect our future revenue and profitability and the future revenue and profitability of our potential customers. Federal and state lawmakers regularly propose and, at times, enact legislation that could result in significant changes to the healthcare system, some of which are intended to contain or reduce the costs of medical products and services. For example, one of the most significant healthcare reform measures in decades, the PPACA, was enacted in 2010. The PPACA contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement changes and fraud and abuse measures, all of which will impact existing government healthcare programs and will result in the development of new programs. The PPACA, among other things:

- imposes a tax of 2.3% on the retail sales price of medical devices sold after December 31, 2012 (On January 22, 2018, the implementation of the medical device tax was deferred until January 1, 2020); and
- could result in the imposition of injunctions.

While the U.S. Supreme Court upheld the constitutionality of most elements of the PPACA in June 2012, other legal challenges are still pending final adjudication in several jurisdictions. In addition, Congress has also proposed a number of legislative initiatives, including possible repeal of the PPACA. At this time, it remains unclear whether there will be any changes made to the PPACA, whether to certain provisions or its entirety. The 2.3% tax on sales of medical devices may be applicable to sales of one or more products we may develop. We cannot assure you that the PPACA, as currently enacted or as amended in the future, will not adversely affect our business and financial results and we cannot predict how future federal or state legislative or administrative changes relating to healthcare reform will affect our business.

In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. For example, the Budget Control Act of 2011, among other things, created the Joint Select Committee on Deficit Reduction to recommend proposals for spending reductions to Congress. The Joint Select Committee did not achieve a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, which triggered the legislation's automatic reduction to several government programs, including aggregate reductions to Medicare payments to providers of up to 2.0% per fiscal year, starting in 2013. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, or the ATRA, which delayed for another two months the budget cuts mandated by the sequestration provisions of the Budget Control Act of 2011. The ATRA, among other things, also reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In March 2013, President Obama signed an executive order implementing sequestration, and in April 2013, the 2.0% Medicare reductions went into effect. We cannot predict whether any additional legislative changes will affect our business.

There likely will continue to be legislative and regulatory proposals at the federal and state levels directed at containing or lowering the cost of health care. We cannot predict the initiatives that may be adopted in the future or their full impact. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of health care may adversely affect:

- our ability to set a price that we believe is fair for our products;
- our ability to generate revenue and achieve or maintain profitability; and
- the availability of capital.

Further, changes in regulatory requirements and guidance may occur, both in the United States and in foreign countries, and we may need to amend clinical study protocols to reflect these changes. Amendments may require us to resubmit our clinical study protocols to IRB's for reexamination, which may impact the costs, timing or successful completion of a clinical study. In light of widely publicized events concerning the safety risk of certain drug and medical device products, regulatory authorities, members of Congress, the Governmental Accounting Office, medical professionals and the general public have raised concerns about potential safety issues. These events have resulted in the recall and withdrawal of medical device products, revisions to product labeling that further limit use of products and establishment of risk management programs that may, for instance, restrict distribution of certain products or require safety surveillance or patient education. The increased attention to safety issues may result in a more cautious approach by the FDA or other regulatory authorities to clinical studies and the drug approval process. Data from clinical studies may receive greater scrutiny with respect to safety, which may make the FDA or other regulatory authorities more likely to terminate or suspend clinical studies before completion or require longer or additional clinical studies that may result in substantial additional expense and a delay or failure in obtaining approval or approval for a more limited indication than originally sought.

Given the serious public health risks of high profile adverse safety events with certain products, the FDA or other regulatory authorities may require, as a condition of approval, costly risk evaluation and mitigation strategies, which may include safety surveillance, restricted distribution and use, patient education, enhanced labeling, special packaging or labeling, expedited reporting of certain adverse events, preapproval of promotional materials and restrictions on direct-to-consumer advertising.

Risks Related to Government Regulation - continued

If we fail to comply with healthcare regulations, we could face substantial penalties and our business, operations and financial condition could be adversely affected.

Even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. We could be subject to healthcare fraud and abuse and patient privacy regulation by both the federal government and the states in which we conduct our business. The regulations that may affect our ability to operate include, without limitation:

- the federal healthcare program Anti-Kickback Statute, which prohibits, among other things, any person from knowingly and willfully offering, soliciting, receiving or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs, such as the Medicare and Medicaid programs;

- the U.S. Foreign Corrupt Practices Act, or FCPA, which prohibits payments or the provision of anything of value to foreign officials for the purpose of obtaining or keeping business;

  the federal False Claims Act, or FCA, which prohibits, among other things, individuals or entities from knowingly presenting, or causing to be presented, false claims, or knowingly using false statements, to obtain payment from the federal government, and which may apply to entities like us which provide coding and billing advice to customers;

- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- the federal transparency requirements under the Health Care Reform Law requires manufacturers of drugs, devices, biologics and medical supplies to report to the Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests;

- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers.

The PPACA, among other things, amends the intent requirement of the Federal Anti-Kickback Statute and criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. In addition, the PPACA provides that the government may assert that a claim including items or services resulting from a violation of the Federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the FCA.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could adversely affect our ability to operate our business and our financial results. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security and fraud laws may prove costly.

Risks Related to Government Regulation - continued

If required, clinical trials necessary to support a 510(k) notice or PMA application will be expensive and will require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Delays or failures in our clinical trials will prevent us from commercializing any modified or new products and will adversely affect our business, operating results and prospects.

Initiating and completing clinical trials necessary to support a 510(k) notice or a PMA application will be time-consuming and expensive and the outcome uncertain. Moreover, the results of early clinical trials are not necessarily predictive of future results, and any product the Company advances into clinical trials may not have favorable results in early or later clinical trials.

Conducting successful clinical studies will require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Patient enrollment in clinical trials and completion of patient participation and follow-up depend on many factors, including the size of the patient population, the nature of the trial protocol, the attractiveness of, or the discomforts and risks associated with, the treatments received by patients enrolled as subjects, the availability of appropriate clinical trial investigators, support staff, and proximity of patients to clinical sites and ability to comply with the eligibility and exclusion criteria for participation in the clinical trial and patient compliance. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and effectiveness of our products or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts. Patients may also not participate in our clinical trials if they choose to participate in contemporaneous clinical trials of competitive products. In addition, patients participating in clinical trials may die before completion of the trial or suffer adverse medical events unrelated to investigational products.

Development of sufficient and appropriate clinical protocols to demonstrate safety and efficacy may be required and the Company may not adequately develop such protocols to support clearance and approval. Further, the FDA may require the Company to submit data on a greater number of patients than it originally anticipated and/or for a longer follow-up period or change the data collection requirements or data analysis for any clinical trials. Delays in patient enrollment or failure of patients to continue to participate in a clinical trial may cause an increase in costs and delays in the approval and attempted commercialization of our products or result in the failure of the clinical trial. The FDA may not consider our data adequate to demonstrate safety and efficacy. Such increased costs and delays or failures could adversely affect our business, operating results and prospects.

The results of the Company's clinical trials may not support our product candidate claims or may result in the discovery of adverse side effects.

Even if any of the Company's clinical trials are completed as planned, it cannot be certain that study results will support product candidate claims or that the FDA or foreign regulatory authorities will agree with our conclusions regarding them. Success in pre-clinical evaluation and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our product candidates are safe and effective for the proposed indicated uses, which could cause us to abandon a product candidate and may delay development of others. Any delay or termination of our clinical trials will delay the filing of our product submissions and, ultimately, our ability to commercialize our product candidates and generate revenues. It is also possible that patients enrolled in clinical trials will experience adverse side effects that are not currently part of the product candidate's profile.

The Company's medical products may in the future be subject to product recalls that could harm its reputation, business and financial results.

The FDA has the authority to require the recall of commercialized medical device products in the event of material deficiencies or defects in design or manufacture. In the case of the FDA, the authority to require a recall must be based on an FDA finding that there is a reasonable probability that the device would cause serious injury or death. Manufacturers may, under their own initiative, recall a product if any material deficiency in a device is found. A government-mandated or voluntary recall by the Company or one of its distributors could occur as a result of component failures, manufacturing errors, design or labeling defects or other deficiencies and issues. Recalls of any of the Company's products would divert managerial and financial resources and have an adverse effect on its financial condition and results of operations. The FDA requires that certain classifications of recalls be reported to the FDA within ten (10) working days after the recall is initiated. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA. The Company may initiate voluntary recalls involving its products in the future that the Company determines do not require notification of the FDA. If the FDA disagrees with the Company's determinations, they could require the Company to report those actions as recalls. A future recall announcement could harm the Company's reputation with customers and negatively affect its sales. In addition, the FDA could take enforcement action for failing to report the recalls when they were conducted. No recalls of the Company's medical products have been reported to the FDA.

Risks Related to Government Regulation - continued

If the Company's medical products cause or contribute to a death or a serious injury, or malfunction in certain ways, we will be subject to medical device reporting regulations, which can result in voluntary corrective actions or agency enforcement actions.

Under the FDA medical device reporting regulations, medical device manufacturers are required to report to the FDA information that a device has or may have caused or contributed to a death or serious injury or has malfunctioned in a way that would likely cause or contribute to death or serious injury if the malfunction of the device or one of our similar devices were to recur. If the Company fails to report these events to the FDA within the required timeframes, or at all, the FDA could take enforcement action against the Company. Any such adverse event involving its products also could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection or enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of the Company's time and capital, distract management from operating our business, and may harm its reputation and financial results.

If the effectiveness and safety of the Company's devices are not supported by long-term data, the Company's future revenues could decline.

The Company's products may not be accepted in the market if the Company does not produce clinical data supported by the independent efforts of clinicians, and if that data indicates that treatment with the Company's products does not provide patients with sustained benefits or that treatment with the Company's products is less effective or less safe than the Company's current data suggests, the Company's future revenues could decline. In addition, the FDA could then bring legal or regulatory enforcement actions against the Company and/or its products including, but not limited to, recalls or requirements for pre-market 510(k) authorizations. The Company can give no assurance that its data will be substantiated in studies involving more patients. In such a case, the Company may never achieve significant revenues or profitability.

If the Company is found to be promoting the use of its devices for unapproved or "off-label" uses or engaging in other noncompliant activities, the Company may be subject to recalls, seizures, fines, penalties, injunctions, adverse publicity, prosecution, or other adverse actions, resulting in damage to its reputation and business.

The Company's labeling, advertising, promotional materials and user training materials must comply with the FDA and other applicable laws and regulations, including the prohibition of the promotion of a medical device for a use that has not been cleared or approved by the FDA. Obtaining 510(k) clearance or PMA approval only permits the Company to promote its products for the uses specifically cleared by the FDA. Use of a device outside its cleared or approved indications is known as "off-label" use. Physicians and consumers may use the Company's products off-label because the FDA does not restrict or regulate a physician's choice of treatment within the practice of medicine nor is there oversight on patient use of over-the-counter devices. Although the Company may request additional cleared indications for our current products, the FDA may deny those requests, require additional expensive clinical data to support any additional indications or impose limitations on the intended use of any cleared product as a condition of clearance. Even if regulatory clearance or approval of a product is granted, such clearance or approval may be subject to limitations on the intended uses for which the product may be marketed and reduce our potential to successfully commercialize the product and generate revenue from the product.

If the FDA determines that the Company's labeling, advertising, promotional materials, or user training materials, or representations made by Company personnel, include the promotion of an off-label use for the device, or that the Company has made false or misleading or inadequately substantiated promotional claims, or claims that could potentially change the regulatory status of the product, the agency could take the position that these materials have misbranded the Company's devices and request that the Company modifies its labeling, advertising, or user training or promotional materials and/or subject the Company to regulatory or legal enforcement actions, including the issuance of an Untitled Letter or a Warning Letter, injunction, seizure, recall, adverse publicity, civil penalties, criminal penalties, or other adverse actions. It is also possible that other federal, state, or foreign enforcement authorities might take action if they consider the Company's labeling, advertising, promotional, or user training materials to constitute promotion of an unapproved use, which could result in significant fines, penalties, or other adverse actions under other statutory authorities, such as laws prohibiting false claims for reimbursement. In that event, we would be subject to extensive fines and penalties and the Company's reputation could be damaged and adoption of the products would be impaired. Although the Company intends to refrain from statements that could be considered off-label promotion of its products, the FDA or another regulatory agency could disagree and conclude that the Company has engaged in off-label promotion. For example, the Company has made statements regarding some of its devices that the FDA may view as off-label promotion. In addition, any such off-label use of the Company's products may increase the risk of injury to patients, and, in turn, the risk of product liability claims, and such claims are expensive to defend and could divert the Company's management's attention and result in substantial damage awards against the Company.

Risks Related to Government Regulation - continued

The Company may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws and regulations and could face substantial penalties if the Company is unable to fully comply with such laws.

While the Company does not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, many healthcare laws and regulations apply to the Company's business. For example, the Company could be subject to healthcare fraud and abuse and patient privacy regulation and enforcement by both the federal government and the states in which the Company intends to conduct its business. The healthcare laws and regulations that may affect the Company's ability to operate include:

- the federal healthcare programs' Anti-Kickback Law, which prohibits, among other things, persons or entities from soliciting, receiving, offering or providing remuneration, directly or indirectly, in return for or to induce either the referral of an individual for, or the purchase order or recommendation of, any item or service for which payment may be made under a federal healthcare program such as the Medicare and Medicaid programs;

- federal false claims laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent, or are for items or services not provided as claimed and which may apply to entities like the Company to the extent that the Company's interactions with customers may affect their billing or coding practices;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which established new federal crimes for knowingly and willfully executing a scheme to defraud any healthcare benefit program or making false statements in connection with the delivery of or payment for healthcare benefits, items or services, as well as leading to regulations imposing certain requirements relating to the privacy, security and transmission of individually identifiable health information; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers, and state laws governing the privacy of health information in certain circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Recently, the medical device industry has been under heightened scrutiny as the subject of government investigations and regulatory or legal enforcement actions involving manufacturers who allegedly offered unlawful inducements to potential or existing customers in an attempt to procure their business, including arrangements with physician consultants. If the Company's operations or arrangements are found to be in violation of any of the laws described above or any other governmental regulations that apply to the Company, the Company may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from the Medicare and Medicaid programs and the curtailment or restructuring of its operations. Any penalties, damages, fines, exclusions, curtailment or restructuring of the Company's operations could adversely affect its ability to operate its business and its financial results. The risk of the Company being found in violation of these laws is increased by the fact that many of these laws are broad and their provisions are open to a variety of interpretations. Any action against the Company for violation of these laws, even if the Company successfully defends against that action and the underlying alleged violations, could cause the Company to incur significant legal expenses and divert its management's attention from the operation of its business. If the physicians or other providers or entities with whom the Company does business are found to be non-compliant with applicable laws, they may be subject to sanctions, which could also have a negative impact on the Company's business.

Risks Related to Government Regulation - continued

The Company or its subsidiaries' failure to obtain or maintain necessary FDA clearances or approvals, or equivalents thereof in the U.S. and relevant foreign markets, could hurt our ability to distribute and market our products.

In both the United States and foreign markets, the Company and its subsidiaries are affected by extensive laws, governmental regulations, administrative determinations, court decisions and similar constraints. Such laws, regulations and other constraints may exist at the federal, state or local levels in the United States and at analogous levels of government in foreign jurisdictions.

For example, certain of the Company's planned product candidates may fall under the regulatory purview of various centers at the FDA and in other countries by similar health and regulatory authorities.

In addition, the formulation, manufacturing, packaging, labeling, distribution, importation, sale and storage of the Company's and its subsidiaries' products are subject to extensive regulation by various federal agencies, including, but not limited to, the FDA, the FTC, State Attorneys General in the United States, the Ministry of Health, Labor and Welfare in Japan, as well as by various other federal, state, local and international regulatory authorities in the countries in which its products are manufactured, distributed or sold. If the Company or its manufacturers fail to comply with those regulations, the Company and its subsidiaries could become subject to significant penalties or claims, which could harm its results of operations or its ability to conduct its business. In addition, the adoption of new regulations or changes in the interpretations of existing regulations may result in significant compliance costs or discontinuation of product sales and may impair the marketing of its products, resulting in significant loss of net sales. The Company's failure to comply with federal or state regulations, or with regulations in foreign markets that cover its product claims and advertising, including direct claims and advertising by the Company or its subsidiaries, may result in enforcement actions and imposition of penalties or otherwise harm the distribution and sale of its products. Further, the Company and its subsidiaries' businesses are subject to laws governing our accounting, tax and import and export activities. Failure to comply with these requirements could result in legal and/or financial consequences that might adversely affect its sales and profitability. Each medical device that the Company wishes to market in the U.S. must first receive either 510(k) clearance or premarket approval from the FDA unless an exemption applies. Either process can be lengthy and expensive. The FDA's 510(k) clearance process may take from three to twelve months, or longer, and may or may not require human clinical data. The premarket approval process is much costlier and lengthier. It may take from eleven months to three years, or even longer, and will likely require significant supporting human clinical data. Delays in obtaining regulatory clearance or approval could adversely affect the Company's revenues and profitability. Although the Company has obtained 510(k) clearances for its LHE devices as these clearances may be subject to revocation if post-marketing data demonstrates safety issues or lack of effectiveness. Similar clearance processes may apply in foreign countries. Further, more stringent regulatory requirements or safety and quality standards may be issued in the future with an adverse effect on the Company's business.

Risks Associated with Ownership of Our Common Stock

We may issue shares of our common and /or preferred stock in the future which could reduce the equity interest of our stockholders and might cause a change in control of our ownership.

Our certificate of incorporation authorizes the issuance of up to 75,000,000 shares of common stock, par value $.001 per share, and 20,000,000 shares of preferred stock, par value $.001 per share. In addition, pursuant to the SPA (as defined below) we are required to seek stockholder approval to increase the number of shares of Common Stock we are authorized to issue to $100,000,000 shares. We may issue a substantial number of additional shares of our common stock or preferred stock, or a combination of common and preferred stock, to raise additional funds or in connection with any strategic acquisition. The issuance of additional shares of our common stock or any number of shares of our preferred stock:

- may significantly reduce the equity interest of investors;
- may subordinate the rights of holders of common stock if preferred stock is issued with rights senior to those afforded to our common stockholders;
- may cause a change in control if a substantial number of our shares of common stock are issued, which may affect, among other things, our ability to use our net operating loss carryforwards, if any, and most likely also result in the resignation or removal of some or all of our present officers and directors; and
- may adversely affect prevailing market prices for our common stock.

Risks Associated with Ownership of Our Common Stock - continued

We have incurred substantial indebtedness, and may incur additional indebtedness in the future, which could adversely affect our liquidity, financial condition, and results of operations.

On December 27, 2018, we entered into a Securities Purchase Agreement ("SPA") with an institutional investor - "Alto Opportunity Master Fund, SPC Segregated Master Portfolio B" or "Alto Opportunity Fund" or "Alto" - and simultaneously consummated the sale to such institutional investor of a Senior Secured Convertible Note with an initial principal amount of $7,750,000, the "Senior Convertible Note", in a private placement pursuant to the SPA, the "Private Placement". Maxim Group LLC ("Maxim Group") acted as the placement agent for the Private Placement. The Senior Convertible Note was issued with a face value principal payable of $7.75 million and resulted in cash proceeds of $7.0 after the payment of $750,000 of lender fees. Maxim Group received a fee of 6.5% of the cash proceeds of the Private Placement, or an aggregate of $455,000. After deducting the placement agent fee and our estimated expenses associated with the Private Placement, our cash proceeds were approximately $6,445,000. In connection with the Private Placement closing on December 27, 2018, we repaid in full the outstanding principal balance and all accrued but unpaid interest expense on the previously issued Senior Secured Note held by our existing lender, Scopia Holdings LLC - "Scopia" - with such repayment consisting of a cash payment of $5,000,000 and the issue of 600,000 shares of our common stock. In accordance with the terms of the Registration Rights Agreement entered into in connection with Senior Convertible Note Private Placement, on January 25, 2019, we filed a registration statement with the SEC on Form S-3 - File No. 333-229372 - which became effective on February 14, 2019, with respect to our common shares underlying the Senior Convertible Note as-well-as the shares of common stock issued to Scopia Holdings LLC as a component of the repayment of the Senior Secured Note, as discussed above.

Previously, on July 3, 2017, we issued to Scopia Holdings LLC a Senior Secured Note with an initial principal amount of $5.0 million pursuant to a Note and Security Purchase Agreement. As noted above, on December 27, 2018, we repaid-in-full the principal and earned but unpaid interest of the Senior Secured Note, with a $5.0 million cash payment and the issue of 600,000 shares of our common stock. The aggregate remaining unpaid principal balance of the Senior Secured Note was otherwise due on June 30, 2019, and there was no impact of the repayment on December 27, 2018. The Senior Secured Note had a contractual annual interest rate of 15%, interest payments semi-annually in arrears on June 30 and December 30 of each calendar year commencing on December 30, 2017.

Our indebtedness could have important consequences on our business. To the extent new debt and/or new credit sources are added to our existing debt under the issued and outstanding Senior Convertible Note, the related risks for us could intensify. In particular, it could:

- require us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing the availability of our cash flow to fund operating expenditures, capital expenditures, and for other general corporate purposes;
- limit, among other things, our ability to borrow additional funds and otherwise raise additional capital, and our ability to conduct acquisitions, joint, ventures or similar arrangements, as a result of our obligations to repay such indebtedness and as a result of restrictive covenants contained in the agreements governing our indebtedness;
- limit our flexibility in planning for, or reacting to, changes in our businesses and the industries in which we operate;
- increase our vulnerability to general adverse economic and industry conditions; and
- place us at a competitive disadvantage compared to our competitors that have less debt.

In addition, the Security Purchase Agreement and the Senior Secured Convertible Note contain financial and other restrictive covenants which may potentially be subject to factors beyond our control and negatively affect our ability to comply.

Despite our right to pay the interest and principal balance of the Senior Convertible Note by issuing shares of our common stock, we may be required to repay the Convertible Note and interest thereon in cash, if we do not meet certain customary equity conditions (including minimum price and volume thresholds) or in certain other circumstances. For example, we will be required to repay the outstanding principal balance and accrued but unpaid interest, along with a premium, upon the occurrence of a Change of Control (as defined in the Convertible Note). In such event, we may not be able to generate sufficient cash to service the Senior Convertible Note, or any future indebtedness incurred by us, as cash payments become due. If we are unable to make payments as they come due or comply with the restrictions and covenants in the Security Purchase Agreement and the Senior Convertible Note, or any other agreements governing our future indebtedness, there could be a default under the terms of such agreements. In such event, or if we are otherwise in default under the Security Purchase Agreement and the Senior Convertible Note, or such other agreements, including pursuant to any cross-default provisions of such agreements, the lenders could terminate their commitments to lend and/or accelerate the loans and declare all amounts borrowed due and payable. Furthermore, the Senior Convertible Note lender, and any future lenders to whom we grant a security interest, could foreclose on their security interests in our assets, including our intellectual property. If any of those events occur, our assets might not be sufficient to repay in full all of our outstanding indebtedness and we may be unable to find alternative financing. Even if we could obtain alternative financing, it may not be on terms we deem favorable or acceptable to us. Additionally, we may not be able to amend the Security Purchase Agreement and the Senior Convertible Note, or such other agreements, or obtain needed waivers, on satisfactory terms or without incurring substantial costs. Failure to maintain existing or secure new financing could have a material adverse effect on our liquidity, financial position, and/or results of operations.

Risks Associated with Ownership of Our Common Stock - continued

Our management and their affiliates control a substantial interest in us and thus may influence certain actions requiring a stockholder vote.

As of December 31, 2018, our management and their affiliates collectively own approximately 19% of our issued and outstanding shares of common stock. Accordingly, these individuals would have considerable influence regarding the outcome of any transaction that requires stockholder approval. Furthermore, our Board of Directors is and will be divided into three classes, each of which will generally serve for a term of three years with only one class of directors being elected in each year. As a consequence of our "staggered" Board of Directors, only a minority of the Board of Directors will be considered for election in any given year and our initial stockholders, because of their ownership position, will have considerable influence regarding the outcome.

There can be no assurance that our common stock will continue to trade on the Nasdaq Capital Market or another national securities exchange.

On March 5, 2018, we were not in compliance with the MVLS standard of the continued listing standards for Nasdaq Capital Market companies. On July 3. 2018, the Nasdaq Staff notified the Company that it had regained compliance. There can be no assurance that we will be able to continue to meet the MVLS or any of the other Nasdaq Capital Market listing standards. If we are maintaining compliance with the MVLS standard or another listing standard within the time frame set by Nasdaq, and maintain compliance with such standards, our common stock may no longer be listed on the Nasdaq Capital Market or another national securities exchange and the liquidity and market price of our common stock may be adversely affected.

Risks Associated with Ownership of Our Common Stock - continued

A robust public market for our common stock may not develop or be sustained, which could affect your ability to sell our common stock or depress the market price of our common stock.

Our common stock is listed on Nasdaq, but we cannot assure you our common stock will continue to trade on this market or another national securities exchange. In addition, we are unable to predict whether an active trading market for our common stock will develop or will be sustained. A substantial number of our securities are "restricted securities" as defined in Rule 144 under the Securities Act of 1933, as amended, or the "Securities Act," and/or are held by affiliates of ours. Securities held by affiliates of an issuer are sometimes referred to as "control securities." Restricted securities and control securities may only be sold publicly pursuant to a registration statement or an exemption from registration. Rule 144, which provides such an exemption, requires that public sales meet certain conditions, including, in the case of restricted securities, that certain holding period requirements are met and, in the case of control securities (including restricted securities that are control securities), that certain information be publicly available and that sales be made in compliance with certain manner of sale and volume limitations. The public information requirement also applies to sales of restricted securities (even if they are not control securities), if such securities have been held for less than one year. There can be no assurance that we will continue to fulfill the public information requirement or that the other conditions to the availability of Rule 144 will be satisfied, and even if satisfied, the volume limitations of Rule 144 will restrict the number of control securities that may be sold. Accordingly, certain amounts of our securities may not be eligible for public sale. If an active market does not develop or is not sustained for the foregoing reasons or for any other reason, it may be difficult for you to sell your securities at the time you wish to sell them, at a price that is attractive to you, or at all.

Our stock price may be volatile, and purchasers of our securities could incur substantial losses.

Our stock price is likely to be volatile. The stock market in general, and the market for life science companies, and medical device companies in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including the following:

- our ability to successfully commercialize, and realize revenues from sales of, any products we may develop;
- the performance, safety and side effects of any products we may develop;
- the success of competitive products or technologies;
- results of clinical studies of any products we may develop or those of our competitors;
- regulatory or legal developments in the U.S. and other countries, especially changes in laws or regulations applicable to any products we may develop;
- introductions and announcements of new products by us, our commercialization partners, or our competitors, and the timing of these introductions or announcements;
- actions taken by regulatory agencies with respect to our products, clinical studies, manufacturing process or sales and marketing terms;
- variations in our financial results or those of companies that are perceived to be similar to us;
- the success of our efforts to acquire or in-license additional products or other products we may develop;
- developments concerning our collaborations, including but not limited to those with our sources of manufacturing supply and our commercialization partners;
- developments concerning our ability to bring our manufacturing processes to scale in a cost-effective manner;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- developments or disputes concerning patents or other proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our products;
- our ability or inability to raise additional capital and the terms on which we raise it;
- the recruitment or departure of key personnel;
- changes in the structure of healthcare payment systems;
- market conditions in the medical device, pharmaceutical and biotechnology sectors;
- actual or anticipated changes in earnings estimates or changes in stock market analyst recommendations regarding our common stock, other comparable companies or our industry generally;
- trading volume of our common stock;
- sales of our common stock by us or our stockholders;
- general economic, industry and market conditions; and
- the other risks described in this "*Risk Factors*" section.

These broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance. In the past, following periods of volatility in the market, securities class action litigation has often been instituted against companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management's attention and resources, which could materially and adversely affect our business, financial condition, results of operations and growth prospects.

Risks Associated with Ownership of Our Common Stock - continued

Our outstanding warrants and other convertible securities may have an adverse effect on the market price of our common stock.

As of December 31, there were 2018, 27,142,979 shares of our common stock issued and outstanding. Additionally, the following common stock purchase warrants, eligible to purchase a corresponding number of shares of our common stock, were also issued and outstanding as of December 31, 2018, including: 16,815,039 Series Z Warrants, 381,818 Series W Warrants, 1,199,383 Series S Warrants; as well as, 53,000 Unit Purchase Options ("UPO-Z") issued and outstanding as of December 31, 2018, with the exercise of such UPO-Z resulting in the issue of an aggregate of 106,000 shares of common stock of the company, inclusive of the issue of 53,000 shares of our common stock and 53,000 common stock purchase Series Z Warrants. Further, as of December 31, 2018, there were 1,069,941 shares of Series B Convertible Preferred Stock issued and outstanding, with such preferred stock convertible to a corresponding number of shares of our common stock at the Holders' election. Finally, as of December 31, 2018, there were a total of 3,327,140 stock options issued and outstanding, eligible for exercise to purchase a corresponding number of shares of common stock of the Company.

In addition to the shares of our common stock and the common stock purchase warrants and options issued and outstanding as of December 31, 2018, as discussed above, we issued a Senior Secured Convertible Note which is convertible into shares of our common stock. In this regard, in connection with the Senior Secured Convertible Note private placement on December 27, 2018, we filed with the SEC an effective registration statement on Form S-3 - File No. 333- 229372 - referred to as the "Senior Convertible Note Registration Statement" - with such registration statement initially filed with the SEC on January 25, 2019 and became effective on February 14, 2019, with each such date consistent with the requirements of the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement. The Senior Convertible Note Registration Statement registered, in part, 10,691,334 shares of our common stock underlying the Senior Secured Convertible Note, with such amount equal to 200% of the maximum number of shares of our common stock issuable upon conversion of the Senior Secured Convertible Note assuming the sum of the face value principal of $7.75 million and the interest thereon accruing as of December 31, 2020 and a conversion price of $1.60 per share with such number of shares of our common stock not taking into account any of the limitations on conversion of the Senior Secured Convertible Note.

The issuance of these shares will dilute our other equity holders, which could cause the price of our common stock to decline.

We do not intend to pay any dividends on our common stock at this time.

We have not paid any cash dividends on our shares of common stock to date. The payment of cash dividends on our common stock in the future will be dependent upon our revenues and earnings, if any, capital requirements and general financial condition and will be within the discretion of our Board of Directors. It is the present intention of our Board of Directors to retain all earnings, if any, for use in our business operations and, accordingly, our Board of Directors does not anticipate declaring any dividends on our common stock in the foreseeable future. As a result, any gain you will realize on our common stock (including common stock obtained upon exercise of our warrants) will result solely from the appreciation of such shares.

Risks Associated with Ownership of Our Common Stock - continued

We are an "emerging growth company" ("EGC"), and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, which was enacted in April 2012. For as long as we continue to be an emerging growth company, we may take advantage of exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies, including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years, although circumstances could cause us to lose that status earlier. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year following the fifth anniversary of the completion of our initial public offering, (2) the last day of the fiscal year in which we have total annual gross revenue of at least $1.0 billion, (3) the date on which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of the prior June 30th, and (4) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may suffer or be more volatile.

Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to use the extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date we (i) are no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period under the JOBS Act.

We incur significant costs as a result of operating as a public company, and our management will be required to devote substantial time to compliance initiatives.

As a public company, we incur significant legal, accounting and other expenses that we did not incur as a private company. We are subject to the reporting requirements of the Exchange Act, the other rules and regulations of the Securities and Exchange Commission, or SEC, and the rules and regulations of Nasdaq or any other national securities exchange on which our securities are then trading. Compliance with the various reporting and other requirements applicable to public companies requires considerable time and attention of management. For example, the Sarbanes-Oxley Act and the rules of the SEC and Nasdaq have imposed various requirements on public companies, including requiring establishment and maintenance of effective disclosure and financial controls. Our management and other personnel devote a substantial amount of time to these compliance initiatives. These rules and regulations result in significant legal and financial compliance costs and make some activities more time-consuming and costlier.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. In addition, we will be required to have our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting beginning with our annual report on Form 10-K following the date on which we are no longer an emerging growth company. Our compliance with Section 404 of the Sarbanes-Oxley Act requires that we incur substantial accounting expense and expend significant management efforts. We currently do not have an internal audit group, and as our business expands, we will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. If we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the SEC or other regulatory authorities, which would require additional financial and management resources.

Our ability to successfully implement our business plan and comply with Section 404 requires us to be able to prepare timely and accurate financial statements. We expect that we will need to continue to improve existing, and implement new operational and financial systems, procedures and controls to manage our business effectively. Any delay in the implementation of, or disruption in the transition to, new or enhanced systems, procedures or controls, may cause our operations to suffer and we may be unable to conclude that our internal control over financial reporting is effective and to obtain an unqualified report on internal controls from our auditors as required under Section 404 of the Sarbanes-Oxley Act. This, in turn, could have an adverse impact on trading prices for our common stock, and could adversely affect our ability to access the capital markets.

Risks Associated with Ownership of Our Common Stock - continued

If securities or industry analysts do not publish research, or publish inaccurate or unfavorable research, about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend, in part, on the research and reports that securities or industry analysts publish about us or our business. If any analyst who covers us downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price would likely decline. In addition, if our operating results fail to meet the forecast of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our stock price and trading volume to decline.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors. Because our Board of Directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. Among others, these provisions include the following.

- our Board of Directors is divided into three classes with staggered three-year terms which may delay or prevent a change of our management or a change in control;
- our Board of Directors has the right to elect directors to fill a vacancy created by the expansion of our Board of Directors or the resignation, death or removal of a director, which will prevent stockholders from being able to fill vacancies on our Board of Directors;
- our certificate of incorporation prohibits cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- our stockholders are required to provide advance notice and additional disclosures in order to nominate individuals for election to our Board of Directors or to propose matters that can be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company; and
- our Board of Directors is able to issue, without stockholder approval, shares of undesignated preferred stock, which makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15.0% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15.0% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Item 1B. Unresolved Staff Comments

None

Item 2. Property

Our principal corporate offices, located at One Grand Central Place, 60 East 42nd Street, Suite 4600, New York, NY 10165, are currently leased on a month-to-month basis, with such lease agreement able to be cancelled with three months written notice.

At this time, we consider the leased corporate offices to be adequate for our current operations. Notwithstanding, we may obtain additional space as warranted by our business operations.

Item 3. Legal Proceedings

We executed a "Settlement Agreement & Mutual Releases", dated December 12, 2018, resulting in us making a settlement payment of $136,606, inclusive of the plaintiff's legal fees of $11,006, to a former financial advisor to the Company. Previously, on July 2, 2018, such former financial advisor filed a complaint in New York State court of a claim of breach of contract based on our purported failure to pay certain compensation claimed by the former financial advisor and seeking monetary damages to be determined at trial of not less than $125,400.

In the ordinary course of our business, particularly as we begin commercialization of our products, we may be subject to certain other legal actions and claims, including product liability, consumer, commercial, tax and governmental matters, which may arise from time to time. Except as otherwise noted herein, we do not believe we are currently a party to any other pending legal proceedings. Notwithstanding, legal proceedings are subject-to inherent uncertainties, and an unfavorable outcome could include monetary damages, and excessive verdicts can result from litigation, and as such, could result in a material adverse impact on our business, financial position, results of operations, and /or cash flows. Additionally, although we have specific insurance for certain potential risks, we may in the future incur judgments or enter into settlements of claims which may have a material adverse impact on our business, financial position, results of operations, and /or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrants Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market for Common Equity

Our Common Stock is traded on the Nasdaq Capital Market under the symbol "PAVM". Our Series Z Warrants and Series W Warrants also are traded on the Nasdaq Capital Market under the symbols "PAVMZ" and "PAVMW," respectively.

Holders

As of March 29, 2019, there were 27,893,023 shares of common stock of PAVmed Inc. outstanding. We believe our shares of common stock are held by more than 3,000 beneficial owners of our common stock.

Dividends

We have not paid any cash dividends on our common stock to date. Any future decisions regarding dividends will be made by our board of directors. We do not anticipate paying dividends in the foreseeable future but expect to retain earnings to finance the growth of our business. Our board of directors has complete discretion on whether to pay dividends. Even if our board of directors decides to pay dividends, the form, frequency and amount will depend upon our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors the board of directors may deem relevant.

The Series B Convertible Preferred Stock provides for dividends at a rate of 8% per annum based on the $3.00 per share stated value of the Series B Convertible Preferred Stock, with such dividends compounded quarterly, accumulate, and are payable in arrears upon being declared by the Company's board of directors. The Series B Convertible Preferred Stock dividends from April 1, 2018 through October 1, 2021 are payable-in-kind ("PIK") in additional shares of Series B Convertible Preferred Stock. The dividends may be settled after October 1, 2021, at the option of the Company, through any combination of the issuance of additional Series B Convertible Preferred Stock, shares of common stock, and /or cash payment.

To-date through December 31, 2018, the Company's board of directors have declared Series B Convertible Preferred Stock dividend payment of earned but unpaid dividends as of September 30, 2018, payable as of October 1, 2018, of an aggregate of $382,920, with such dividend payment settled by the issue of an additional 127,698 shares of Series B Convertible Preferred Stock. Subsequently, in January 2019, the Company's board-of-directors declared a Series B Convertible Preferred Stock dividend payment of earned but unpaid dividends as of December 31, 2018, payable as of January 1, 2019, of $64,196, with such dividend payment settled by the issue of an additional 21,413 shares of Series B Convertible Preferred Stock. Such preferred stock dividends are in accordance with the PAVmed Inc. Certificate of Designation of Preferences, Rights, and Limitations of Series B Convertible Preferred Stock.

The Series A Convertible Preferred Stock provided for dividends at a rate of 8% per annum based on the $6.00 per share stated value of the Series A Convertible Preferred Stock, with such dividends compounded quarterly, accumulate, and are payable in arrears upon being declared by the Company's board of directors. In August 2018, the Company's board of directors declared a Series A Convertible Preferred Stock dividend payment dated July 1, 2018 of earned but unpaid dividends totaling $7,099 with respect to the shares of Series A Convertible Preferred Stock previously converted in November and December 2017. The Series A Convertible Preferred Stock dividends were settled with cash payments. Such preferred stock dividends are in accordance with the (former) PAVmed Inc. Certificate of Designation of Preferences, Rights, and Limitations of Series B Convertible Preferred Stock.

Recent Sales of Unregistered Securities

Except as previously disclosed in our current reports on Form 8-K and quarterly reports on Form 10-Q, we did not sell any unregisteres securities or repurchase any of our securities during the fiscal year ended December 31, 2018.

Information about our equity compensation plans

Information required by Item 5 of Form 10-K regarding equity compensation plans is incorporated herein by reference to Item 12 of Part III of this Annual Report on Form 10-K.

Item 5. Market for Registrants Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities-continued

Item 6. Selected Financial Data

Not applicable.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our consolidated financial condition and results of operations should be read together with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. Some of the information contained in this discussion and analysis or set forth elsewhere in this Annual Report on Form 10-K, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements involving risks and uncertainties and should be read together with the "Risk Factors" section of this Annual Report on Form 10-K for a discussion of important factors which could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. Unless the context otherwise requires, references herein to "we", "us", and "our", and to the "Company" or "PAVmed" are to PAVmed Inc. and its subsidiaries.

Forward-Looking Statements

This Annual Report on Form 10-K, including the following discussion and analyses of our consolidated financial condition and results of operations, contains forward-looking statements.

All statements, other than statements of historical facts, contained in this Annual Report on Form 10-K, as well as "Risk Factors" section of this Annual Report on Form 10-K, including statements regarding our future results of operations and financial position, our estimates regarding expenses, future revenue, capital and operating expenditure requirements and needs for additional financing, our business strategy and plans and the objectives of management for future operations, and any statement of assumptions underlying or relating to the foregoing, are forward-looking statements. The words "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential" or "continue" or the negative of these terms or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

We may not actually achieve the plans, intentions, and /or expectations disclosed in our forward-looking statements, and you should not rely on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations expressed or implied in the forward-looking statements we make. Factors which may cause such differences include, but are not limited to:

- our limited operating history;
- our financial performance, including our ability to generate revenue;
- our ability to obtain regulatory approval for commercialization of our products;
- the ability of our products to achieve market acceptance;
- our success in retaining or recruiting, or changes required in, our officers, key employees or directors;
- our reliance upon additional financings to fund ongoing operating losses;
- our ability to obtain additional financing;
- our ability to sustain status as a going concern;
- our ability to protect our intellectual property;
- our ability to complete strategic acquisitions;
- our ability to manage growth and integrate acquired operations;
- the liquidity and trading of our securities;
- our regulatory or operational risks;
- our status as an "emerging growth company" ("ECG") under the JOBS Act; and,
- the risks and uncertainties set forth in the "Risk Factors" section of this Annual Report on Form 10-K for the year ended December 31, 2018.

Furthermore, our forward-looking statements do not reflect the potential impact of any future financings, acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this Annual Report on Form 10-K and the documents we have filed as exhibits to this Annual Report on Form 10-K completely and with the understanding our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

Overview

PAVmed Inc. ("PAVmed" or "the Company") is a highly-differentiated multi-product medical device company organized to advance a broad pipeline of innovative medical technologies to address unmet clinical needs and possess attractive market opportunities to commercialization. Our goal is to enhance and accelerate value creation by employing a business model focused on capital efficiency and speed-to-market.

Since our inception in June 2014, our activities have focused on advancing the lead products in our pipeline towards regulatory approval and commercialization, protecting our intellectual property, and strengthening our corporate infrastructure and management team. As resources permit, we will continue to explore internal and external innovations that fulfill our project selection criteria without limiting ourselves to any target specialty or condition.

Our multiple products are in various phases of development and have yet to receive regulatory approval. We have filed final nonprovisional patent applications for each of CarpX™ and PortIO™, and have obtained licenses for "DisappEAR™" from Tufts University and a group of academic centers, and for the "EsoCheck™ Technology" from Case Western Reserve University. We have recently hired a Chief Commercial Officer to further develop and implement our commercialization strategy in the United States and commercialization partnerships worldwide. The following is a brief overview of our lead products under development, including CarpX™, EsoCheck™, PortIO™, , DisappEAR™, and NextFlo™.

CarpX™

Our CarpX product is intended to be a minimally invasive device designed to treat carpal tunnel syndrome ("CTS") without an open incision or the need for endoscopic or other imaging equipment. The Company believes CarpX will dramatically reduce recovery times compared to traditional open surgery and target an estimated immediately addressable domestic market opportunity of over $1 billion. PAVmed has been working closely with the FDA to secure U.S. regulatory clearance of CarpX through the FDA's 510(k) pathway, which is based on demonstrating substantial equivalence (SE) to a previously cleared predicate device. CarpX is being manufactured in Massachusetts by a medical device contract manufacturer with lines scalable to accommodate demand for the foreseeable future following regulatory clearance. We have advanced, in partnership with our design and contract manufacturing partners, our CarpX product from concept to working prototypes, completed successful benchtop and cadaver testing confirming the device consistently cuts the transverse carpal ligament, as well as commercial design and development, and performed pre-submission verification and validation testing. On November 27, 2017, we filed with the Federal Food and Drug Administration, or the "FDA," a premarket notification submission for CarpX under section 510(k) of the Food, Drug and Cosmetic Act, or the "FDCA," using a commercially available carpel tunnel release device as a predicate The initial 510(k) application review period expired before the FDA's branches were able to reach a consensus on SE and it therefore recommended a 510(k) re-submission following an in-person pre-submission meeting held on January 7, 2019. During this meeting, the FDA recommended clinical testing to definitively document CarpX procedural safety in humans and indicated data from a properly structured clinical study outside of the U.S. would be acceptable, precluding the need to engage in the FDA's time-consuming Investigational Device Exemption (IDE) process required for U.S. studies. PAVmed offered to amend its previously planned first-In-human ("FIH") clinical trial (**ClinicalTrials.gov Identifier: NCT03747510**) in New Zealand to meet this clinical testing recommendation and postponed the initiation of the amended study until study parameters were finalized with the FDA. We recently reached a consensus with the FDA on the parameters of the CarpX FIH safety study, including pre- and post-operative electrodiagnostic testing to document device safety. The CarpX FIH safety study is a single-arm, two-center, two-surgeon, 20-patient study of the CarpX procedure in carpal tunnel syndrome patients, with a device safety primary endpoint defined as the absence of certain serious device-related adverse events over a limited 90-day follow-up period. Patients are currently undergoing pre-operative assessment and CarpX procedures are expected soon thereafter, subject-to customary procedure consents timely completed by each patient. We also will be preparing to submit CarpX for CE Mark clearance in Europe.

There are more than 600,000 CTS procedures performed in the United States each year creating an addressable market for our CarpX product of over one billion dollars. Furthermore, it is believed more than twice such number of people continue to suffer in silence rather than be subjected to an open incision and the long recovery time associated with an open incision. CTS is one of the leading claims workers' compensation insurance.

Overview - continued

EsoCheck™

In May 2018, our majority-owned subsidiary Lucid Diagnostics Inc. entered into the "EsoCheck™ License Agreement" with Case Western Reserve University ("CWRU") for the worldwide intellectual property rights to the "EsoCheck™ Technology".

The "EsoCheck™ Technology" - intended for use to detect "Barrett's Esophagus", which is the primary precursor to esophageal cancer - includes the proprietary technologies of two distinct components - the "EsoCheck™ Cell Collection Device™", referred to as the "EsoCheck™ CCD™" - and the proprietary "EsoCheck™ EsoGuard™, a panel of methylated DNA biomarkers.

The incidence of esophageal adenocarcinoma (EAC), the most common cancer of the esophagus, has quadrupled over the past 30 years. Its prognosis, however, remains dismal, with less than 20% of patients surviving five years. We are pursuing the development of the EsoCheck™ Technology to provide the estimated 50 million at-risk patients a non-invasive, less costly test to detect Barrett's Esophagus, so as to enable treatment of esophageal cancer at an early stage.

In a five-minute office-based test, the patient swallows the EsoCheck™ CCD™ - a vitamin-sized silicone-covered capsule containing a small inflatable balloon attached to a thin catheter - which swabs the target area for cell collection as the catheter is withdrawn. The collected cell sample can then be tested against a panel of the proprietary EsoCheck™ EsoGuard™ DNA biomarkers, which have recently been shown to be highly accurate in detecting Barrett's Esophagus.

The primary cause of the EAC form of esophageal cancer is Gastroesophageal Reflux Disease (GERD), commonly known as chronic heartburn or acid reflux, wherein stomach acid refluxes into the esophagus. GERD affects 20-40% of Western adult populations, according to published epidemiological data. The repeated exposure to stomach acid can lead to pre-cancerous changes in the esophagus lining, a condition known as "Barrett's Esophagus" ("BE"). Nearly all patients diagnosed with EAC have evidence of previously undetected BE. If detected before the EAC esophagus cancer develops, BE can be successfully treated, usually with non-surgical approaches. Heartburn symptoms, commonly seen in patients with acid reflux with or without BE, can easily be treated with over-the counter medications, while endoscopy, the current standard-of-care diagnostic test, is expensive, invasive, and requires sedation. As a result, wide screening for BE is not practical or cost-effective.

The proprietary EsoCheck™ EsoGuard™ DNA biomarkers were developed by the laboratory of the EsoCheck™ Technology co-inventor Sanford D. Markowitz, M.D., PhD. In an article published in the periodical *Science Translational Medicine*, clinical data showed DNA methylation of the VIM and CCNA1 genes is diagnostic of BE and the EsoCheck™ Technology was over 90% accurate at identifying patients without BE. Another of the EsoCheck™ Technology physician co-inventors, Dr. Joseph E. Willis, M.D., is leading an ongoing National Institutes of Health ("NIH") supported effort to create a CLIA-certified VIM/CCNA1 DNA methylation test suitable for commercialization.

The Lucid Diagnostics Inc. EsoCheck™ Technology is progressing through a two-phase regulatory and commercialization strategy which seeks to maximize the long-term commercial opportunity while providing near-term commercial milestones.

In terms of the first phase, we submitted EsoCheck™ CCD™ for FDA 510(k) clearance in late November 2018 and received an initial response from the FDA in late January 2019. The FDA Additional Information (AI) letter requested additional head-to-head effectiveness data relative to previously cleared esophageal cell collection devices. We have discussed this request with the FDA reviewer and will be submitting existing human cell count data of EsoCheck™ CCD™ vs. endoscopic brushings, collected from the ongoing NIH trial, to fulfill this request. The AI letter also requested some additional technical data related to the manufacturing and verification and validation testing of the device which will be ready for submission shortly. The EsoCheck EsoGuard™ methylated DNA biomarker laboratory test is progressing toward achieving a Laboratory Developed Test (" LDT") designation at its designated clinical reference laboratory in Cleveland, Ohio in early 2019. We are prepared to file for EsoCheck™ EsoGuard™ reimbursement codes through the American Medical Association's Proprietary Laboratory Analysis - "AMA PLA" - process as soon as the test is available as an LDT

The second phase of our EsoCheck™ Technology regulatory and commercialization strategy seeks a specific indication for widespread BE screening based on existing American College of Gastroenterology ("ACG") guidelines, which recommend BE screening of up 20 million GERD patients. We have positioned resources to allow our EsoCheck™ EsoGuard™ second phase strategy to move forward in an accelerated fashion. The multi-center NIH-funded clinical trial comparing EsoCheck™ CCD™ plus EsoCheck™ EsoGuard™ to endoscopy has enrolled 200 patients and interim results have been accepted for presentation at the major annual gastroenterology meeting, Digestive Diseases Week ("DDW"), scheduled for May 18 to 21, 2019. Draft protocol synopses for the Lucid Diagnostics Inc. sponsored clinical studies have been completed based upon input from former FDA officials retained through a leading regulatory consulting firm. Soon thereafter, we expect to file a pre-submission package with the FDA and secure a meeting date to discuss its clinical data requirements for a *de novo* or Pre-Market Approval (PMA) pathway submission to support the second phase's goal of a specific indication for widespread BE screening using EsoCheck™ CCD™ and EsoCheck™ EsoGuard™.

Overview - continued

PortIO™

Our PortIO™ implantable intraosseous vascular access device is being developed for up to seven days of continuous use. The intraosseous route, which is well established, provides a means for infusing fluids, medications and other substances directly into the bone marrow cavity which communicates with the central venous circulation via nutrient and emissary veins.

We have advanced, in partnership with our design and contract manufacturing partners, our PortIO product from concept to working prototypes, benchtop, animal, and cadaver testing, commercial design and development, verification and validation testing. We are pursuing an FDA clearance for use in patients with a need for vascular access up to seven days, under "de novo classification" of section 513(f)2 of the FDCA. The broader "seven days" clearance is being pursued in discussion with FDA following our previous initial submission to the FDA for a 510(k) premarket notification for use in patients only requiring 24-hour emergency type vascular access. The FDA-requested long-term GLP animal study implants and explants have been completed as has supplemental acute animal and cadaver studies designed to support the findings of the GLP study. The data will be submitted to FDA once pathologic analysis of the implant sites is completed.

Of significance toward our belief PortIO will one day become the answer to solve many of the current drawbacks intravenous access devices regularly encounter, our supplemental animal testing demonstrated PortIO was effective as a long-term vascular access device. In parallel with the GLP animal study, we also conducted a long-term pilot study to assess PortIO function and patency for up to 60 days. PortIO devices were used to infuse antibiotics, saline, albumin and blood at various intervals and over various implant durations. The device with the longest implant duration was simply left in place, untouched, with no infusions or flushes for a period of 62 days following implantation. Prior to removal, it's function and patency were confirmed by injecting intravenous contrast material and visualizing brisk flow into the bone marrow and central veins. There was no evidence of clots, bony ingrowth or infection in any device or implant site. Based on this encouraging animal data, we are planning a long-term FIH series during in dialysis patients in Colombia, South America with a 90-day implant duration and intend to fulfill the likely FDA request for human clinical data with an OUS study in New Zealand. The CE Mark submission is scheduled for later this year.

DisappEAR™

Our DisappEAR™ product is an antimicrobial resorbable pediatric ear tubes based on a proprietary aqueous silk technology. With respect to DisappEAR™:

- We have advanced the development of our DisappEAR™ product in partnership with our design and contract manufacturing partners and our academic partners at Tufts University and Harvard Medical School. Our DisappEAR™ animal study to evaluate resorption rates was initiated in December 2018 with successful implants of machined silk ear tubes. The initial set of explants at three months look excellent and are currently undergoing pathologic analysis. Upon completion, data from this animal study will be used to support a planned FDA 510(k) submission later in 2019.

NextFlo™

Our NextFlo™ product is being developed as a highly-accurate intravenous infusion system with a new concept of variable flow resistors, whereby the variable resistor does not have to be mechanically-linked to the infusion drive mechanism. We believe this technology will permit hospitals to return to gravity-driven infusions and eliminate expensive and troublesome electronic pumps for most of the over 1 million hospital infusions performed in the U.S. each day. With respect to NextFlo™

We have advanced the design and development of the NextFlo™ device, including a redesign which dramatically simplifies the product, lowers the projected cost of goods and expands its application to routine inpatient infusion sets, resulting in a proof of concept. NextFlo has generated favorable bench-top data, demonstrating it is able to passively adjust its resistance and deliver constant flow across a wide, clinically-relevant pressure range. The project has moved into the industrial and human factors design phase, whereby the technology will be incorporated into a standard intravenous infusion set. Full design verification and validation testing will follow to support an FDA 510(k) submission later this year and we believe will be limited to bench-top testing. Demonstration of this groundbreaking technology to interested strategic partners will commence soon and proceed in parallel with the regulatory process.

Overview - continued

Other Products

Although we have focused the majority of our resources on our lead products, we have additional products in our pipeline which are currently in different stages of development. We have completed initial design work on the first product in the NextCath™ product line, completed head-to-head testing of retention forces, comparing our working prototype to several competing products, which has validated our approach and advanced the commercial design and development process focusing on optimizing the self-anchoring helical portion as well as cost of materials and manufacturing processes.

We are evaluating which initial applications for our Caldus™ disposable tissue ablation technology to pursue from a clinical and commercial point-of-view and will reinitiate development activity on this product once resources are available.

We are evaluating a number of product opportunities and intellectual property covering a spectrum of clinical conditions, which have been presented to us by clinician innovators and academic medical centers, for consideration of a partnership to develop and commercialize these products; we are also exploring opportunities to partner with larger medical device companies to commercialize our lead products as they move towards regulatory clearance and commercialization. In this regard, we remain actively engaged with our full-service regulatory consulting partner and who is working closely with our contract design, engineering and manufacturing partners as our products advance towards regulatory submission, clearance, and commercialization.

We are exploring other opportunities to grow our business and enhance shareholder value through the acquisition of pre-commercial or commercial stage products and /or companies with potential strategic corporate and commercial synergies consistent with our growth strategy.

Trademarks

With respect to each of PAVmed Inc. and Lucid Diagnostics Inc., we have proprietary rights to the trademarks used herein, including, among others, PAVmed™, Lucid Diagnostics™, Caldus™, CarpX™, DisappEAR™, EsoCheck™, EsoCheck™ Cell Collection Device™, EsoCheck™ CCD™, EsoCheck™ EsoGuard™, EsoCheck™ Technology, NextCath™, NextFlo™, PortIO™, and "Innovating at the Speed of Life" ™, among others. Solely as a matter of convenience, trademarks and trade names referred to herein may or may not be accompanied with the requisite marks of "™" or "®", however, the absence of such marks is not intended to indicate, in any way, each of PAVmed Inc. and /or Lucid Diagnostics Inc. will not assert, to the fullest extent possible under applicable law, its rights or the rights to such trademarks and trade names.

Overview - continued

Recent Developments

Lucid Diagnostics Inc. EsoCheck™ License Agreement with Case Western Reserve University

As discussed above, on May 12, 2018, Lucid Diagnostics Inc., a majority-owned subsidiary of the Company, entered into the EsoCheck™ License Agreement with CWRU, for the exclusive worldwide license of the intellectual property rights of the proprietary "EsoCheck™ Technology", which includes the proprietary technologies of two distinct components - the "EsoCheck™ Cell Collection Device™", referred to as the "EsoCheck™ CCD™", and the "EsoCheck™ EsoGuard™, a panel of methylated DNA biomarkers, each as further described herein above. Lucid Diagnostics Inc was incorporated in the State of Delaware on May 8, 2018, and was formed to further develop the EsoCheck™ Technology. Along with PAVmed Inc., the other initial stockholders of Lucid Diagnostics Inc. include CWRU and each of the three individual physician inventors of the EsoCheck™ Technology.

See our consolidated financial statements, including: Note 7,*Agreements Related to Acquired Intellectual Property Rights*, for further information regarding the EsoCheck™ License Agreement with CWRU.

Regulatory

On November 21, 2018 our majority-owned subsidiary Lucid Diagnostics Inc. filed a 510(k) premarket notification submission with the FDA for the EsoCheck™ CCD™ which was accepted for substantive review in early December 2018. We received an initial response from the FDA in late January 2019. The FDA Additional Information (AI) letter requested additional head-to-head effectiveness data relative to previously cleared esophageal cell collection devices. We have discussed this request with the FDA reviewer and will be submitting existing human cell count data of EsoCheck™ CCD™ vs. endoscopic brushings, collected from the ongoing NIH trial, to fulfill this request. The AI letter also requested some additional technical data related to the manufacturing and verification and validation testing of the device which will be ready for submission shortly.

On August 22, 2018 we were notified by the FDA lead branch reviewing the 510(k) premarket notification submission for CarpX, the lead branch had not reached a consensus with the consulting branch within the review period allotted under the FDA's rules and regulations. Accordingly, the lead branch recommended we take the appropriate steps to extend the review process through resubmission of the 510(k) premarket notification following an in-person pre-submission meeting which was conducted on January 7, 2019. During this meeting, the FDA recommended clinical testing to definitively document CarpX procedural safety in humans and indicated data from a properly structured clinical study outside of the U.S. would be acceptable, precluding the need to engage in the FDA's time-consuming Investigational Device Exemption (IDE) process required for U.S. studies. PAVmed offered to amend its previously planned first-in-human ("FIH") clinical trial (**ClinicalTrials.gov Identifier: NCT03747510**) in New Zealand to meet this clinical testing recommendation and postponed the initiation of the amended study until study parameters were finalized with the FDA. We recently reached a consensus with the FDA on the parameters of the CarpX FIH safety study, including pre- and post-operative electrodiagnostic testing to document device safety. The CarpX FIH safety study is a single-arm, two-center, two-surgeon, 20-patient study of the CarpX procedure in carpal tunnel syndrome patients, with a device safety primary endpoint defined as the absence of certain serious device-related adverse events over a limited 90-day follow-up period. Patients are currently undergoing pre-operative assessment and CarpX procedures are expected soon thereafter, subject-to customary procedure consents timely completed by each patient. We also will be preparing to submit CarpX for CE Mark clearance in Europe.

Overview - continued

Recent Developments - continued

Financing

As further discussed below under the section captioned Liquidity and Capital Resources, during 2018 we raised approximately $15.5 million in net proceeds, comprised of $20.5 million of gross proceeds, less $5.0 million used to repay debt ahead of the contractual maturity date, including:

In January 2018, we raised $4.3 million of net cash proceeds in an underwritten public offering of 2,649,818 shares of our common stock pursuant to our previously filed effective shelf registration statement on SEC Form S-3 - File No. 333-220549.

In June 2018, we raised approximately $9.2 million of net cash proceeds from an Equity Subscription Rights Offering - "ESRO" pursuant to our previously filed effective registration statement on SEC Form S-1 - File No. 333-222581, wherein, 9.0 million units were issued comprised of a corresponding number of shares of our common stock and Series Z Warrants exercisable to purchase 9.0 million shares of our common stock at an exercise price of $1.60 per share.

In December 2018, we raised approximately $7.0 million of net cash proceeds, after payment of $750,000 of lender fees, from the issue of a Senior Secured Convertible Note with a face value principal of $7.75 million ("Senior Convertible Note") to an institutional investor.

Promptly after the consummation of the issue of the Senior Convertible Note, we repaid in full the outstanding principal balance and all accrued but unpaid interest expense as of December 27, 2018 on the Senior Secured Note held by our existing lender, Scopia Holdings LLC, with such repayment consisting of a cash payment of $5.0 million the issue of 600,000 shares of our common stock.

On January 25, 2019, we filed a registration statement on SEC Form S-3 - File No. 333-229372 - which became effective on February 14, 2019, for the shares of our common stock underlying the Senior Secured Convertible Note and the shares issued in connection with the repayment of the Senior Secured Note, with such filing dates consistent with the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement.

* Additionally during 2018, we also completed exchange offers of private securities and a Tender Offer of public warrants, including:

In March 2018, in an exchange offer captioned the "Series A and Series A-1 Exchange Offer", we issued a total of 975,568 shares of Series B Convertible Preferred Stock for all of the issued and outstanding shares of each of the Series A Convertible Preferred Stock and the Series A-1 Convertible Preferred Stock, and we issued a total of 2,739,190 Series Z Warrants for all of the issued and outstanding of each of the Series A Warrants and the Series A-1 Warrants.

In April 2018, in an exchange offer captioned the "Series W Warrant Exchange Offer", we completed a Tender Offer whereby 96.4% of the then outstanding publicly traded Series W Warrants, or 10,151,682 Series W Warrants, were exchanged for 5,075, 849 Series Z Warrants.

The Series Z Warrants are publicly traded on the NASDAQ Capital Market under the symbol PAVMZ, and each Series Z Warrant may be exercised to purchase a share of our common stock, initially at $3.00 per share through May 31, 2018, then $1.60 per share effective June 1, 2018, as a result of our board of directors approval on May 15, 2018 of such exercise price adjustment.

Financial Results of Operations

Revenue

To date, we have not generated any revenues from product sales. Our ability to generate product revenue and become profitable depends upon our ability to successfully complete the development and initiate the commercialization of our products.

General and administrative expenses

General and administrative expenses consist primarily of salaries and related costs for personnel, including travel expenses for our employees in executive and research and development functions, facility-related costs, professional fees, accounting and legal services, consultants and expenses associated with obtaining and maintaining patents within our intellectual property portfolio.

We anticipate our general and administrative expenses will increase in the future prior to the potential regulatory approval of our first product, as we anticipate an increase in payroll and related expenses related to our preparation for commercial operations, including as it relates to sales and marketing. We also anticipate continued expenses related to being a public company, including audit, legal, regulatory and tax-related services associated with maintaining compliance as a public company, director and officer insurance premiums and investor relations costs.

Research and development expenses

Research and development expenses are recognized in the period they are incurred and consist principally of internal and external expenses incurred for the research and development of our products and include:

- consulting costs charged to us by various external contract research organizations we contract with to conduct preclinical studies and engineering studies;
- salary and benefit costs associated with our chief medical officer;
- costs associated with regulatory filings;
- patent license fees;
- cost of laboratory supplies and acquiring, developing and manufacturing preclinical prototypes;
- product design engineering studies; and
- rental expense for facilities maintained solely for research and development purposes.

We incurred approximately $9.1 million in research and development costs from June 26, 2014 (inception) through December 31, 2018. We plan to incur research and development expenses for the foreseeable future as we continue the development of our products. Our current research and development activities are focused principally on obtaining FDA clearance and initializing commercialization of the lead products in our pipeline, CarpX™, EsoCheck™, along with advancing our DisappEAR™ and NextFlo™ products through their respective development phase, with research and development activities on our other portfolio products commensurate with available capital resources. These planned research and development activities include the following:

- completion of engineering design studies for our products;
- finalization of engineering designs and documentation supporting our products;
- additional engineering and preclinical studies through our contract research partners;
- preparation and filing of regulatory submissions with the FDA for our products; and
- establishing and documenting manufacturing processes for our products.

The successful development of our products is uncertain and subject to numerous risks including, but not limited to:

- the scope, rate of progress and expense of our research and development activities;
- the scope, terms and timing of obtaining regulatory clearances;
- the expense of filing, prosecuting, defending and enforcing patent claims;
- the continued access to expertise through outsourced suppliers for engineering and manufacturing; and
- the cost, timing and our ability to manufacture sufficient prototype and commercial supplies for our products.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017

	Year Ended December 31,	
	2018	**2017**
Revenue	$ —	$ —
Operating expense		
General and administrative expenses	6,310,206	5,412,593
Research and development expenses	4,252,999	2,621,526
Total operating expenses	10,563,205	8,034,119
Loss from operations	(10,563,205)	(8,034,119)
Other income (expense)		
Interest expense - Senior Secured Note	(2,392.447)	(724,684)
Debt extinguishment - Senior Secured Note	(1,408,296)	—
Change in fair value - Senior Secured Convertible Note	(903,000)	—
Offering costs - issue of Senior Secured Convertible Note	(614,940)	—
Modification - Series Z Warrant Agreement	(1,140,995)	—
Modification - Series A-1 Warrant Agreement	—	(222,000)
Series A and Series A-1 Exchange Offer - March 15, 2018	(349,796)	—
Series W Warrants Exchange Offer - April 5, 2018	(766,456)	—
Unit Purchase Options (UPOs) Exchange Offer - August 22, 2018	(2,120)	—
Loss - Series A Preferred Stock Units private placement	—	(3,124,285)
Change in fair value - Series A Warrants derivative liability	(96,480)	1,942,501
Change in fair value - Series A Convertible Preferred Stock conversion option derivative liability	64,913	643,318
Other income (expense), net	(7,609,617)	(1,485,150)
Loss before income tax	(18,172,822)	(9,519,269)
Provision for income taxes	—	—
Net loss - before noncontrolling interest	(18,172,822)	(9,519,269)
Net loss attributable to noncontrolling interest	204,072	—
Net loss - attributable to PAVmed Inc.	(17,968,750)	(9,519,269)
Less: Series B Convertible Preferred Stock dividends	(203,123)	—
Less: Series A-1 Convertible Preferred Stock dividends	(25,148)	(79,788)
Less: Series A Convertible Preferred Stock dividends	(26,487)	(112,570)
Series A and Series A-1 Exchange Offer - March 15, 2018 - deemed dividend - incremental fair value - Series B Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	(726,531)	—
Series A and Series A-1 Exchange Offer - March 15, 2018 - increase to additional paid-in capital - incremental fair value - Series B Convertible Preferred Stock issued upon exchange of Series A-1 Convertible Preferred Stock	199,241	—
Deemed dividend Series A-1 Convertible Preferred Stock	—	(182,500)
Series A Exchange Offer - November 17, 2017 - deemed dividend - incremental fair value - Series A-1 Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	—	(504,007)
Net loss attributable to PAVmed Inc. common stockholders	$ (18,750,798)	$ (10,398,134)

Revenue

As discussed above, to date, we have not generated any revenues from product sales. Our ability to generate product revenue and become profitable depends upon our ability to successfully complete the development and initiate the commercialization of our products.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

General and administrative expense

	Year Ended December 31,			
	2018	2017	$ Change	%Change
Compensation and related personnel costs	$ 1,791,775	$ 1,161,555	$ 630,220	54%
Stock-based compensation	948,143	925,534	22,609	2%
Outside professional services	2,593,282	2,580,344	12,938	1%
Facility related costs	152,904	166,414	(13,510)	-8%
Board related costs	247,917	306,667	(58,750)	-19%
Other operating costs	576,185	272,079	304,106	112%
Total general and administrative expenses	$ 6,310,206	$ 5,412,593	$ 897,613	17%

General and administrative expenses incurred in the year ended December 31, 2018 were $6,310,206, an increase of $897,613 as compared to $5,412,593 incurred for corresponding prior year period. The increased general and administrative expenses for the current year period is principally due to increased expenses related to compensation and related personnel costs of $630,220, stock based compensation of $22,609, outside professional services of $12,938, and $304,106 in other operating costs, partially offset by decreases in facility related costs of $13,510 and board related costs of $58,750.

The increased compensation and related personnel costs expense in the year ended December 31, 2018 as compared to the corresponding prior year period, resulted from higher salary and benefit expense related to the hiring of additional personnel, annual salary increases, and higher accrued bonus expense, inclusive of increases in each of the guaranteed bonus under the Chief Executive Officer ("CEO") employment agreement and discretionary bonus payments to the CEO and other employees.

The stock-based compensation expense classified as general and administrative expense, which includes stock options granted to both employees and non-employees, of $948,143 incurred during the year ended December 31, 2018, increased $22,609 as compared to the corresponding prior year period, principally resulting from increased stock-based compensation expense resulting from stock options granted in 2018 for which there is no such comparable expense in the corresponding prior year, along with stock-based compensation expense recognized on a full year basis with respect to stock options granted during 2017, as compared to such expense recognized on a partial year basis; partially offset by the absence of stock-based compensation expense related to forfeited stock options of former members of the board of directors who resigned in February 2018; the recognition in the prior year period of stock-based compensation expense related to March 31, 2017 modification to the stock option grant previously awarded to our former CFO; and by lower stock-based compensation expense related to stock options granted to non-employees, resulting principally from lower stock option vesting date estimated fair value in the current year period as compared to the corresponding prior year period, resulting from lower share prices of the underlying common stock of the Company on the respective vesting dates.

The outside professional services expense of $2,593,282 incurred during the year ended December 31, 2018 as compared to the corresponding prior year period, increased by $12,938, principally resulting from increased expenses of: $294,087 related to regulatory matters and $186,224 related to intellectual property matters; partially offset by decreased expenses of: $174,159 associated with professional fees for legal, accounting, auditing, tax, valuations, and information technology, and $163,214 related to investor and public relations. Additionally, outside professional services expenses decreased $130,000 in the current period as compared with the corresponding prior period with respect to consulting agreements with entities and /or individuals affiliated with certain of our officers and /or former directors. In this regard, $250,000 and $300,000 of expense was incurred in the year ended December 31, 2018 and 2017, respectively, with respect to the HCP/Advisors consulting agreement, with such consulting agreement having an October 31, 2018 expiration date, and $0 and $80,000 incurred in the year ended December 31, 2018 and 2017, respectively, related to the previous (expired) HCFP/Strategy Advisors consulting agreement. See "Contractual Obligations" herein below for further details on these related party agreements.

The decrease in facility related costs of $13,510 in the year ended December 31, 2018 as compared to the corresponding prior year period, principally resulted from decreased rent expense associated with our corporate offices, resulting from a previous reduction of the leased office space.

The board of director related costs of $247,917 for the year ended December 31, 2018 decreased by $58,750 as compared to the corresponding prior year period, principally resulting from the resignation of two non-executive members in February 2018, partially offset by one non-executive member's fee paid for the full year ended December 31, 2018 as compared to fees paid for a partial year in the prior year period.

The increased other operating expenses in the year ended December 31, 2018 as compared to the prior year period, principally resulted from the $136,606 payment to a former financial advisor of the Company under a litigation settlement agreement, as well as higher director and officer insurance premiums, worker compensation insurance expense, and travel and related costs. See our accompanying consolidated financial statements Note 9, *Commitments and Contingencies*, for further information with respect to the litigation settlement agreement.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Research and development expenses

	Year Ended December 31,			
	2018	2017	$ Change	%Change
Compensation and related personnel costs	$ 755,759	$ 421,115	$ 334,644	79%
Stock-based compensation	280,556	122,593	157,963	129%
Outside professional services	2,920,812	2,062,405	858,407	42%
Patent license fee	272,553	—	272,553	—%
Regulatory filing fees	10,953	10,566	387	4%
Other operating costs	12,366	4,847	7,519	155%
Total research and development expenses	$ 4,252,999	$ 2,621,526	$ 1,631,473	62%

Research and development expenses incurred for the year ended December 31, 2018 totaled $4,252,999, an increase of $1,631,473 as compared to $2,621,526 incurred for the corresponding prior year period. The increase in research and development expenses resulted from the patent license fee of $272,553 incurred with respect to the EsoCheck™ License Agreement, and increased expenses of: $334,644 related to compensation and related personnel costs, $157,963 related to stock-based compensation, $858,407 of increased expenses incurred for outside professional services, and $7,519 of increased other operating costs.

The increased compensation and related personnel costs expense of $334,644 in the year ended December 31, 2018 as compared to the corresponding prior year period, resulted from higher salary expense related to additional personnel, as well as annual salary increases, increased accrued bonus expense related to higher discretionary employee bonus payments, and accrued expense related to employee relocation costs, for which there was no comparative amount in the prior year period.

As more fully discussed above, in connection with the "EsoCheck™ License Agreement", we incurred an expense of $272,553, which was recognized as a current period research and development expense on the May 12, 2018 execution date of such license agreement.

The outside professional services of $2,920,812 in the year ended December 31, 2018 is an increase of $858,407 as compared to the corresponding prior year period. The increased outside professional services research and development expense principally resulted from our emphasis of current research and development activities being focused principally on completion of on-going efforts to obtain FDA clearance and initializing commercialization of each of the CarpX™, EsoCheck™ Technology, and PortIO™ products, and to continue to advance the development of the DisappEAR™ and the NextFlo™ products, as discussed above under "Overview".

Regulatory filing fees of $10,953 in the year ended December 31, 2018 are with respect to the submission to the FDA of a 510(k) premarket notification for the EsoCheck™ CCD™; and the regulatory filing fee of $10,566 in the year ended December 31, 2017 was with respect to the submission to the FDA of 510(k) premarket notification for CarpX™.

The increased other operating expenses in the year ended December 31, 2018 as compared to the prior year period, principally resulted from higher compensation insurance expense, and travel and related costs.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense

Interest Expense - Senior Secured Note

In July 2017, we previously entered into a Note and Security Purchase Agreement with Scopia Holdings LLC ("Scopia" or the "Lender"), whereupon Scopia delivering to us $4.8 million in net cash proceeds, we issued to Scopia, a Senior Secured Note with an initial principal of $5.0 million, referred to herein as the "Senior Secured Note", and also issued 2,660,000 Series S Warrants to Scopia to purchase a corresponding number of shares of common stock of the Company.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note as discussed above, we repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue to Scopia of 600,000 shares of common stock of the Company. The Senior Secured Note repayment was executed under a Notice of Prepayment agreement dated December 27, 2018. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions. The Company recognized as other income (expense), a debt extinguishment loss of $1.4 million, as discussed below.

The Senior Secured Note annual interest rate was 15.0%, with interest payable semi-annually in arrears on June 30 and December 30 of each calendar year, commencing December 30, 2017 ("15% interest expense"). At our sole discretion, we were able to defer payment of up to 50% of each of the semi-annual 15% interest expense payable, with such deferred amount added to the outstanding interest-bearing principal balance of the Senior Secured Note. In this regard, the Senior Secured Note principal balance was $5,780,116 and $5,188,542, as of December 27, 2018 and December 31, 2017, respectively, with each such principal amount comprised of the initial principal of $5.0 million and the total unpaid semi-annual interest as of December 27, 2018 and December 31, 2017, respectively.

The Senior Secured Note total interest expense of $2,392,447 and $724,684, for the year ended December 31, 2018 and 2017, respectively, was comprised of $786,145 and $377,083, respectively, resulting from the 15% interest expense and $1,606,302 and $347,601, respectively, resulting from the amortization of Senior Secured Note debt discount. The Senior Secured Note remaining unamortized debt discount was $1,637,972 as of December 27, 2018 and $3,244,274 as of December 31, 2017.

Debt Extinguishment - Senior Secured Note

As noted above, on the December 27, 2018 repayment date, we recognized as other income (expense), a debt extinguishment loss of $1.4 million resulting from the difference between a $5.5 million debt reacquisition price and a $4.1 million debt carrying value, net, of the Senior Secured Note as of December 27, 2018, as follows:

Senior Secured Note - Debt Extinguishment	December 27, 2018
Cash payment	$ 5,000,000
Fair value - 600,000 shares of common stock issued	550,440
Senior Secured Note - debt reacquisition price	$ 5,550,440
Senior Secured Note - original principal	$ 5,000,000
Senior Secured Note - additional principal - unpaid interest expense	780,116
Senior Secured Note - total principal	$ 5,780,116
Less: Senior Secured Note - remaining unamortized debt discount	(1,637,972)
Senior Secured Note - debt carrying value, net	$ 4,142,144
Debt extinguishment loss	$ (1,408,296)

See our accompanying consolidated financial statements Note 12,*Debt*, for further information regarding the Note and Security Purchase Agreement, and the corresponding Senior Secured Note, between us and Scopia Holdings LLC.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Change in Fair Value - Senior Secured Convertible Note

In a private placement transaction with an institutional investor - referred to herein as "Investor", "Lender", and /or "Holder" - on December 27, 2018, the Company entered into a Securities Purchase Agreement under which was issued a Senior Secured Convertible Note Agreement, with such agreement having an issue date of December 27, 2018, a contractual maturity date of December 31, 2020, a face value principal of $7.75 million, and a stated interest rate of 7.875% per annum - the "Senior Convertible Note". At the election of the Holder, the Senior Convertible Note may be converted into shares of our common stock.

The Senior Convertible Note proceeds were $7.0 million after payment of $750,000 of lender fees. We incurred total offering costs of $614,940, inclusive of the payment of $455,000 placement agent fee and legal fees, with such offering costs recognized as a current period expense in other income (expense) in the consolidated statement of operations.

The Senior Convertible Note requires bi-monthly payments, with such payments due and payable on each of the 15th calendar day of each month and the Last Trading Day of each month, with the first bi-monthly payment date of January 15, 2019 and the last bi-monthly payment date of December 31, 2020. The bi-monthly payments have two components: a bi-monthly "Installment Repayment" which commences June 28, 2019 through Dec 31, 2020, and a bi-monthly "Non-Installment Payment" which commences Jan 15, 2019 through the Dec 31, 2020. The bi-monthly Installment Repayments are prescribed and the bi-monthly Non-Installment Repayments are a function of the remaining Senior Convertible Note face value principal outstanding.

The Senior Convertible Note is principally a debt financial instrument host containing embedded features and /or options which would otherwise be required to be bifurcated from the debt host and recognized as separate derivative liabilities subject to initial and subsequent periodic estimated fair value measurements under ASC 815, *Derivatives and Hedging*. Notwithstanding, the Senior Convertible Note is being afforded the guidance of the "fair value option ("FVO") of ASC 825,*Financial Instruments*, specifically, the FVO election provided for under ASC 825-10-15-4. As such, the Senior Convertible Note will be initially measured at its December 27, 2018 issue-date estimated fair value and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date.

The Senior Convertible Note estimated fair value as of the December 27, 2018 issue date was as follows:

Senior Secured Convertible Note - Issue Date - December 27, 2018	Fair Value
Face value principal payable - issue date December 27, 2018	$ 7,750,000
Lender fees paid - issue date December 27, 2018	(750,000)
Proceeds, net - issue date December 27, 2018	$ 7,000,000
Fair value adjustment - December 27, 2018	750,000
Fair value - issue date December 27, 2018	$ 7,750,000

The Senior Convertible Note estimated fair value, changes in fair value, face value principal payable, and changes in face value principal payable, as of December 31, 2018 is as follows:

Senior Secured Convertible Note - December 31, 2018	Fair Value	Face Value Principal Payable
Fair Value /Face Value Principal Payable - issue date December 27, 2018	$ 7,750,000	$ 7,750,000
Less: bi-monthly Installment Repayments - as of December 31, 2018	—	—
Less: bi-monthly Non-Installment Payments - as of December 31, 2018	—	—
Fair Value /Face Value Principal Payable - before fair value adjustment	7,750,000	7,750,000
Fair value adjustment - December 31, 2018	153,000	—
Fair Value /Face Value Principal Payable - December 31, 2018	$ 7,903,000	$ 7,750,000

The total fair value adjustment of $903,000 of each of the fair value adjustments of December 27, 2018 issue date of and December 31, 2018, as presented above, was recognized as a current period expense in other income (expense) in the consolidated statement of operations, as no portion of such fair value adjustment resulted from instrument-specific credit risk of the Senior Convertible Note, as of the dates noted.

The estimated fair value of the Senior Convertible Note as of the December 27, 2018 issue date and as of December 31, 2018, were each computed using a combination of the present value of its cash flows using a synthetic credit rating analysis' required rate of return and the Black-Scholes option pricing model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, estimated volatility in the value of the Company's common stock, and the respective unit purchase options' and warrants' exercise price.

See our consolidated financial statements Note 12,*Debt* for a further discussion of the Senior Secured Convertible Note.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Modification Expense - Series Z Warrant Agreement Amendment - June 1, 2018

The Series Z Warrant is a common stock purchase warrant with an exercise price initially of $3.00 per share through May 31, 2018, and then $1.60 per share effective June 1, 2018, wherein, on May 15, 2018, the Company's board of directors approved a reduction to the Series Z Warrant exercise price to $1.60 per share, effective June 1, 2018, upon completion of the period-of-notice to the then-current Series Z Warrant holders. The Series Z Warrant $1.60 exercise price is not subject-to further adjustment, unless by action of the PAVmed Inc board of directors, or the effect of stock dividends, stock splits or similar events affecting the common stock of the Company.

The Series Z Warrant exercise price adjustment to $1.60 per share from $3.00 per share, as discussed above, resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, wherein an exchange of warrants is deemed to be a modification of the initial warrant agreement by the replacement with a revised warrant agreement, requiring the incremental estimated fair value, measured as the difference between the estimated fair value immediately after the modification as compared to the estimated fair value immediately before the modification, to the extent an increase, recognized as a modification expense.

In this regard, the Series Z Warrant June 1, 2018 exercise price adjustment resulted in the recognition on such date of a current period modification expense of $1,140,995 included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid-in capital in the consolidated balance sheet, as the Series Z Warrants are equity classified.

Additionally, the Series Z Warrants issued in both the March 15, 2018 Series A and Series A-1 Exchange Offer and the April 5, 2018 Series W Warrants Exchange Offer, each as discussed below, were issued under the (original) "Series Z Warrant Agreement". The Company's board of directors approved Amendment No. 1 to the original Series Z Warrant Agreement, resulting in the "Amended and Restated Series Z Warrant Agreement", dated June 8, 2018, referred to as the Amended Series Z Warrant Agreement. The Series Z Warrant Agreement Amendment No. 1 was evaluated under the analogous guidance with respect to stock option modification under FASB ASC 718 as discussed above, but did not result in the recognition of a modification expense as there was no incremental estimated fair value.

The incremental estimated fair value of the Series Z Warrant modifications, as discussed above, were computed using the Black-Scholes option pricing model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, estimated volatility in the value of the Company's common stock, and the respective warrants' exercise price.

See our consolidated financial statements Note 14,*Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series Z Warrants.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Modification Expense - Series A-1 Warrant Agreement Amendment - October 18, 2017

Upon issue, a Series A-1 Warrant was exercisable to purchase one share of common stock of the Company at an exercise price of $6.67 per share, or the Series A-1 Warrant could be exchanged for four Series X Warrants, which were each exercisable to purchase one share of common stock of the Company at an exercise price of $6.00 per share. Subsequently, on October 18, 2017, the holders approved the Series A-1 Warrants Amendment No. 1, wherein: the Series X-1 Warrant replaced the Series X Warrant, and provided for the additional option to exchange a Series A-1 Warrant for five Series W Warrants, with the Series W Warrant. The were each exercisable to purchase one share of common stock of the Company at an exercise price of $5.00 per share. The Series X-1 Warrant was substantively equivalent to the Series X Warrants with respect to the material contractual terms and conditions, including the same $6.00 per share exercise price.

The Series A-1 Warrant Amendment, as discussed above, resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the Series Z Warrant Agreement Amendment. In this regard, the Series A-1 Warrant Amendment No.1, as discussed above, resulted in the recognition on such date of a current period modification expense of $222,000 included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid-in capital in the consolidated balance sheet, as the Series A-1 Warrants were equity classified.

The incremental estimated fair value assumed the exchange of one Series A-1 Warrant for five Series W Warrants after the modification of the Series A-1 Warrant, as compared to an exchange of one Series A-1 Warrant for four Series X Warrants before such modification, using a Black-Scholes valuation model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, an estimated volatility in the value of the Company's common stock price, and the respective warrants' exercise price.

See our consolidated financial statements Note 14,*Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series A-1 Warrants the Series A-1 Warrant Agreement Amendment No.1.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Overview - "Series A and Series A-1 Exchange Offer" - March 15, 2018 Exchange Date

The "Series A and Series A-1 Exchange Offer", completed on March 15, 2018, was offered to and accepted by all holders of both the Series A Convertible Preferred Stock and Series A Warrants, and the Series A-1 Convertible Preferred Stock and Series A-1 Warrants, wherein shares of Series B Convertible Preferred Stock were issued-upon-exchange of shares of each of Series A and Series A-1 Convertible Preferred Stock and Series Z Warrants were issued-upon-exchange of each of Series A and Series A-1 Warrants - referred to as the "Series A and Series A-1 Exchange Offer" and the "March 15, 2018 Exchange Date".

On the March 15, 2018 Exchange Date: a total of 975,568 shares of Series B Convertible Preferred Stock were issued, including 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange of 249,667 shares of Series A Convertible Preferred Stock and 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange of 357,259 shares of Series A-1 Convertible Preferred Stock; and, a total of 2,739,190 Series Z Warrants were issued, including 1,340,005 Series Z Warrants issued-upon-exchange of 268,001 Series A Warrants and 1,399,185 Series Z Warrants issued-upon-exchange of 279,837 Series A-1 Warrants.

As a result of the Series A and Series A-1 Exchange Offer, as of the March 15, 2018 Exchange Date there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants, nor shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants, as each were fully exchanged-upon-issue of shares of Series B Convertible Preferred Stock and Series Z Warrants, respectively. Additionally, each of the corresponding Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability were each fully extinguished-upon-exchange as of the March 15, 2018 Exchange Date.

See our consolidated financial statements, as follows: Note 11,*Financial Instruments Fair Value Measurements*, for further information with respect to the "March 15, 2018 Series A and Series A-1 Exchange Offer"; Note 13, *Preferred Stock*, with respect to preferred stock, including Series B Convertible Preferred Stock; and Note 14, *Stockholders Equity and Common Stock Purchase Warrants*, with respect to common stock purchase warrants, including Series Z Warrants.

Series A and Series A-1 Exchange Offer - March 15, 2018 Exchange Date
- Modification Expense - Series Z Warrants Issued Upon Exchange of Series A-1 Warrants -

The Series Z Warrants issued-upon-exchange of Series A-1 Warrants in the Series A and Series A-1 Exchange Offer, as such exchange offer is discussed above, resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the Series Z Warrant Agreement Amendment.

In this regard, the March 15, 2018 Exchange Date estimated fair value of $895,478 of the equity-classified 1,399,185 Series Z Warrants issued-upon-exchange as compared to the estimated fair value of $545,682 of the equity-classified 279,837 Series A-1 Warrants extinguished-upon-exchange, resulted in incremental estimated fair value of $349,796, which was recognized on such exchange date as a current period modification expense in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid in capital, as the Series Z Warrants are equity classified.

The March 15, 2018 Exchange Date estimated fair values the Series Z Warrants and the Series A-1 Warrants, were each computed using the Black-Scholes option pricing model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, estimated volatility in the value of the Company's common stock, and the respective warrants' exercise price.

See our consolidated financial statements, as follows: Note 11,*Financial Instruments Fair Value Measurements*, for further information with respect to the "March 15, 2018 Series A and Series A-1 Exchange Offer"; Note 13, *Preferred Stock*, with respect to preferred stock, including Series B Convertible Preferred Stock; and Note 14, *Stockholders Equity and Common Stock Purchase Warrants*, with respect to common stock purchase warrants, including Series Z Warrants.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Modification Expense - Series W Warrants Exchange Offer - April 5, 2018 '

A total of 5,075,849 Series Z Warrants were issued-upon-exchange of 10,151,682 Series W Warrants, in an exchange offer transaction referred to as the "Series W Warrants Exchange Offer" and the "April 5, 2018 Exchange Date". In this regard, pursuant to an offer-to-exchange dated February 20, 2018, as included in a Tender Offer Statement on Schedule TO filed with the SEC on February 20, 2018, wherein, the Company offered one Series Z Warrant issued-upon-exchange of two Series W Warrants. Such Series W Warrants Exchange Offer commenced on February 20, 2018 and had April 2, 2018 expiration date, and after completion of the guaranteed delivery period, an April 5, 2018 close date.

The Series Z Warrants issued-upon-exchange of the Series W Warrants on the April 5, 2018 Exchange Date, upon their issuance, enabled the holder to immediately purchase one share of common stock of the Company at an exercise price of $1.60 per share, effective June 1, 2018, with an expiry of April 30, 2024. The Series Z Warrant exercise price was initially $3.00 per share through May 31, 2018, and then $1.60 per share effective June 1, 2018, wherein, on May 15, 2018, the Company's board of directors approved a reduction to the Series Z Warrant exercise price to $1.60 per share, effective June 1, 2018, upon completion of the period-of-notice to the then-current Series Z Warrant holders. See herein below for further information with respect to the modification expense recognized in connection with the Series Z Warrant exercise price adjustment. The Series Z Warrant $1.60 exercise price is not subject-to further adjustment, unless by action of the PAVmed Inc board of directors, or the effect of stock dividends, stock splits or similar events affecting the common stock of the Company. The Series Z Warrants are redeemable by the Company under certain conditions, as discussed above.

The Series W Warrant Exchange Offer, as discussed above, resulted in the recognition of a modification expense on the April 5, 2018 Exchange Date, under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the Series Z Warrants Agreement Amendment.

In this regard, the April 5, 2018 Exchange Date estimated fair value of $3,304,377 of the 5,075,849 Series Z Warrants issued-upon-exchange as compared of the estimated fair value of $2,537,921 of the 10,151,682 Series W Warrants extinguished-upon-exchange, resulted in incremental estimated fair value of $766,456, which was recognized on such exchange date as a current period modification expense in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid in capital, as the Series Z Warrants are equity classified.

The April 5, 2018 Exchange Date estimated fair values of each of the Series Z Warrants and Series W Warrants noted above, were each computed using the Black-Scholes option pricing model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, estimated volatility in the value of the Company's common stock, and the respective warrants' exercise price.

See our consolidated financial statements Note 14,*Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the "April 5, 2018 Series W Warrants Exchange Offer" and the common stock purchase warrants, including the Series Z Warrants.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Modification Expense - Unit Purchase Option Exchange Offer - August 22, 2018

Previously, on the April 28, 2016 closing date of the Company's initial public offering ("IPO"), a total of 53,000 unit purchase options were issued to the IPO selling agents, with each such unit purchase option issued on April 28, 2016 referred to as a "UPO-W". The UPO-W, with an exercise price of $5.50 per unit, could have been exercised to purchase the same unit issued in the Company's IPO, with such unit comprised of one share of common stock of the Company and one Series W Warrant to purchase one share of common stock of the Company at an exercise price of $5.00 per share. The UPO-W had a January 29, 2021 expiration date.

On August 22, 2018, the "UPO Exchange Offer" was completed, wherein, 53,000 "UPO-Z" were issued-upon-exchange of all the previously issued and outstanding 53,000 UPO-W. The UPO-Z, with an exercise price of $5.50 per unit, may be exercised to purchase a unit comprised of one share of common stock of the Company and one Series Z Warrant to purchase one share of common stock of the Company at an exercise price of $1.60 per share. The UPO-Z has a January 29, 2021 expiration date.

The UPO Exchange Offer resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the Series Z Warrants Agreement Amendment.

In this regard, the August 22, 2018 Exchange Date estimated fair value of $3,180 of the 53,000 UPO-Z issued-upon-exchange as compared of the estimated fair value of $1,060 of the 53,000 UPO-W extinguished-upon-exchange, resulted in incremental estimated fair value of $2,120, which was recognized on such exchange date as a current period modification expense in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid in capital.

The August 22,2018 Exchange Date estimated fair values of each of the UPO-Z and UPO-W were each computed using the Black-Scholes option pricing model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, estimated volatility in the value of the Company's common stock, and the respective unit purchase options' and warrants' exercise price.

See our consolidated financial statements Note 14,*Stockholders' Equity and Common Stock Purchase Warrants* for a further discussion of the Unit Purchase Options, the "August 22, 2018 Unit Purchase Option Exchange Offer", and the Series Z Warrants.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Loss on Series A Preferred Stock Units Issued in a Private Placement

The Series A Preferred Stock Units were issued in a private placement with an initial closing on January 26, 2017, and subsequent closings on January 31, 2017 and March 8, 2017, resulting in a total of 422,838 Series A Preferred Stock Units issued for aggregate gross proceeds of approximately $2.5 million and net proceeds of approximately $2.2 million, after payment of placement agent fees and closing costs. The Series A Preferred Stock Unit was comprised of one share of Series A Convertible Preferred Stock and one Series A Warrant, which was immediately separable upon issue, and became convertible and exercisable, respectively, on May 21, 2017 upon stockholder approval of the Series A Preferred Stock Units private placement.

The Series A Warrant and the Series A Convertible Preferred Stock conversion option were each determined to be a derivative liability under FASB ASC Topic 815, *Derivative and Hedging* (ASC 815), as the Series A Convertible Preferred Stock common stock exchange factor denominator and the Series A Warrant exercise price were each subject to potential adjustment resulting from future financing transactions, under certain conditions, along with certain other provisions which may result in required or potential full or partial cash settlement. Through the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as such exchange offer is discussed below, each of the respective Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability were classified as a current liability in the consolidated balance sheet, and each were initially measured at estimated fair value at the time of issuance and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date, with changes in estimated fair value of the respective derivative liability recognized as other income or expense in the consolidated statement of operations.

The issuance of the Series A Preferred Stock Units resulted in the recognition of a loss of $3,124,285, resulting from the aggregate initial fair value of each of the Series A Warrant and the Series A Convertible Preferred Stock conversion option derivative liability, being in excess of the gross proceeds of the Series A Preferred Stock Units private placement, with such excess amounting to $2,735,657, recognized as a current period expense, along with offering costs of $388,628, which were also recognized as a current period expense.

The initial issue date estimated fair value of each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability, as discussed above, were each estimated using a Monte Carlo simulation valuation model using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs including, assumptions regarding the estimated volatility in the value of the Company's common stock price and probabilities associated with the likelihood and timing of future dilutive transactions.

See our consolidated financial statements, including: Note 11,*Financial Instruments Fair Value Measurements*, for further information with respect to the initial issue date estimated fair values of each of the Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability; Note 13, *Preferred Stock,* for further information regarding the Series A Preferred Stock Units private placement and the Series A Convertible Preferred Stock; and Note 14,*Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series A Warrants.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Change in Fair Value of Series A Warrants Derivative Liability and Series A Convertible Preferred Stock Conversion Option Derivative Liability - Year Ended December 31, 2018

The Series A Warrants derivative liability and the Series A-1 Convertible Preferred Stock conversion option derivative liability were each initially measured at fair value at the time of issuance and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date, with changes in estimated fair value of each respective derivative liability recognized as other income or expense.

As of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as such exchange offer is discussed above, each of the corresponding Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability were each fully extinguished-upon-exchange as of the March 15, 2018 Exchange Date. Accordingly, there was no recognition of income or expense related to the change in estimated fair value of each such derivative liability after the March 15, 2018 Exchange Date.

In this regard, during the year ended December 31, 2018, as of the March 15, 2018 Exchange Date, the change in the estimated fair value of each respective derivative liability resulted in the recognition of income of $246,561 with respect to the Series A Warrant derivative liability and income of $64,913 with respect to the Series A Convertible Preferred Stock conversion option derivative liability, with a corresponding decrease in each respective derivative liability.

Further, the March 15, 2018 Exchange Date adjustment to the estimated fair value of the Series A Warrants derivative liability resulted in the recognition of a net expense of $96,480 comprised of: income of $246,561 upon the Series A Warrant derivative liability being adjusted to its March 15, 2018 Exchange Date estimated fair value of $514,562, as noted above, and an expense of $343,041 resulting from the incremental estimated fair value of the consideration given of $857,603 of the 1,340,005 Series Z Warrants issued-upon-exchange as compared to the estimated fair value of $514,562 of the 268,001 Series A Warrants derivative liability extinguished-upon-exchange.

See our consolidated financial statements, including: Note 11,*Financial Instruments Fair Value Measurements*, for further information with respect to the initial issue date and subsequent reporting date estimated fair values of each of the Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability, and the "March 15, 2018 Series A and Series A-1 Exchange Offer"; Note 13, *Preferred Stock,* for further information with respect to the Series A Preferred Stock Units private placement, the Series A Convertible Preferred Stock, and the Series B Convertible Preferred Stock; and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series A Warrants and Series Z Warrants.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Change in Fair Value of Series A Warrants Derivative Liability and Series A Convertible Preferred Stock Conversion Option Derivative Liability - Year Ended December 31, 2017

As noted above, total of 422,838 shares of Series A Convertible Preferred Stock and 422,838 Series A Warrants were issued in the "Series A Preferred Stock Units private placement" in the three months ended March 31, 2017. Further, on the "Series A Exchange Offer" "November 17, 2017 Exchange Date", a total of 232,259 shares of Series A-1 Convertible Preferred Stock were issued-upon-exchange of 154,837 shares of Series A Convertible Preferred Stock and a total of 154,837 Series A-1 Warrants were issued-upon-exchange of 154,837 Series A Warrants. Additionally, in November and December 2017, a total of 18,334 shares of Series A Convertible Preferred Stock were converted into a total of 22,093 shares of common stock of the Company.

Accordingly, as of December 31, 2017, there were 249,667 shares of Series A Convertible Preferred Stock (classified in temporary equity), 357,259 shares of Series A-1 Convertible Preferred Stock (classified in permanent equity), 268,001 Series A Warrants, and 279,837 Series A-1 Warrants, each issued and outstanding. Subsequently, as discussed above, as a result of the "Series A and Series A-1 Exchange Offer", on the "March 15, 2018 Exchange Date" there were no issued and outstanding shares of Series A Convertible Preferred Stock nor Series A Warrants.

As noted above, the Series A Warrants derivative liability and the Series A-1 Convertible Preferred Stock conversion option derivative liability were each initially measured at fair value at the time of issuance and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date, with changes in estimated fair value of each respective derivative liability recognized as other income or expense.

The reconciliation of each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability for the year ended December 31, 2017 are as follows:

Derivative Liability	Series A Warrants	Series A Convertible Preferred Stock Conversion Option
Balance at December 31, 2016	$ —	$ —
Initial fair value on dates of issuance	4,050,706	1,221,963
Change in fair value	(1,942,501)	(643,318)
Series A Exchange Offer	(1,347,082)	(339,093)
Conversion of Series A Convertible Preferred Stock	—	(27,335)
Balance at December 31, 2017	$ 761,123	$ 212,217

Change in Fair Value

The change in estimated fair value, including fair value adjustments on the dates of the Series A Exchange Offer, the conversion of Series A Convertible Preferred Stock, and the recurring fair value adjustment as of December 31, 2017, resulted in the recognition of income of $1,942,501 with respect to the Series A Warrants derivative liability, and income of $643,318 with respect to the Series A Convertible Preferred Stock conversion option derivative liability, with a corresponding decrease in each the respective derivative liability, during the year ended December 31, 2017.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Change in Fair Value of Series A Warrants Derivative Liability and Series A Convertible Preferred Stock Conversion Option Derivative Liability - Year Ended December 31, 2017 - continued

Series A Exchange Offer - November 17, 2017

The Series A Exchange Offer resulted in the extinguishment of: 154,837 shares of Series A Convertible Preferred Stock, the corresponding (bifurcated) conversion option derivative liability, and, 154,837 Series A Warrants, resulting from the issuance-upon-exchange of: 232,259 shares of Series A-1 Convertible Preferred Stock and 154,837 Series A-1 Warrants, each as discussed herein below.

Series A Exchange Offer - Series A Convertible Preferred Stock Exchanged for Series A-1 Convertible Preferred Stock

The fair value of the consideration given in the form of the issue of 232,259 shares of Series A-1 Convertible Preferred Stock, with such fair value recognized as the carrying value of such issued shares of Series A-1 Convertible Preferred Stock, as compared to the extinguishment of both: the carrying value of the Series A Convertible Preferred Stock and the fair value of the corresponding conversion option derivative liability, resulted in an excess of fair value of $504,007 recognized as a deemed dividend charged to accumulated deficit in the consolidated balance sheet on the November 17, 2017 Exchange Date, with such deemed dividend included as a component of net loss attributable to attributable to common stockholders, summarized as follows:

Series A-1 Convertible Preferred Stock Issued Series A Convertible Preferred Stock and Conversion Option Derivative Liability Extinguished Deemed Dividend Charged to Accumulated Deficit		Series A Exchange Offer November 17, 2017 Exchange Date
Fair value - 232,259 shares of Series A-1 Convertible Preferred Stock issued	$	843,100
Less: Fair value - Series A Convertible Preferred Stock conversion option derivative liability extinguished		339,093
Less: Carrying value - 154,837 shares of Series A Convertible Preferred Stock exchanged		—
Deemed dividend charged to accumulated deficit	$	504,007

- The November 17, 2017 Exchange Date fair value of $843,100 for the 232,259 shares of Series A-1 Convertible Preferred Stock issued in the Series A Exchange Offer, was estimated using a combination of the present value of its cash flows using a synthetic credit rating analysis required rate of return and the Black-Scholes option pricing model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, estimated volatility in the value of the Company's common stock, and certain other Level-3 inputs.

- The November 17, 2017 Exchange Date fair value of $339,093 for the 154,837 shares of Series A Convertible Preferred Stock conversion option derivative liability extinguished, was estimated using a Monte Carlo simulation valuation model using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs including, assumptions regarding the estimated volatility in the value of the Company's common stock price and probabilities associated with the likelihood and timing of future dilutive transactions.

- The Series A Convertible Preferred Stock is classified in temporary equity in the consolidated balance sheet and has a carrying value of $0 resulting from the issuance date initial fair values of the Series A Warrant derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability being in excess of the Preferred Stock Units private placement issuance gross proceeds, with such excess recognized as a current period loss in the consolidated statement of operations. See Note 13, *Series A Convertible Preferred Stock, Stockholders' Deficit, and Warrants*, for a further discussion of the Series A Preferred Stock Units private placement and the Series A Convertible Preferred Stock.

Series A Exchange Offer - Series A Warrants Exchanged for Series A-1 Warrants

The 154,837 Series A Warrants derivative liability fair value was adjusted to the November 17, 2017 Exchange Date fair value of the consideration given in the form the 154,837 Series A-1 Warrants issued, with the resulting change in fair value recognized as other income or expense in the consolidated statement of operations, immediately followed by the derecognition of the 154,837 Series A Warrants derivative liability and the recognition of additional paid-in capital of such amount in the consolidated balance sheet, as the Series A-1 Warrants are equity classified. The November 17, 2017 Exchange Date fair value of the Series A-1 Warrants of $1,347,082 was estimated assuming the exchange of one Series A-1 Warrant for five Series W Warrants, using a Black-Scholes valuation model, using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, the estimated volatility in the value of the Company's common stock price, and the Series W Warrant exercise price.

Financial Results of Operations - continued

Comparison of the Year Ended December 31, 2018 and 2017 *- continued*

Other Income and Expense - continued

Change in Fair Value of Series A Warrants Derivative Liability and Series A Convertible Preferred Stock Conversion Option Derivative Liability - Year Ended December 31, 2017 - continued

Conversion of Series A Convertible Preferred Stock

At the election of their respective holders, a total of 18,334 shares of Series A Convertible Preferred Stock were converted into a total of 22,093 shares of common stock of the Company. The Series A Convertible Preferred Stock conversion option derivative liability fair value was adjusted as of each respective conversion date, with the resulting changes in fair value recognized as other income or expense in the consolidated statement of operations, upon which the related Series A Convertible Preferred Stock conversion option derivative liability of $27,335 was derecognized, with a corresponding recognition of common stock par value and additional paid-in capital with respect to the issued shares of common stock of the Company.

The initial issue date estimated fair value of each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability, as discussed above, were each estimated using a Monte Carlo simulation valuation model using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs including, assumptions regarding the estimated volatility in the value of the Company's common stock price and probabilities associated with the likelihood and timing of future dilutive transactions.

See our consolidated financial statements, including: Note 11,*Financial Instruments Fair Value Measurements* , for further information with respect to the initial issue date and subsequent reporting date estimated fair values of each of the Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability, the "March 15, 2018 Series A and Series A-1 Exchange Offer", and the "November 17, 2017 Series A Exchange Offer"; Note 13, *Preferred Stock,* for further information with respect to the Series A Preferred Stock Units private placement, the Series A Convertible Preferred Stock, and the Series A-1 Convertible Preferred Stock; and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants* , for a further discussion of the Series A Warrants and Series A-1 Warrants.

The estimated fair values presented herein are subjective and are affected by changes in inputs to the valuation models, including the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs to take into account the probabilities of certain events occurring over their respective life, including, assumptions regarding the estimated volatility in the value of the Company's common stock price and the likelihood and timing of future dilutive transactions, as applicable. Changes in these assumptions can materially affect the estimated fair values.

Financial Results of Operations - continued

Non-GAAP Financial Measures

The factors described above resulted in net loss attributable to PAVmed Inc. common stockholders of $18,750,798 and $10,398,134 for the year ended December 31, 2018 and 2017, respectively.

To supplement our consolidated financial statements presented in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") within this Annual Report on Form 10-K, management provides certain non-GAAP financial measures ("NGFM") of the Company's financial results, including such amounts captioned: "net loss before interest, taxes, depreciation, and amortization" or "EBITDA", and "non-GAAP Adjusted Loss", as presented herein below. Importantly, we note the NGFM measures captioned "EBITDA" and "non-GAAP Adjusted Loss" are not recognized terms under U.S. GAAP, and as such, they are not a substitute for, considered superior to, considered separately from, nor as an alternative to, U.S. GAAP and /or the most directly comparable U.S. GAAP financial measures.

We believe the NGFM provide useful information by isolating certain expenses, gains, and losses, which are not necessarily indicative of our operating financial results and business outlook. In this regard, the presentation of the NGFM herein below, is to help the reader of our consolidated financial statements to understand the effects of the impact on our (U.S. GAAP) consolidated statement of operations of each of the items as discussed above, including:

* Stock-based compensation expense
* Loss on extinguishment of debt in connection with the December 27, 2018 repayment of the Senior Secured Note
* Change in estimated fair value of the Senior Secured Convertible Note
* Offering costs associated with the issue of the Senior Secured Convertible Note on December 27, 2018
* Modification expense recognized with respect to several "Exchange Offers" and "Warrant Modifications"
* Loss recognized in connection with the Series A Preferred Stock Units private placement in the three months ended March 31, 2017;
* Change in estimated fair value of derivative liability of each of the Series A Warrant and the Series A Convertible Preferred Stock conversion option

The NGFM are presented with the intent of providing greater transparency of information used by us in our financial performance analysis and operational decision-making. Additionally, we believe these NGFM provide meaningful information to assist investors, shareholders, and other readers of our consolidated financial statements, in making comparisons to our historical financial results, and analyzing the underlying financial results of our operations. The NGFM are provided to enhance readers' overall understanding of our current financial results and to provide further information to enhance the comparability of results between the current year period and the prior year period.

Financial Results of Operations - continued

Non-GAAP Financial Measures *- continued*

A reconciliation to the most directly comparable U.S. GAAP measure to NGFM, as discussed above, for the periods noted, is as follows:

	Year Ended December 31,		
	2018	2017	$ Change
Net loss attributable to PAVmed Inc. common stockholders	$ (18,750,798)	$ (10,398,134)	$ (8,352,664)
Series B Convertible Preferred Stock dividends	203,123	—	
Series A-1 Convertible Preferred Stock dividends	25,148	79,788	18,952
Series A Convertible Preferred Stock dividends	26,487	112,570	(103,523)
Series A and Series A-1 Exchange Offer - March 15, 2018 - Series B Convertible Stock issued-upon-exchange of Series A Convertible Preferred Stock	726,531	—	726,531
Series A and Series A-1 Exchange Offer - March 15, 2018 - Series B Convertible Stock issued-upon exchange of Series A-1 Convertible Preferred Stock	(199,241)	—	(199,241)
Series A-1 Convertible Preferred Stock - deemed dividend	—	182,500	(182,500)
Series A Exchange Offer - November 17, 2017 - Series A-1 Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	—	504,007	
Net loss - attributable to PAVmed Inc	(17,968,750)	(9,519,269)	(747,823)
Adjustments			
Depreciation expense	9,790	7,110	937
Interest expense - Senior Secured Note	2,392,447	724,684	1,346,180
Income tax provision	—	—	—
EBITDA	(15,566,513)	(8,787,475)	599,294
Stock-based compensation expense	1,228,699	1,048,127	100,368
Debt extinguishment - Senior Secured Note	1,408,296	—	1,408,296
Change in fair value - Senior Secured Convertible Note	903,000	—	903,000
Offering Costs - Senior Secured Convertible Note	614,940	—	614,940
Series A and Series A-1 Exchange Offer - March 15, 2018	349,796	—	349,796
Series W Warrants Exchange Offer - April 5, 2018	766,456	—	766,456
Unit Purchase Option Exchange Offer - August 22, 2018	2,120	—	2,120
Series Z Warrants - June 1, 2018	1,140,995	—	1,140,995
Loss - Series A Preferred Stock Units	—	3,124,285	(3,124,285)
Change in fair value - Series A Warrants derivative liability	96,480	(1,942,501)	(584,371)
Change in fair value - Series A Convertible Preferred Stock conversion option derivative liability	(64,913)	(643,318)	(141,063)
Non-GAAP Adjusted Loss	$ (9,120,644)	$ (6,978,882)	$ (890,690)

Financial Results of Operations - continued

Income Taxes

We account for income taxes using the asset and liability method, wherein, current tax liabilities or receivables are recognized for the amount of taxes estimated to be payable or refundable for the current year, and deferred tax assets and deferred tax liabilities are recognized for estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis used for income tax purposes, along with net operating loss ("NOL") and tax credit carryforwards.

Deferred tax assets and deferred tax liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of the change in the tax rate is recognized as income or expense in the period of the enacted change in tax rate. See herein below for a discussion of the "Tax Cuts and Jobs Act of 2017", which resulted in a change to future years' statutory corporate tax rate applicable to taxable income. Changes in deferred tax assets and deferred tax liabilities are recorded in the provision for income taxes.

The "Tax Cuts and Jobs Act" (Public Law No. 115-97), enacted on December 22, 2017, is a comprehensive revision to federal tax law which makes broad and complex changes to the U.S. tax code, including, but not limited to, reducing the U.S. federal corporate tax rate to 21% from 35%, eliminating the corporate alternative minimum tax (AMT), and changing how existing AMT credits can be realized; creating a new limitation on deductible interest expense; changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017; and limitations on the deductibility of certain executive compensation.

As required by FASB ASC Topic 740, *Income* Taxes", ("ASC 740), a "more-likely-than-not" criterion is applied when assessing the estimated realization of deferred tax assets through their utilization to reduce future taxable income, or with respect to a deferred tax asset for tax credit carryforward, to reduce future tax expense. A valuation allowance is established, when necessary, to reduce deferred tax assets, net of deferred tax liabilities, when the assessment indicates it is more-likely-than-not, the full or partial amount of the net deferred tax asset will not be realized. Accordingly, we evaluated the positive and negative evidence bearing upon the estimated realizability of the net deferred tax assets, and based on our history of operating losses, concluded it is more-likely-than-not the deferred tax assets will not be realized, and therefore recognized a valuation allowance reserve equal to the full amount of the deferred tax assets, net of deferred tax liabilities, as of each of December 31, 2018 and 2017.

We have total estimated federal and state net operating loss ("NOL") carryforward of approximately $22.9 million and $13.8 million as of December 31, 2018 and 2017, respectively, which is available to reduce future taxable income and begin to expire in 2035. We have total estimated research and development ("R&D") tax credit carryforward of $91,535 and $194,345 as of December 31, 2018 and 2017, respectively, with the R&D tax credit carryforward available to reduce future tax expense, and begin to expire in 2035.

See our consolidated financial statements Note 6, *Income Taxes*, for additional information with respect to our income tax provision, deferred tax assets, and deferred tax liabilities.

Liquidity and Capital Resources

Overview - Financing

Since our inception in June 2014, we have financed our operations principally through issuances of our common stock, preferred stock, common stock purchase warrants ("warrants"), and debt, summarized as follows:

* During 2018, we raised approximately $15.5 million of net proceeds, comprised of $20.5 million of gross proceeds, less $5.0 million used to repay debt ahead of the contractual maturity date, including:

  In January 2018, we raised $4.3 million of net cash proceeds in an underwritten public offering of 2,649,818 shares of our common stock pursuant to our previously filed effective shelf registration statement on SEC Form S-3 - File No. 333-220549.

  In June 2018, we raised approximately $9.2 million of net cash proceeds from an Equity Subscription Rights Offering - "ESRO" pursuant to our previously filed effective registration statement on SEC Form S-1 - File No. 333-222581, wherein, 9.0 million units were issued comprised of a corresponding number of shares of our common stock and Series Z Warrants exercisable to purchase 9.0 million shares of our common stock at an exercise price of $1.60 per share.

  In December 2018, we raised approximately $7.0 million of net cash proceeds, after payment of $750,000 of lender fees, from the issue of a Senior Secured Convertible Note with a face value principal of $7.75 million ("Senior Convertible Note") to an institutional investor.

  Promptly after the consummation of the issue of the Senior Convertible Note, we repaid in full the outstanding principal balance and all accrued but unpaid interest expense as of December 27, 2018 on the Senior Secured Note held by our existing lender, Scopia Holdings LLC, with such repayment consisting of a cash payment of $5.0 million the issue of 600,000 shares of our common stock.

  On January 25, 2019, we filed a registration statement on SEC Form S-3 - File No. 333-229372 - which became effective on February 14, 2019, for the shares of our common stock underlying the Senior Secured Convertible Note and the shares issued in connection with the repayment of the Senior Secured Note, with such filing dates consistent with the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement.

* Additionally during 2018, we also completed exchange offers of private securities and a Tender Offer of public warrants, including:

  In March 2018, in an exchange offer captioned the "Series A and Series A-1 Exchange Offer", we issued a total of 975,568 shares of Series B Convertible Preferred Stock for all of the issued and outstanding shares of each of the Series A Convertible Preferred Stock and the Series A-1 Convertible Preferred Stock, and we issued a total of 2,739,190 Series Z Warrants for all of the issued and outstanding of each of the Series A Warrants and the Series A-1 Warrants.

  In April 2018, in an exchange offer captioned the "Series W Warrant Exchange Offer", we completed a Tender Offer whereby 96.4% of the then outstanding publicly traded Series W Warrants, or 10,151,682 Series W Warrants, were exchanged for 5,075, 849 Series Z Warrants.

  The Series Z Warrants are publicly traded on the NASDAQ Capital Market under the symbol PAVMZ, and each Series Z Warrant may be exercised to purchase a share of our common stock, initially at $3.00 per share through May 31, 2018, then $1.60 per share effective June 1, 2018, as a result of our board of directors approval on May 15, 2018 of such exercise price adjustment.

* During 2017 we raised a total of approximately $7.5 million of net cash proceeds from: a Note and Security Purchase Agreement with Scopia Holdings LLC, including the issuance of each of a Senior Secured Note with an initial face value principal of $5.0 million and Series S Warrants; the Series A-1 Preferred Stock Units private placement; and the Series A Preferred Stock Units private placement.

* In April 2016 our IPO resulted in approximately $4.2 million of net cash proceeds, and prior to our IPO, we raised approximately $2.1 million of net cash proceeds from private offerings of our common stock and warrants.

Liquidity and Capital Resources - continued

Senior Secured Convertible Note - December 27, 2018

In a private placement transaction with an institutional investor - referred to herein as "Investor", "Lender", and /or "Holder" - we entered into a Securities Purchase Agreement under which was issued a Senior Secured Convertible Note Agreement, with such agreement having an issue date of December 27, 2018, a contractual maturity date of December 31, 2020, a face value principal payable of $7.75 million, and a stated interest rate of 7.875% per annum - the "Senior Convertible Note". At the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company.

The Senior Convertible Note proceeds were $7.0 million after payment of $750,000 of lender fees. The Company incurred total offering costs of $614,940, inclusive of the payment of $455,000 placement agent fee and legal fees, with such offering costs recognized as an expense in other income (expense) in the consolidated statement of operations.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note, we repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue to Scopia of 600,000 shares of common stock of the Company. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions. See below for further information with respect to the Senior Secured Note.

The Senior Convertible Note requires bi-monthly payments, with such payments due and payable on each of the 15th calendar day of each month and the Last Trading Day of each month, with the first bi-monthly payment date of January 15, 2019 and the last bi-monthly payment date of December 31, 2020. The bi-monthly payments have two components: a bi-monthly "Installment Repayment" which commences June 28, 2019 through Dec 31, 2020, and a bi-monthly "Non-Installment Payment" which commences Jan 15, 2019 through the Dec 31, 2020. The bi-monthly Installment Repayments are prescribed and the bi-monthly Non-Installment Repayments are a function of the remaining Senior Convertible Note face value principal outstanding.

As noted, at the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company. The Holder may make the conversion election at any time after the December 27, 2018 issue date at an initial contractual stated conversion price of $1.60 per share of common stock of the Company. The conversion price per share is subject-to adjustment for the effect of stock dividends, stock splits, or similar events affecting the common stock of the Company - i.e. "plain vanilla standard anti-dilution provisions". The conversion price may also be adjusted: if we issue or agree to issue any variable rate securities, in which case the Holder shall be entitled to substitute the variable price for the initial stated conversion price; or if certain Events of Default occur, as defined, in which case the Holder is entitled to convert all or a portion of the Senior Convertible Note at the lower of (i) the actual conversion price then in effect or (ii) 80% of the market price of the Company's common stock, as defined, but not lower than a floor price of $0.19 per share.

Additionally, the initial stated conversion price of $1.60 per share may be reduced at any time during the term of the Senior Convertible Note at our discretion and subject to the Holder's written consent. In this regard, the Senior Convertible Note provides for a "Voluntary Adjustment" of the conversion price by the Company, wherein the Company may at any time during the term of the Senior Convertible Note, with the prior written consent of the lender, reduce the then current conversion price to any amount and for any period of time deemed appropriate by the board of directors of the Company. The board of directors have adopted guidelines surrounding such a Senior Convertible Note Voluntary Adjustment of the conversion price, if any, to be implemented by management when favorable market conditions exist for the Company to orderly and effectively reduce its outstanding debt to the investor. Under such guidelines, any such Senior Convertible Note Voluntary Adjustment of the conversion price may not be lower than the previous day's closing price per share of the common stock of the Company, may not apply to more than one million conversion shares during a Voluntary Adjustment period, and may not extend for a period of time greater than 21 days for each occurrence of a respective Voluntary Adjustment of the conversion price.

Subsequently, consistent with the "Voluntary Adjustment of the conversion price" discussed above, the Company initiated a Voluntary Adjustment of the Senior Convertible Note conversion price from the current $1.60 per share to the greater of $1.00 per share or the prior trading day closing price per share, with such Voluntary Adjustment of the conversion price effective for the period March 20, 2019 through April 9, 2019. The Sr Convertible Note holder tendered a conversion notice dated March 20, 2019 for the conversion of a total of $51,545, inclusive of $51,500 face value principal and earned but unpaid interest thereon, at $1.03 per share, resulting in the issue of 50,044 shares of common stock of the Company.

The Senior Convertible Note is principally a debt financial instrument host containing embedded features and /or options which would otherwise be required to be bifurcated from the debt host and recognized as separate derivative liabilities subject to initial and subsequent periodic estimated fair value measurements under ASC 815, *Derivatives and Hedging*. Notwithstanding, the Senior Convertible Note is being afforded the guidance of the "fair value option ("FVO") of ASC 825,*Financial Instruments*, specifically, the FVO election provided for under ASC 825-10-15-4. As such, the Senior Convertible Note will be initially measured at its December 27, 2018 issue-date estimated fair value and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. See Note 12, *Debt*, for further information with respect to the Senior Convertible Note.

Liquidity and Capital Resources - continued

Senior Secured Convertible Note - December 27, 2018- continued

We have filed with the SEC an effective registration statement on Form S-3 - File No. 333- 229372 - referred to as the Senior Convertible Note Registration Statement - registering for resale the maximum number of shares of common stock of the Company issuable upon conversion of the Senior Convertible Note and the shares issued in connection with the repayment of the Senior Secured Note. The Company timely filed with SEC the initial Senior Convertible Note Registration Statement on January 25, 2019 and such registration statement became effective on February 14, 2019, with each such date consistent with the requirements of the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement discussed above. If the Senior Convertible Note Registration Statement effectiveness is not maintained, then, the Company is required to make payments of 1% of the Senior Convertible Note face value principal payable on the date of such event, and every thirty days thereafter until the effectiveness failure is cured.

See our consolidated financial statements Note 12,*Debt*, for further information regarding the Senior Secured Convertible Note.

Equity Subscription Rights Offering - "ESRO" - June 12, 2018

Our Equity Subscription Rights Offering - "ESRO" - closed on June 12, 2018, after the June 7, 2018 expiration date of the equity subscription period. The ESRO was completed under a registration statement on Form S-1 - File No. 333-222581 - declared effective by the SEC on May 23, 2018.

The ESRO involved the Company distributing one non-transferable equity subscription for each of the 17,509,654 issued and outstanding shares of common stock of the Company, as of the record date of May 21, 2018, subject-to the acceptance by the Company of a maximum of 9.0 million fully-paid equity subscriptions tendered as of the June 7, 2018 expiration date of the equity subscription period. The equity subscription provided for the purchase of a common stock unit at a $1.15 per unit, which immediately separated upon issue into one share of common stock of the Company and one Series Z Warrant to purchase one share of common stock of the Company at an exercise price of $1.60 per share.

The ESRO resulted in approximately $10.4 million of gross cash proceeds, before approximately $1.0 million of commissions and fees to the dealer-managers, and approximately $0.2 million of offering costs incurred by the Company, upon the issue on June 12, 2018 of 9.0 million common stock units, comprised of one share of common stock of the Company and one Series Z Warrant, as noted above. See our consolidated financial statements Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the "June 12, 2018 Equity Subscription Rights Offering" and the Series Z Warrants.

Issue of Common Stock - Underwritten Public Offering - January 2018

In January 2018, we conducted an underwritten public offering, under our previously filed and effective shelf registration statement on Form S-3 - File No. 333-220549 - wherein we issued a total of 2,649,818 shares of our common stock resulting in cash proceeds, net of the underwriter's discount of approximately $4.4 million before offering costs of approximately $0.1 million. See our consolidated financial statements Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the "January 2018 Underwritten Public Offering of Common Stock".

Series A and Series A-1 Exchange Offer - March 15, 2018

On the March 15, 2018 Exchange Date of the "Series A and Series A-1 Exchange Offer", a total of 975,568 shares of Series B Convertible Preferred Stock were issued, including 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange of 249,667 shares of Series A Convertible Preferred Stock and 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange of 357,259 shares of Series A-1 Convertible Preferred Stock; and, a total of 2,739,190 Series Z Warrants were issued, including 1,340,005 Series Z Warrants issued-upon-exchange of 268,001 Series A Warrants and 1,399,185 Series Z Warrants issued-upon-exchange of 279,837 Series A-1 Warrants.

Consequently, as of the March 15, 2018 Exchange Date, there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants, nor any issued and outstanding shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants, as each were fully exchanged for shares of Series B Convertible Preferred Stock and Series Z Warrants, respectively. Additionally, each of the Series A Warrants derivative liability and the Series A-1 Convertible Preferred Stock conversion option derivative liability were fully extinguished-upon-exchange as of the March 15, 2018 Exchange Date.

See our consolidated financial statements Note 11,*Financial Instruments Fair Value Measurements*, for further information with respect to the "March 15, 2018 Series A and Series A-1 Exchange Offer"; Note 13, *Preferred Stock,* for further information with respect to our preferred stock, including the Series B Convertible Preferred Stock; and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series Z Warrants. See below for further discussions of each of the "Series A Preferred Stock Units private placement" and the "Series A-1 Preferred Stock Units private placement".

Liquidity and Capital Resources - continued

Series W Warrants Exchange Offer - April 5, 2018'

On April 5, 2018, the "Series W Warrants Exchange Offer" was completed, resulting in 5,075,849 Series Z Warrants issued-upon-exchange of 10,151,682 Series W Warrants, pursuant to an offer-to-exchange letter dated February 20, 2018, as included in a Tender Offer Statement on Schedule TO filed with the SEC on February 20, 2018, wherein, the Company offered to issue one Series Z Warrant in exchange for two Series W Warrants. Such Series W Warrants Exchange Offer commenced on February 20, 2018 and had April 2, 2018 expiration date. The Series W Warrants Offer-to-Exchange was completed after expiration of the guaranteed delivery period on April 5, 2018. See our consolidated financial statements Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the "April 5, 2018 Series W Warrants Exchange Offer" and the Series Z Warrants.

Series W Warrants Offer-to-Exercise- February 8, 2018

On January 11, 2018, we filed with the SEC a Tender Offer Statement on Schedule TO offering Series W Warrants holders a temporary exercise price of $2.00 per share, with such offer having an expiry of February 8, 2018 - referred to as the "Series W Warrants Offer-to-Exercise". As of the February 8, 2018 expiry date, a total of 34,345 Series W Warrants were exercised at the temporary exercise of $2.00 per share, resulting in $68,690 of cash proceeds, before offering costs of $50,520.

Note and Security Purchase Agreement with Scopia Holdings LLC - July 3, 2017

Previously, we entered into a Note and Security Purchase Agreement with Scopia Holdings LLC ("Scopia" or the "Lender"), whereupon Scopia delivering to us $4.8 million in net cash proceeds on July 3, 2017, we issued to Scopia, a Senior Secured Note with an initial principal of $5.0 million, referred to herein as the "Senior Secured Note", and also issued 2,660,000 Series S Warrants to Scopia to purchase a corresponding number of shares of common stock of the Company.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note as discussed above, we repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue to Scopia of 600,000 shares of common stock of the Company. The Senior Secured Note repayment was executed under a Notice of Prepayment agreement dated December 27, 2018. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions.

The Senior Secured Note annual interest rate was 15.0%, with interest payable semi-annually in arrears on June 30 and December 30 of each calendar year, commencing December 30, 2017 ("15% interest expense"). At our sole discretion, we were able to defer payment of up to 50% of each of the semi-annual 15% interest expense payable, with such deferred amount added to the outstanding interest-bearing principal balance of the Senior Secured Note. In this regard, the Senior Secured Note principal balance was $5,780,116 and $5,188,542, as of December 27, 2018 and December 31, 2017, respectively, with each such principal amount comprised of the initial principal of $5.0 million and the total unpaid semi-annual interest as of December 27, 2018 and December 31, 2017, respectively.

The Senior Secured Note total interest expense of $2,392,447 and $724,684, for the year ended December 31, 2018 and 2017, respectively, was comprised of $786,145 and $377,083, respectively, resulting from the 15% interest expense and $1,606,302 and $347,601, respectively, resulting from the amortization of Senior Secured Note debt discount. The Senior Secured Note remaining unamortized debt discount was $1,637,972 as of December 27, 2018 and $3,244,274 as of December 31, 2017.

On the December 27, 2018 repayment date, we recognized as other income (expense), a debt extinguishment loss of $1.4 million resulting from the difference between a $5.5 million debt reacquisition price and a $4.1 million debt carrying value, net, of the Senior Secured Note as of December 27, 2018.

The Series S Warrants were immediately exercisable upon issuance, have an exercise price of $0.01 per share, with such exercise price not subject to further adjustment, except in the event of stock dividends, stock splits or similar events affecting the common stock of the Company, may be exercised for cash or on a cashless basis, and expire June 30, 2032, with any Series S Warrants outstanding on the expiration date automatically exercised on a cashless basis. In each of October 2017 and November 2017, 532,000 (or a total of 1,064,000) Series S Warrants were exercised for total cash proceeds of $10,640, resulting in the issuance of a corresponding number of shares of common stock of the Company, and in November 2017, a total of 122,360 Series S Warrants were exercised on a cashless basis, resulting in the issuance of a total of 122,080 shares of common stock of the Company. In March 2018, a total of 274,257 Series S Warrants were exercised for total cash proceeds of $2,743, resulting in the issuance of a corresponding number of shares of common stock of the Company. Accordingly, there were 1,199,383 and 1,473,640 Series S Warrants issued and outstanding as of December 31, 2018 and 2017, respectively.

See our consolidated financial statements Note 12,*Debt*, for further information regarding the Note and Security Purchase Agreement, and the corresponding Senior Secured Note; and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series S Warrants.

Liquidity and Capital Resources - continued

Series A Exchange Offer - November 17, 2017

Previously, on the November 17, 2017 Exchange Date the "Series A Exchange Offer" was completed, wherein the 28 holders of the Series A Convertible Preferred Stock and Series A Warrants were offered the opportunity to exchange of one share Series A Convertible Preferred Stock for 1.5 shares of Series A-1 Convertible Preferred Stock, and, one Series A Warrant for one Series A-1 Warrant, resulting in 13 holders exchanging 154,837 shares of Series A Convertible Preferred Stock for 232,259 shares of Series A-1 Convertible Preferred Stock, and 154,837 Series A Warrants for 154,837 Series A-1 Warrants. Additionally, in November and December 2017, a total of 18,334 shares of Series A Convertible Preferred Stock were converted into 22,093 shares of common stock of the Company. Accordingly, as of December 31, 2017, there were 249,667 shares of Series A Convertible Preferred Stock and 268,001 Series A Warrants issued and outstanding, and 357,259 shares of Series A-1 Convertible Preferred Stock and 279,837 Series A-1 Warrants issued and outstanding. See our consolidated financial statements Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the November 17, 2017 Series A Exchange Offer.

Series A-1 Preferred Stock Units Private Placement - August 4, 2017

On the Series A-1 Preferred Stock Units private placement August 4, 2017 closing date, we issued a total of 125,000 Series A-1 Preferred Stock Units for aggregate proceeds of $500,000. We did not incur placement agent fees in connection with the Series A-1 Preferred Stock Units private placement. The Series A-1 Preferred Stock Unit was comprised of one share of Series A-1 Convertible Preferred Stock convertible into one share of our common stock, and one Series A-1 Warrant exercisable for one share of our common stock, or could have been exchanged for five Series W Warrants or four Series X-1 Warrants each of which would have been exercisable for a corresponding number of shares of our common stock. As discussed above, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants. See our unaudited consolidated financial statements Note 13, *Preferred Stock,* for a further discussion of the Series A-1 Preferred Stock Units private placement and the Series A-1 Convertible Preferred Stock; and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series A-1 Warrants.

Series A Preferred Stock Units Private Placement - Three Months Ended March 31, 2017

On the January 26, 2017 initial closing date of the Series A Preferred Stock Units private placement, and on subsequent closings on January 31, 2017 and March 8, 2017, a total of 422,838 Series A Preferred Stock Units were issued for aggregate gross proceeds of approximately $2.5 million and net proceeds of approximately $2.2 million, after payment of placement agent fees and closing costs. A Series A Preferred Stock Unit was comprised of one share of Series A Convertible Preferred Stock convertible into one share of our common stock, and one Series A Warrant exercisable for one share of common stock of the Company, or could have been exchanged for four Series X Warrants, each of which would have been exercisable for corresponding number of shares of our common stock.

As discussed above, as a result of the "November 17, 2017 Series A Exchange Offer" and the "March 15, 2018 Series A and Series A-1 Exchange Offer", and the conversion of shares of Series A Convertible Preferred Stock in each of November and December 2017, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants. See our consolidated financial statements Note 13, *Preferred Stock,* for a further discussion of the Series A Preferred Stock Units private placement and the Series A Convertible Preferred Stock; and Note 14,*Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series A Warrants.

Registration Statement - Form S-3 - File No. 333-227718

We have filed with the SEC an effective registration statement on Form S-3 - File No. 333-227718 - declared effective on October 17, 2018, which registers for resale (i) the 257,776 shares of common stock of the Company underlying the Series W Warrants privately issued prior to the Company's IPO, (ii) the 4,638,818 shares of common stock of the Company underlying the Series Z Warrants privately issued prior to the Company's IPO, (iii) the 53,000 shares of common stock of the Company underlying the UPOs issued to the selling agent and its designees in connection with the Company's IPO, the 53,000 Series Z Warrants underlying the UPOs and the 53,000 shares of common stock of the Company issuable upon exercise of the Series Z Warrants underlying the UPOs, (iv) the 2,739,190 shares of common stock of the Company underlying the Series Z Warrants privately issued-upon-exchange of each of the Series A Warrants and Series A-1 Warrants, and (v) the 2,659,720 shares of common stock of the Company issued or issuable upon exercise of the Series S Warrants. The registration statement also registers the initial issuance by the Company of 124,042 shares of common stock of the Company upon exercise of publicly held Series W Warrants and 437,031 shares of common stock of the Company upon exercise of publicly held Series Z Warrants, as well as all of the shares of common stock of the Company underlying the Series W Warrants and Series Z Warrants listed in clauses (i) to (iv) of the preceding sentence to the extent such Series W Warrants and Series Z Warrants are publicly transferred prior to their exercise.

Liquidity and Capital Resources - continued

Going Concern

The provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 205-40, *Presentation of Financial Statements - Going Concern* (ASC Topic 205-40) requires management to assess an entity's ability to continue as a going concern within one year of the date of the financial statements are issued. In each reporting period (including interim periods), an entity is required to assess conditions known and reasonably knowable as of the financial statement issuance date to determine whether it is probable an entity will not meet its financial obligations within one year from the financial statement issuance date. Substantial doubt about an entity's ability to continue as a going concern exists when conditions and events, considered in the aggregate, indicate it is probable the entity will be unable to meet its financial obligations as they become due within one year after the date the financial statements are issued.

We are an early stage and emerging growth company and are subject-to the corresponding risk of such companies. Since inception we have not generated any revenues and have incurred losses and negative cash flows from operating activities. We do not expect to generate positive cash flows from operating activities in the near future until we complete the development process and regulatory approvals of our products, and thereafter begin to commercialize and achieve substantial marketplace acceptance of our products.

We have incurred a net loss attributable to PAVmed Inc. common stockholders of approximately $18.8 million and net cash flows used in operating activities of approximately $8.8 million for the year ended December 31, 2018. As of December 31, 2018, we have an accumulated deficit of approximately $37.0 million and negative working capital of approximately $2.5 million, with such working capital inclusive of approximately $7.9 million of the Senior Secured Convertible Note classified as a current liability and approximately $8.2 million of cash.

We anticipate incurring operating losses and do not expect to generate positive cash flows from operating activities, if any, for the next several years as we complete the development of our products, file for and request regulatory approvals and clearances of such products, and begin to commercially market such products. These factors raise substantial doubt about our ability to continue as a going concern within one year after the date our consolidated financial statements are issued.

Our ability to fund our operations is dependent upon management's plans, which include raising additional capital, refinance our debt upon maturity, obtaining regulatory approvals for our products currently under development, commercializing and generating revenues from our products currently under development, and continuing to control expenses. However, there is no assurance we will be successful in these efforts.

A failure to raise sufficient capital, refinance our debt upon maturity, obtain regulatory approvals and clearances of our products, generate sufficient product revenues, or control expenditures, among other factors, will adversely impact our ability to meet our financial obligations as they become due and payable and to achieve our intended business objectives, and therefore raise substantial doubt regarding our ability to continue as a going concern within one year after the date our consolidated financial statements are issued.

Our consolidated financial statements have been prepared on a going concern basis which contemplates the realization of assets and satisfaction of liabilities and commitments in the normal course of business. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities should we be unable to continue as a going concern.

Liquidity and Capital Resources - continued

Cash flows and liquidity

The cash flow sources and uses for operating, investing, and financing activities, for each period presented is as follows:

	Year Ended December 31,	
	2018	2017
Net cash flows (used in) or provided by:		
Operating activities	$ (8,787,907)	$ (6,608,208)
Investing activities	(26,609)	(5,301)
Financing activities	15,501,613	7,562,851
Net increase in cash	6,687,097	949,342
Cash, beginning of period	1,535,022	585,680
Cash, end of period	$ 8,222,119	$ 1,535,022

Operating Activities

Net cash flows used in operating activities was $8,787,907 and $6,608,208 in the year ended December 31, 2018 and 2017, respectively, consisting of: a net loss - before noncontrolling interest of $18,172,822 and $9,519,269, respectively, with non-cash adjustments totaling, $9,384,915 and $2,911,061 to reconcile the net loss - before noncontrolling interest to net cash used in operating activities, inclusive of $8,038,595 and $2,351,846 of non-cash items, respectively, and, $1,346,320 and $559,215 of a net change in operating assets and liabilities, respectively, as follows:

	Year Ended December 31,	
	2018	2017
Non-Cash Adjustments		
Depreciation expense	$ 9,790	7,110
Stock-based compensation	1,228,699	1,048,127
Interest expense added to principal of Senior Secured Note	591,574	188,542
Interest expense - amortization of discount - Senior Secured Note	1,606,302	347,601
Debt extinguishment - Senior Secured Note	1,408,296	—
Change in fair value - Senior Secured Convertible Note	903,000	—
Modification expense - Series Z Warrants - June 1, 2018	1,140,995	—
Modification expense - Series A-1 Warrant - October 18, 2017	—	222,000
Series A and Series A-1 Exchange Offer - March 15, 2018	349,796	—
Series W Warrants Exchange Offer - April 5, 2018	766,456	—
Unit Purchase Options Exchange Offer - August 22, 2018	2,120	—
Loss on issuance of Preferred Stock Units	—	3,124,285
Change in fair value - Series A Warrants derivative liability	96,480	(1,942,501)
Change in fair value - Series A Convertible Preferred Stock conversion option derivative liability	(643,318)	(64,913)
Sub-Total: non-cash adjustments, net	$ 8,038,595	$ 2,351,846
Change in Operating Assets and Liabilities		
Prepaid expenses and other current assets	$ (149,573)	$ 67,023
Accounts payable	872,111	(83,793)
Accrued expenses and other current liabilities	623,782	575,985
Sub-Total: Change in operating assets and liabilities, net	$ 1,346,320	$ 559,215

Investing Activities

Net cash flows used in investing activities was $26,209 and $5,301 in the year ended December 31, 2018 and 2017, respectively, related to the purchases of research and development and office equipment. The purchase of research and development equipment during 2018 included $3,261 of accounts payable as of December 31, 2018.

Financing Activities

Net cash flows provided by financing activities in the year ended December 31, 2018 totaled $15,501,613, principally comprised of: proceeds of $7,000,000, net of lender fees of 750,000, from the issue of a Senior Secured Convertible Note with a face value principal of $7,750,000; a payment of $5,000,000 with respect to the repayment of the previously issued Senior Secured Note, with such payment concurrent with the Senior Convertible Note Closing on December 27, 2018; proceeds of $9,437,000, offset by the payment of $225,674 of related incurred offering costs, from the "June 12, 2018 Equity Subscription Rights Offering"; and proceeds of $4,388,099, offset by the payment of $113,438 of related incurred offering costs, from the issue of common stock of the Company in an underwritten public offering in January 2018. Other financing activities during the year ended December 31, 2018 include: a total of $20,913 of net proceeds from the exercise of Series W Warrants and Series S Warrants; proceeds of $1,812 resulting from the issue of shares of common stock of Lucid Diagnostics Inc., a majority-owned subsidiary of the Company; and, the payment of $7,099 of Series A Convertible Preferred Stock dividends. See our consolidated financial statements Note 13, *Preferred Stock,* for a further discussion of the Series A Convertible Preferred Stock dividend cash payment.

Net cash flows provided by financing activities in the year ended December 31, 2017 totaled $7,562,851, principally comprised of the following, each as discussed above: proceeds of 4,842,577, after deduction of lender fees, from the issue of the Senior Secured Note with a face value principal of $5,000,000; proceeds of $2,148,384 after the payment of related offering costs of $388,628, from the Series A Preferred Stock Units private placement; and, proceeds of $500,000 from the Series A-1 Preferred Stock Units private placement, along with total cash proceeds of $71,890 from the exercise of Series W Warrants and Series S Warrants.

Critical Accounting Policies and Significant Judgments and Estimates

The discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States of America, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions affecting the reported amounts of assets, liabilities, and equity, along with the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the corresponding periods. In accordance with U.S. GAAP, we base our estimates on historical experience and on various other assumptions we believe are reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. While our significant accounting policies are described in more detail in our consolidated financial notes, we believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our consolidated financial statements.

Research and Development Expense

Research and development expenditures are charged to research and development expense as incurred. Research and development costs include costs related to our various outside professional service providers and suppliers, engineering studies, supplies, outsourced testing and consulting as well as rental costs for access to certain facilities at one of our contract research suppliers.

Financial Instruments and Fair Value Measurements

FASB ASC Topic 820, *Fair Value* Measurement, (ASC 820) defines fair value as the price which would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at a transaction measurement date. The FASB ASC 820 three-tier fair value hierarchy prioritizes the inputs used in the valuation methodologies, as follows:

Level 1 Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets which are not active, or other inputs observable or can be corroborated by observable market data.

Level 3 Valuations based on unobservable inputs reflecting the Company's own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

The Company evaluates its financial instruments to determine if those instruments or any embedded components of those instruments potentially qualify as derivatives required to be separately accounted for in accordance with FASB ASC Topic 815, *Derivatives and Hedging* (ASC 815). The accounting for warrants issued to purchase shares of common stock of the Company is based on the specific terms of the respective warrant agreement, and are generally classified as equity, but may be classified as a derivative liability if the warrant agreement provides required or potential full or partial cash settlement. A warrant classified as a derivative liability, or a bifurcated embedded conversion or settlement option classified as a derivative liability, is initially measured at its issue-date fair value, with such fair value subsequently adjusted at each reporting period, with the resulting fair value adjustment recognized as other income or expense. If upon the occurrence of an event resulting in the warrant liability or the embedded derivative liability being subsequently classified as equity, or the exercise of the warrant or the conversion option, the fair value of the derivative liability will be adjusted on such date-of-occurrence, with such date-of-occurrence fair value adjustment recognized as other income or expense, and then the derivative liability will be derecognized at such date-of-occurrence fair value.

The Series A Warrant and the Series A Convertible Preferred Stock conversion option were each determined to be a derivative liability under FASB ASC 815, as the Series A Convertible Preferred Stock common stock exchange factor denominator and the Series A Warrant exercise price are each subject to potential adjustment resulting from future financing transactions, under certain conditions, along with certain other provisions which may result in required or potential full or partial cash settlement. The respective Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability are each classified as a current liability on the consolidated balance sheet, and each were initially measured at fair value at the time of issuance and are subsequently remeasured at fair value on a recurring basis at each reporting period, with changes in fair value recognized as other income or expense in the consolidated statement of operations, with each such estimated fair values using a Monte Carlo simulation valuation model, utilizing the Company's common stock price and certain Level 3 inputs to take into account the probabilities of certain events occurring over their respective life.

Critical Accounting Policies and Significant Judgments and Estimates - continued

Financial Instruments and Fair Value Measurements - continued

The Company accounts for the issued and outstanding Senior Convertible Note under the "FVO election" of ASC 825,*Financial Instruments*, as discussed below. The Senior Secured Convertible Note is principally a debt financial instrument host containing embedded features and /or options which would otherwise be required to be bifurcated from the debt host and recognized as separate derivative liabilities subject to initial and subsequent periodic estimated fair value measurements under ASC 815. Notwithstanding, ASC ASC 825-10-15-4 provides for the "fair value option ("FVO"), to the extent not otherwise prohibited by ASC 825-10-15-5, to be afforded to financial instruments, wherein the financial instrument is initially measured at its issue-date estimated fair value and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. Further, the estimated fair value adjustment, as required by ASC 825-10-45-5, is recognized as a component of other comprehensive income ("OCI") with respect to the portion of the fair value adjustment attributed to a change in the instrument-specific credit risk, with the remaining amount of the fair value adjustment recognized as other income (expense) in the consolidated statement of operations. With respect to the Company, the "other income (expense) component" of the Senior Convertible Note fair value adjustment is presented in a single line in the consolidated statement of operations, as provided for by ASC 825-10-50-30(b). See Note 11, *Financial Instruments Fair Value Measurements*, and Note 12, *Debt*, for a further discussion of such FVO election and the Senior Secured Convertible Debt.

In addition to the Senior Secured Convertible Debt, the Series A and Series A-1 Exchange Offer on March 15, 2018, and the Series A Exchange Offer on November 17, 2017, each as discussed above, the other issue-date and /or date -of-occurrence non-recurring estimated fair values include: the Series W Warrants Exchange Offer on April 5, 2018, the Series Z Warrant exercise price adjustment on June 1, 2018, and the UPO Exchange Offer on August 22, 2018; along with the Series A Preferred Stock Units private placement during the three months ended March 31, 2017, the Senior Secured Note and Series S Warrants issued in connection with the Note and Security Purchase Agreement between the Company and Scopia Holdings LLC on July 3, 2017; the Series A-1 Preferred Stock Units private placement on August 4, 2017; the Series A-1 Warrants Agreement Amendment No. 1 on October 18, 2017, and the conversion of shares of Series A Convertible Preferred Stock into shares of common stock of the Company in November 2017 and December 2017, with each utilizing the Company's common stock price along with certain Level 3 inputs, as discussed below, in the development of Monte Carlo simulation models, discounted cash flow analyses, and /or Black-Scholes valuation models.

The recurring and non-recurring estimated fair value measurements are subjective and are affected by changes in inputs to the valuation models, including the Company's common stock price, and certain Level 3 inputs, including, the assumptions regarding the estimated volatility in the value of the Company's common stock price; the Company's dividend yield; the likelihood and timing of future dilutive transactions, as applicable, along with the risk-free rates based on U.S. Treasury security yields. Changes in these assumptions can materially affect the estimated fair values.

Stock-Based Compensation

The Company issues stock-based awards to employees, members of its board of directors, and non-employees. Stock-based awards to employees and members of its board of directors are accounted for in accordance with FASB ASC Topic 718, Stock Compensation, and stock-based awards to non-employees are accounted for in accordance with FASB ASC Topic 505-50, Equity-Based Payments to Non-Employees.

The Company measures the compensation expense of stock-based awards granted to employees and members of its board of directors using the grant-date fair value of the award and recognizes compensation expense for stock-based awards on straight-line basis over the requisite service period, which is generally the vesting period of the respective stock option award.

The Company measures the expense of stock-based awards granted to non-employees on a vesting date basis, fixing the fair value of vested non-employee stock options as of their respective vesting date, The fair value of vested non-employee stock options is not subject-to-change at subsequent reporting dates. The estimated fair value of the unvested non-employee stock options are remeasured to then current fair value at each subsequent reporting date. The expense of non-employee stock options is recognized on a straight-line basis over the service period, which is generally the vesting period of the respective non-employee stock option award.

Critical Accounting Policies and Significant Judgments and Estimates - continued

Income Taxes

We account for income taxes using the asset and liability method, wherein, current tax liabilities or receivables are recognized for the amount of taxes estimated to be payable or refundable for the current year, and deferred tax assets and deferred tax liabilities are recognized for estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis used for income tax purposes, along with net operating loss ("NOL") and tax credit carryforwards.

Deferred tax assets and deferred tax liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of the change in the tax rate is recognized as income or expense in the period of the enacted change in tax rate. See herein below for a discussion of the "Tax Cuts and Jobs Act of 2017", which resulted in a change to future years' statutory corporate tax rate applicable to taxable income. Changes in deferred tax assets and deferred tax liabilities are recorded in the provision for income taxes.

On December 22, 2017, the "Tax Cuts and Jobs Act" (Public Law No. 115-97) was enacted. The Tax Cuts and Jobs Act is a comprehensive revision to federal tax law which makes broad and complex changes to the U.S. tax code, including, but not limited to, reducing the U.S. federal corporate tax rate to 21% from 35%, eliminating the corporate alternative minimum tax (AMT), and changing how existing AMT credits can be realized; creating a new limitation on deductible interest expense; changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017; and limitations on the deductibility of certain executive compensation.

In December 2017, the SEC issued Staff Accounting Bulletin No. 118 ("SAB 118"), which addresses situations where the accounting is incomplete for the income tax effects of the Tax Cut and Jobs Act. SAB 118 directs taxpayers to consider the impact of the Tax Cut and Jobs Act as "provisional" when the Company does not have the necessary information available, prepared, or analyzed, including computations, to finalize the accounting for the changes resulting from the Tax Act of 2017. Companies are provided a measurement period of up to one year to obtain, prepare, and analyze information necessary to finalize the accounting for provisional amounts or amounts that cannot be estimated as of December 31, 2017. With regards to the Tax Cut and Jobs Act impact on our tax provision for the year ended December 31, 2017, we recognized the provisional impact of the revaluation of deferred tax assets and deferred tax liabilities to 21% from 35%, which was fully offset by a corresponding change in the valuation allowance applied to the net deferred tax assets. Specifically, as of December 31, 2017, the revaluation of deferred tax assets and deferred tax liabilities to 21% from 35%, resulted in the recognition of approximately $1.6 million tax expense, with such tax expense fully offset by a corresponding change in the valuation allowance applied to the net deferred tax assets. As of December 31, 2018, there was no change in such estimated amount.

As required by FASB ASC Topic 740, *Income* Taxes", ("ASC 740), a "more-likely-than-not" criterion is applied when assessing the estimated realization of deferred tax assets through their utilization to reduce future taxable income, or with respect to a deferred tax asset for tax credit carryforward, to reduce future tax expense. A valuation allowance is established, when necessary, to reduce deferred tax assets, net of deferred tax liabilities, when the assessment indicates it is more-likely-than-not, the full or partial amount of the net deferred tax asset will not be realized. Accordingly, we evaluated the positive and negative evidence bearing upon the estimated realizability of the net deferred tax assets, and based on our history of operating losses, concluded it is more-likely-than-not the deferred tax assets will not be realized, and therefore recognized a valuation allowance reserve equal to the full amount of the deferred tax assets, net of deferred tax liabilities, as of each of December 31, 2018 and 2017.

Critical Accounting Policies and Significant Judgments and Estimates - continued

Going Concern

The provisions of FASB ASC Topic 205-40, *Presentation of Financial Statements - Going Concern* (ASC 205-40) requires management to assess an entity's ability to continue as a going concern within one year of the date of the financial statements are issued. In each reporting period (including interim periods), an entity is required to assess conditions known and reasonably knowable as of the financial statement issuance date to determine whether it is probable an entity will not meet its financial obligations within one year from the financial statement issuance date. Substantial doubt about an entity's ability to continue as a going concern exists when conditions and events, considered in the aggregate, indicate it is probable the entity will be unable to meet its financial obligations as they become due within one year after the date the financial statements are issued. We have incorporated specific disclosures within our financial statements stating there is substantial doubt regarding the Company's ability to continue as a going concern within one year from the financial statement issuance date. See Liquidity and Capital Resources above for a discussion of our liquidity and going concern status.

The Company's consolidated financial statements have been prepared on a going concern basis which contemplates the realization of assets and satisfaction of liabilities and commitments in the normal course of business, and do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities should the Company be unable to continue as a going concern.

Recently Issued Accounting Standards

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815) - Part I - Accounting for Certain Financial Instruments with Down-Round Features, and Part II - Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception.* Principally, ASU 2017-11 amendments simplify the accounting for certain financial instruments with down-round features. The amendments require companies to disregard the down-round feature when assessing whether the instrument is indexed to its own stock, for purposes of determining liability or equity classification. Companies that provide earnings per share (EPS) data will adjust their basic EPS calculation for the effect of the down-round feature when triggered (i.e., when the exercise price of the related equity-linked financial instrument is adjusted downward because of the down-round feature) and will also recognize the effect of the trigger within equity. Additionally, ASU 2017-11 also addresses "navigational concerns" within the FASB ASC related to an indefinite deferral available to private companies with mandatorily redeemable financial instruments and certain noncontrolling interests, which has resulted in the existence of significant "pending content" in the ASC. The FASB decided to reclassify the indefinite deferral as a scope exception, which does not have an accounting effect. The guidance of ASU 2017-11 is effective for public business entities, as defined in the ASC Master Glossary, for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and for all other entities, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Earlier adoption is permitted for all entities as of the beginning of an interim period for which financial statements (interim or annual) have not been issued or have not been made available for issuance. The Company is evaluating the impact of this guidance on its consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, *Compensation-Stock Compensation (Topic 718) - Scope of Modification Accounting.* In ASU 2017-09, the FASB provides guidance on determining which changes to the terms and conditions of stock-based compensation arrangements require the application of "modification accounting" under ASC 718. Generally, ASC 718 modification accounting is not applicable if the stock-based arrangement immediately before and after the modification has the same fair value, vesting conditions, and balance sheet classification. The guidance of ASU 2017-09 is effective for all entities for annual periods, and interim periods within those annual periods, beginning December 15, 2017. Early adoption is permitted, including adoption in any interim period, for public business entities, as defined in the ASC Master Glossary, for periods for which financial statements have not yet been issued, and for all other entities for reporting periods for which financial statements have not yet been made available for issuance. The Company adopted this guidance as of April 1, 2017, and it did not have an effect on the Company's consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, which amends the guidance of FASB ASC Topic 805, Business Combinations (ASC 805) adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (disposals) of assets or businesses. The objective of ASU 2017-01 is to narrow the definition of what qualifies as a business under Topic 805 and to provide guidance for streamlining the analysis required to assess whether a transaction involves the acquisition (disposal) of a business. ASU 2017-01 provides a screen to assess when a set of assets and processes do not qualify as a business under Topic 805, reducing the number of transactions required to be considered as possible business acquisitions. ASU 2017-01 also narrows the definition of output under Topic 805 to make it consistent with the description of outputs under Topic 606. The guidance of ASU 2017-01 is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years and early adoption is permitted under certain circumstances. The adoption of this guidance as of January 1, 2018 did not have an effect on the Company's consolidated financial statements.

Critical Accounting Policies and Significant Judgments and Estimates - continued

Recently Issued Accounting Standards - continued

In August 2016, the FASB issued ASU 2016-15, which amended the guidance of FASB ASC Topic 230, Statement of Cash Flows (ASC 230) on the classification of certain cash receipts and payments. The primary purpose of ASU 2016-15 is to reduce the diversity in practice which has resulted from a lack of consistent principles on this topic. The amendments of ASU 2016-15 add or clarify guidance on eight specific cash flow issues, including debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle. The guidance of ASU 2016-15 is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The adoption of this guidance as of January 1, 2018 did not have an effect on the Company's consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* and subsequently issued additional updates amending the guidance contained in Topic 606 (ASC 606), thereby affecting the guidance contained in ASU 2014-09. ASU 2014-09 and the subsequent ASC 606 updates will supersede and replace nearly all existing U.S. GAAP revenue recognition guidance. The core principle of ASU 2014-09 is to recognize revenue when promised goods or services are transferred to customers in an amount equal to the consideration to which the entity expects to be entitled for those goods and services. ASU 2014-09 defines a five step process to achieve this core principle, and in doing so, more judgment and estimates may be required within the revenue recognition process than are required under existing U.S. GAAP. The standard is effective for annual periods beginning after December 15, 2017, including interim periods therein, using either of the following transition methods: (i) a full retrospective approach reflecting the application of the standard in each prior reporting period with the option to elect certain practical expedients, or (ii) a retrospective approach with the cumulative effect of initially adopting the standard recognized at the date of adoption (which includes additional footnote disclosures). To date, since its inception, the Company has not generated any revenue, as such, the provisions of ASC 606 have not impacted the Company's consolidated results of operations or financial condition.

In March 2016, the FASB issued ASU 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations*("ASU 2016-08"). The amendments are intended to improve the operability and understandability of the implementation guidance on principal versus agent considerations by amending certain existing illustrative examples and adding additional illustrative examples to assist in the application of the guidance. The effective date and transition requirements for the amendments are the same as the effective date and transition requirements in Topic 606. The guidance is effective for the Company beginning January 1, 2018, although early adoption is permitted beginning January 1, 2017. To date, since its inception, the Company has not generated any revenue, as such, the provisions of ASC 606 have not impacted the Company's consolidated results of operations or financial condition.

In April 2016, the FASB issued ASU 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing* ("ASU 2016-10"). The amendments in ASU 2016-10 clarify the following two aspects of Topic 606: (a) identifying performance obligations; and (b) the licensing implementation guidance. The amendments do not change the core principle of the guidance in Topic 606. The effective date and transition requirements for the amendments are the same as the effective date and transition requirements in Topic 606. The guidance is effective for the Company beginning January 1, 2018, although early adoption is permitted beginning January 1, 2017. To date, since its inception, the Company has not generated any revenue, as such, the provisions of ASC 606 have not impacted the Company's consolidated results of operations or financial condition.

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (Topic 842) ("ASU 2016-02"), which establishes a right-of-use (ROU) model requiring a lessee to recognize a ROU asset and a lease liability for all leases with terms greater-than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods with those fiscal years. A modified retrospective transition approach is required for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. The Company does not expect this guidance to have a significant effect on its consolidated financial position, results of operations, and cash flows.

Contractual Obligations

Senior Secured Convertible Note - December 27, 2018

In a private placement transaction with an institutional investor - referred to herein as "Investor", "Lender", and /or "Holder" - we entered into a Securities Purchase Agreement under which was issued a Senior Secured Convertible Note Agreement, with such agreement having an issue date of December 27, 2018, a contractual maturity date of December 31, 2020, a face value principal payable of $7.75 million, and a stated interest rate of 7.875% per annum - the "Senior Convertible Note". At the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company.

The Senior Convertible Note proceeds were $7.0 million after payment of $750,000 of lender fees. The Company incurred total offering costs of $614,940, inclusive of the payment of $455,000 placement agent fee and legal fees, with such offering costs recognized as an expense in other income (expense) in the consolidated statement of operations.

The Senior Convertible Note requires bi-monthly payments, with such payments due and payable on each of the 15th calendar day of each month and the Last Trading Day of each month, with the first bi-monthly payment date of January 15, 2019 and the last bi-monthly payment date of December 31, 2020. The bi-monthly payments have two components: a bi-monthly "Installment Repayment" which commences June 28, 2019 through Dec 31, 2020, and a bi-monthly "Non-Installment Payment" which commences Jan 15, 2019 through the Dec 31, 2020. The bi-monthly Installment Repayments are prescribed and the bi-monthly Non-Installment Repayments are a function of the remaining Senior Convertible Note face value principal outstanding.

As noted, at the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company. The Holder may make the conversion election at any time after the December 27, 2018 issue date an initial contractual stated conversion price of $1.60 per share of common stock of the Company. The conversion price per share is subject-to adjustment for the effect of stock dividends, stock splits, or similar events affecting the common stock of the Company - i.e. "plain vanilla standard anti-dilution provisions". The conversion price may also be adjusted: if we issue or agree to issue any variable rate securities, in which case the Holder shall be entitled to substitute the variable price for the initial stated conversion price; or if certain Events of Default occur, as defined, in which case the Holder is entitled to convert all or a portion of the Senior Convertible Note at the lower of (i) the actual conversion price then in effect or (ii) 80% of the market price of the Company's common stock, as defined, but not lower than a floor price of $0.19 per share.

Additionally, the initial stated conversion price of $1.60 per share may be reduced at any time during the term of the Senior Convertible Note at our discretion and subject to the Holder's written consent. In this regard, the Senior Convertible Note provides for a "Voluntary Adjustment" of the conversion price by the Company, wherein the Company may at any time during the term of the Senior Convertible Note, with the prior written consent of the lender reduce the then current conversion price to any amount and for any period of time deemed appropriate by the board of directors of the Company. The board of directors have adopted guidelines surrounding such a Senior Convertible Note Voluntary Adjustment of the conversion price, if any, to be implemented by management when favorable market conditions exist for the Company to orderly and effectively reduce its outstanding debt to the investor. Under such guidelines, any such Senior Convertible Note Voluntary Adjustment of the conversion price may not be lower than the previous day's closing price per share of the common stock of the Company, may not apply to more than one million conversion shares during a Voluntary Adjustment period, and may not extend for a period of time greater than 21 days for each occurrence of a respective Voluntary Adjustment of the conversion price.

Subsequently, consistent with the "Voluntary Adjustment of the conversion price" discussed above, the Company initiated a Voluntary Adjustment of the Senior Convertible Note conversion price from the current $1.60 per share to the greater of $1.00 per share or the prior trading day closing price per share, with such Voluntary Adjustment of the conversion price effective for the period March 20, 2019 through April 9, 2019. The Sr Convertible Note holder tendered a conversion notice dated March 20, 2019 for the conversion of a total of $51,545, inclusive of $51,500 face value principal and earned but unpaid interest thereon, at $1.03 per share, resulting in the issue of 50,044 shares of common stock of the Company.

See our consolidated financial statements Note 12, *Debt*, for further information with respect to the Senior Secured Convertible Note.

Contractual Obligations - continued

Note and Security Purchase Agreement with Scopia Holdings LLC - July 3, 2017

In July 2017, we previously entered into a Note and Security Purchase Agreement with Scopia Holdings LLC ("Scopia" or the "Lender"), whereupon Scopia delivering to us $4.8 million in net cash proceeds, we issued to Scopia, a Senior Secured Note with an initial principal of $5.0 million, referred to herein as the "Senior Secured Note", and also issued 2,660,000 Series S Warrants to Scopia to purchase a corresponding number of shares of common stock of the Company.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note as discussed above, we repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue to Scopia of 600,000 shares of common stock of the Company. The Senior Secured Note repayment was executed under a Notice of Prepayment agreement dated December 27, 2018. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions.

See our consolidated financial statements Note 12,*Debt*, for further information with respect to the Senior Secured Note.

EsoCheck™ License Agreement

On May 12, 2018, the Company, through its majority-owned subsidiary, Lucid Diagnostics Inc. entered into a patent license agreement with Case Western Reserve University ("CWRU"), referred to as the EsoCheck™ License Agreement, for the exclusive worldwide license of the intellectual property rights of two distinct proprietary components, including, the "EsoCheck™ Cell Collection Device™" or "EsoCheck™ CCD™", and the EsoCheck™ EsoGuard™, a panel of methylated DNA biomarkers, which together are collectively referred to as the "EsoCheck™ Technology".

Under the EsoCheck™ License Agreement, Lucid Diagnostics Inc agreed to reimburse CWRU for its accumulated costs of approximately $273,000 incurred to develop its patents related to the intellectual property of the EsoCheck™ Technology, of which a $50,000 initial payment has been paid in accordance with the provisions of the EsoCheck™ License Agreement, with future quarterly payments of $50,000 until the contractually stipulated amount is paid-in-full. Notwithstanding, the commencement of such quarterly payments is subject to Lucid Diagnostics Inc. consummation of a bona fide financing with an unrelated third-party in excess of $500,000.

Lucid Diagnostics Inc. will also be required to pay a minimum annual royalty commencing the year after the first commercial sale of products resulting from the commercialization of the EsoCheck™ Technology, with the minimum amount rising based on net sales of such product(s), if any. Additionally, the EsoCheck™ License Agreement provides for Lucid Diagnostics Inc. to make payments to CWRU upon the achievement of certain regulatory milestones.

Lease Agreement - Corporate Office Space

Our corporate office lease is on a month-to-month basis, with a 5% per annum increase in the monthly lease payment effective February 1 of each year, and the lease agreement may be cancelled with three months written notice. As of December 31, 2018, our future minimum lease payments for the corporate office lease on a month-to-month basis are estimated to be $131,500 for the period January 1, 2019 to December 31, 2019.

HCP/Advisors LLC Management Services Agreement

Effective October 31, 2018, a management services agreement, previously effective October 2015, with HCP/Advisors LLC, an affiliate of a former director of the Company, expired and was not renewed by the Company. Under such agreement, the Company paid HCP/Advisors LLC an initial first month's fee of $35,000 commencing as of November 1, 2015, and thereafter, a monthly fee of $25,000 through October 31, 2018. The Company incurred an expense of $225,000 and $300,000 in the year ended December 31, 2018 and 2017, respectively.

JOBS Act

We are an "emerging growth company" or EGC, as defined in the JOBS Act, and are eligible to take advantage of certain exemptions from various reporting requirements applicable to other public companies who are not an ECG, including, but not limited to, only two years of audited financial statements in addition to any required unaudited interim financial statements with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy or information statements, and not being required to adopt certain new and revised accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected to avail ourselves of the extended time for the adoption of new or revised accounting standards, and, therefore, will not be subject to the same new or revised accounting standards as public companies who are not an ECG.

Off-Balance sheet arrangements

We do not have any off-balance sheet arrangements, as defined by applicable SEC regulations.

Effect of Inflation and Changes in Prices

We do not expect inflation and changes in prices will have a material effect on our operations.

Item 7A. Quantitative and Qualitative Disclosure About Market Risk

Not applicable.

Item 8. Financial Statements and Supplementary Data

Our consolidated financial statements, together with the report of our independent registered public accounting firm, appear herein commencing on page F-1 of this Annual Report on Form 10-K and are incorporated herein by reference.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and our principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2018. Based on such evaluation, our principal executive officer and principal financial officer concluded our disclosure controls and procedures (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) are effective as of such date at the reasonable assurance level in ensuring that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure information required to be disclosed by us in the reports we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as such term is defined in Exchange Act Rules 13(a)-15(f). Our system of internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the U.S.

Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records, in reasonable detail, accurately and fairly reflect our transactions and dispositions of our assets;
- provide reasonable assurance our transactions are recorded as necessary to permit preparation of our financial statements in accordance with accounting principles generally accepted in the U.S., and our receipts and expenditures are being made only in accordance with authorizations of our management and our directors; and,
- provide a reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets could have a material effect on the financial statements.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect all misstatements. Further, because of changes in conditions, effectiveness of internal controls over financial reporting may vary over time. Our system contains self-monitoring mechanisms, so actions will be taken to correct deficiencies as they are identified.

Our management conducted an evaluation of the effectiveness of the system of internal control over financial reporting based on the framework in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded our system of internal control over financial reporting was effective as of December 31, 2018.

This Form 10-K does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to the rules of the SEC to permit us to provide only management's report in this Form 10-K.

Changes to Internal Controls Over Financial Reporting

There has been no change in internal controls over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during our fourth quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this Item 10 is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2018.

Item 11. Executive Compensation

The information required by this Item 11 is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2018.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this Item 12 is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2018.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this Item 13 is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2018.

Item 14. Principal Accounting Fees and Services

The information required by this Item 14 is incorporated by reference to our Proxy Statement for the 2018 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2018.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) The following documents filed as a part of the report:

(1) The following financial statements:
Report of Independent Registered Public Accounting Firm
Consolidated Balance Sheets
Consolidated Statements of Operations
Consolidated Statements of Changes in Series A Convertible Preferred Stock and Stockholders' Equity (Deficit)
Consolidated Statements of Cash Flows
Notes to Consolidated Financial Statements

(2) The financial statement schedules:
Schedules other than those listed above are omitted for the reason they are not required or are not applicable, or the required information is shown in the financial statements or notes thereto. Columns omitted from schedules filed have been omitted because the information is not applicable.

(3) The following exhibits:

Exhibit No.	Description
3.1	Certificate of Incorporation(1)
3.2	Certificate of Amendment to Certificate of Incorporation (1)
3.3	Certificate of Amendment to Certificate of Incorporation, dated October 1, 2018 (13)
3.4	Form of Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock (11)
3.5	Certificate of Elimination - Series A Convertible Preferred Stock and Series A-1 Convertible Preferred Stock (11)
3.6	Bylaws (1)
4.1	Specimen PAVmed Inc. Common Stock Certificate (1)
4.2	Specimen PAVmed Inc. Series W Warrant Certificate (1)
4.3	Series W Warrant Agreement, dated April 28, 2016, between Continental Stock Transfer & Trust Company and the Registrant (3)
4.4	Form of Unit Purchase Option (1)
4.5	Specimen PAVmed Inc. Series Z Warrant Certificate (10)
4.6	Amended and Restated Series Z Warrant Agreement, dated as of June 8, 2018, by and between PAVmed Inc. and Continental Stock Transfer & Trust Company, as Warrant Agent (12)
10.1	Patent Option Agreement (1)
10.2.1	Form of Letter Agreement with HCFP Capital Partners III LLC (1)
10.2.2	Form of Letter Agreement with Pavilion Venture Partners LLC (1)
10.3.1	Letter agreement regarding corporate opportunities executed by Dr. Lishan Aklog (1)
10.3.2	Letter agreement regarding corporate opportunities executed by Michael Glennon (1)
10.3.3	Letter agreement regarding corporate opportunities executed by Dr. Brian deGuzman (1)
10.4	Management services agreement between PAVmed Inc. and HCP/Advisors LLC (1)

Item 15. Exhibits and Financial Statement Schedules - continued

(a) The following documents filed as a part of the report: - continued

(3) The following exhibits (continued):

Exhibit No.	Description
10.5.1	Securities Purchase Agreement between PAVmed Inc. and the purchasers of the Series A Preferred Stock Units (2)
10.5.2	Registration Rights Agreement between PAVmed Inc. and the purchasers of the Series A Preferred Stock Units (2)
10.6.1	Note and Securities Purchase Agreement between PAVmed and Scopia Holdings LLC (6)
10.6.2	Notice of Repayment between PAVmed Inc. and Scopia Holdings LLC, dated December 27, 2018. †
10.7	Securities Purchase Agreement between PAVmed and the purchasers of the Series A-1 Preferred Stock Units (2)
10.8*	Amended and Restated Employment Agreement between PAVmed Inc. and Lishan Aklog, M.D. (15)
10.9*	Amended and Restated Employment Agreement between PAVmed Inc. and Dennis M. McGrath (15)
10.10*	Employment Agreement between PAVmed Inc. and Brian J. deGuzman, M.D. (4)
10.11.1*	Employment Agreement between PAVmed and Richard F. Fitzgerald (1)
10.11.2*	Separation Agreement between PAVmed and Richard F. Fitzgerald (7)
10.11.3*	Consulting Agreement between PAVmed and Richard F. Fitzgerald (7)
10.12.1*	Consulting Agreement between PAVmed Inc. and Michael J. Glennon (5)
10.12.2*	Amendment to Consulting Agreement between PAVmed Inc. and Michael J. Glennon (8)
10.12.3*	Amendment to Consulting Agreement between PAVmed Inc. and Michael J. Glennon (7)
10.12.4*	Termination of Consulting Agreement between PAVmed Inc. and Michael J. Glennon (9)
10.13*	Second Amended and Restated PAVmed Inc. 2014 Long-Term Equity Incentive Plan (13)
10.14.1	Form of Securities Purchase Agreement between PAVmed Inc. and Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B (14)
10.14.2	Form of Secured Convertible Promissory Note between PAVmed Inc. and Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B (14)
10.14.3	Form of Security and Pledge Agreement between PAVmed Inc. and Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B (14)
10.14.4	Form of Guaranty between PAVmed Inc. and Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B (14)
10.14.5	Form of Voting Agreement between PAVmed Inc. and Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B (14)
10.14.6	Form of Registration Rights Agreement between PAVmed Inc. and Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B (14)
14	Form of Code of Ethics (1)
21	List of Subsidiaries. †
23.1	Consent of Citrin Cooperman & Company, LLP. †
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.†
31.2	Certification of Principal Financial and Accounting Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. †
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. †
32.2	Certification of Principal Financial and Accounting Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. †
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

(1) Incorporated by reference to the Registrant's Registration Statement on Form S-1 - SEC File No. 333-203569
(2) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on February 1, 2017.
(3) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on May 3, 2016.
(4) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on July 19, 2016.
(5) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on October 14, 2016.
(6) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on July 6, 2017.
(7) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q filed on May 22, 2017.
(8) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q filed on February 16, 2017.
(9) Incorporated by reference to the Registrant's Quarterly Report on Form 10-Q filed on August 11, 2017.
(10) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on April 5, 2018.
(11) Incorporated by reference to the Registrant's Current Report on Form 8-K/A filed on April 20, 2018.
(12) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on June 8, 2018.
(13) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on October 2, 2018.
(14) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on December 27, 2018.
(15) Incorporated by reference to the Registrant's Current Report on Form 8-K filed on March 20, 2019.

* Management contract or compensatory plan or arrangement.
† Filed herewith

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

PAVmed Inc.

April 1, 2019

By: */s/ Lishan Aklog, M.D.*
Lishan Aklog, M.D.
Chairman of Board of Directors
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the report has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated. Each person whose signature appears below hereby authorizes both Lishan Aklog, M.D. and Dennis M. McGrath or either of them acting in the absence of the others, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution for him or her and in his or her name, place and stead, in any and all capacities to sign any and all amendments to this report, and to file the same, with all exhibits thereto and other documents in connection therewith, with the United States Securities and Exchange Commission.

Signature	Title	Date
/s/ Lishan Aklog, M.D. Lishan Aklog, M.D.	Chairman of the Board of Directors Chief Executive Officer (*Principal Executive Officer*)	April 1, 2019
/s/ Dennis M. McGrath Dennis M. McGrath	President Chief Financial Officer (*Principal Financial and Accounting Officer*)	April 1, 2019
/s/ Michael J. Glennon Michael J. Glennon	Vice Chairman Director	April 1, 2019
/s/ David S. Battleman David S. Battleman	Director	April 1, 2019
/s/ James L. Cox, M.D. James L. Cox, M.D.	Director	April 1, 2019
/s/ Ronald M. Sparks Ronald M. Sparks	Director	April 1, 2019
/s/ David Weild IV David Weild IV	Director	April 1, 2019

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Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of PAVmed Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of PAVmed Inc. and Subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, Series A Convertible Preferred Stock and stockholders' deficit, and cash flows, for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2018 and 2017, and the results of their consolidated operations and their cash flows for each of the two years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Going Concern

The accompanying financial statements have been prepared assuming the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company's recurring losses from operations, recurring cash used in operating activities, accumulated deficit and absence of revenue generation raise substantial doubt about its ability to continue as a going concern. Management's plans concerning these matters are also discussed in Note 2 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe our audits provide a reasonable basis for our opinion.

/s/ CITRIN COOPERMAN & COMPANY, LLP

We have served as the Company's auditor since 2014.

New York, New York
April 1, 2019

PAVMED INC.
and SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31, 2018	December 31, 2017
Assets		
Current assets		
Cash	$ 8,222,119	$ 1,535,022
Prepaid expenses and other current assets	238,040	88,467
Total current assets	8,460,159	1,623,489
Equipment, net	36,271	16,191
Total assets	$ 8,496,430	$ 1,639,680
Liabilities, Preferred Stock, and Stockholders' Deficit		
Current liabilities		
Accounts payable	$ 1,738,837	$ 863,465
Accrued expenses and other current liabilities	1,330,746	706,964
Senior Secured Convertible Note at fair value, face value principal of $7,750,000	7,903,000	—
Series A Warrants derivative liability	—	761,123
Series A Convertible Preferred Stock conversion option derivative liability	—	212,217
Total current liabilities	10,972,583	2,543,769
Senior Secured Note, net of $3,244,274 unamortized debt discount	—	1,944,268
Total liabilities	$ 10,972,583	$ 4,488,037
COMMITMENTS AND CONTINGENCIES (NOTE 9)		
Series A Convertible Preferred Stock		
Preferred stock, par value $0.001, 20,000,000 shares authorized;		
Series A Convertible Preferred Stock, par value $0.001, 0 shares and 249,667 shares issued and outstanding at December 31, 2018 and December 31, 2017, respectively	—	—
Stockholders' Equity (Deficit)		
Preferred stock, par value $0.001, 20,000,000 shares authorized;		
Series B Convertible Preferred Stock, par value $0.001, 1,069,941 and 0 shares issued and outstanding at December 31, 2018 and December 31, 2017, respectively	2,031,845	—
Series A-1 Convertible Preferred Stock, par value $0.001, 0 and 357,259 shares issued and outstanding at December 31, 2018 and December 31, 2017, respectively	—	1,032,650
Common stock, par value $0.001; 75,000,000 shares authorized, 27,142,979 shares and 14,551,234 shares issued and outstanding as of December 31, 2018 and December 31, 2017, respectively	27,143	14,551
Additional paid-in capital	32,619,282	14,012,053
Accumulated deficit	(36,992,911)	(17,907,611)
Total PAVmed Inc. stockholders' deficit	(2,314,641)	(2,848,357)
Noncontrolling interest in majority-owned subsidiary	(161,512)	—
Total stockholders' deficit	(2,476,153)	(2,848,357)
Total Liabilities, Series A Convertible Preferred Stock, and Stockholders' Deficit	$ 8,496,430	$ 1,639,680

See accompanying notes to the consolidated financial statements.

PAVMED INC.
and SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,	
	2018	2017
Revenue	$ —	$ —
General and administrative expenses	6,310,206	5,412,593
Research and development expenses	4,252,999	2,621,526
Total operating expenses	10,563,205	8,034,119
Loss from operations	(10,563,205)	(8,034,119)
Other income (expense)		
Interest expense - Senior Secured Note	(2,392,447)	(724,684)
Debt extinguishment - Senior Secured Note	(1,408,296)	—
Change in fair value - Senior Secured Convertible Note	(903,000)	—
Offering costs - issue of Senior Secured Convertible Note	(614,940)	—
Modification - Series Z Warrant Agreement	(1,140,995)	—
Modification - Series A-1 Warrant Agreement	—	(222,000)
Series A and Series A-1 Exchange Offer - March 15, 2018 - incremental fair value - Series Z Warrants issued-upon-exchange of Series A-1 Warrants	(349,796)	—
Series W Warrants Exchange Offer - April 5, 2018 - incremental fair value - Series Z Warrants issued-upon-exchange of Series W Warrants	(766,456)	—
Unit Purchase Options (UPOs) Exchange Offer - August 22, 2018 - incremental fair value - UPO-Z issued-upon-exchange of UPO-W	(2,120)	—
Loss - Series A Preferred Stock Units private placement	—	(3,124,285)
Change in fair value - Series A Warrants derivative liability	(96,480)	1,942,501
Change in fair value - Series A Convertible Preferred Stock conversion option derivative liability	64,913	643,318
Other income (expense), net	(7,609,617)	(1,485,150)
Loss before provision for income tax	(18,172,822)	(9,519,269)
Provision for income taxes	—	—
Net loss - before noncontrolling interest	(18,172,822)	(9,519,269)
Net loss attributable to noncontrolling interest	204,072	—
Net loss - attributable to PAVmed Inc.	(17,968,750)	(9,519,269)
Less: Series B Convertible Preferred Stock dividends	(203,123)	—
Less: Series A-1 Convertible Preferred Stock dividends	(25,148)	(79,788)
Less: Series A Convertible Preferred Stock dividends	(26,487)	(112,570)
Series A and Series A-1 Exchange Offer - March 15, 2018 - deemed dividend - incremental fair value - Series B Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	(726,531)	—
Series A and Series A-1 Exchange Offer - March 15, 2018 - increase to additional paid-in capital - incremental fair value - Series B Convertible Preferred Stock issued-upon-exchange of Series A-1 Convertible Preferred Stock	199,241	—
Deemed dividend Series A-1 Convertible Preferred Stock	—	(182,500)
Series A Exchange Offer - November 17, 2017 - deemed dividend - incremental fair value - Series A-1 Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	—	(504,007)
Net loss attributable to PAVmed Inc. common stockholders	$ (18,750,798)	$ (10,398,134)
Net loss per share - attributable to PAVmed Inc. - basic and diluted	$ (0.81)	$ (0.71)
Net loss per share - attributable to PAVmed Inc. common stockholders - basic and diluted	$ (0.84)	$ (0.77)
Weighted average common shares outstanding - basic and diluted	22,276,347	13,495,951

See accompanying notes to the consolidated financial statements.

PAVMED INC.
and SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN
SERIES A CONVERTIBLE PREFERRED STOCK and STOCKHOLDERS' EQUITY (DEFICIT)
for the YEAR ENDED DECEMBER 31, 2018

	PAVmed Inc. Stockholders											
	PAVmed Inc. Stockholders' Equity (Deficit)											
	Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Common Stock		Additional Paid-In	Accumulated	Noncontrolling	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	Interest	Total
Balance at December 31, 2017	249,667	$ —	—	$ —	357,259	$ 1,032,650	14,551,234	$ 14,551	$ 14,012,053	$ (17,907,611)	$ —	$ (2,848,357)
Underwritten public offering of common stock, net of offering cost							2,649,818	2,650	4,272,011			4,274,661
Equity Subscription Rights Offering, net of offering cost							9,000,000	9,000	9,202,326			9,211,326
Debt extinguishment							600,000	600	549,840			550,440
Exercise - common stock purchase warrant, net of offering costs							308,602	309	20,604			20,913
Exchange Offer - March 15, 2018	(249,667)	—	975,568	1,707,244	(357,259)	(1,032,650)			1,406,640	(726,531)		1,354,703
Exchange Offer - April 5, 2018		—							766,456			766,456
Series Z Warrant Modification		—							1,140,995			1,140,995
Exchange Offer - UPOs									2,120			2,120
Common stock issued - conversion Series B Convertible Preferred Stock			(33,325)	(58,319)			33,325	33	58,286			—
Series B Convertible Preferred Stock Dividends			127,698	382,920						(382,920)		—
Series A Convertible Preferred Stock Dividends										(7,099)		(7,099)
Issue of common stock of majority-owned subsidiary											1,812	1,812
Stock-based compensation									1,175,466			1,175,466
Stock-based compensation of majority-owned subsidiary									12,485		40,748	53,233
Net loss										(17,968,750)	(204,072)	(18,172,822)
Balance at December 31, 2018	—	$ —	1,069,941	$ 2,031,845	—	$ —	27,142,979	$ 27,143	$ 32,619,282	$ (36,992,911)	$ (161,512)	$ (2,476,153)

See accompanying notes to the consolidated financial statements.

PAVMED INC.
and SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN
SERIES A CONVERTIBLE PREFERRED STOCK and STOCKHOLDERS' EQUITY (DEFICIT)
for the YEAR ENDED DECEMBER 31, 2017

			PAVmed Inc. Stockholders' Equity (Deficit)						
	Series A Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Common Stock		Additional Paid-In	Accumulated	
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Deficit	Total
Balance at December 31, 2016	—	$ —	—	$ —	13,330,811	$ 13,331	$ 7,369,437	$ (7,701,835)	$ (319,067)
Series A Convertible Preferred Stock issued in a in a private placement	422,838	—							—
Series A-1 Convertible Preferred Stock and Series A-1 Warrants issued in a private placement			125,000	7,050			492,950		500,000
Series A Exchange Offer	(154,837)	—	232,259	843,100			1,347,082	(504,007)	1,686,175
Series A-1 Convertible Preferred Stock deemed dividend				182,500				(182,500)	—
Modification of Series A-1 Warrant Agreement							222,000		222,000
Series S Warrants issued in connection with Senior Secured Note payable							3.434,452		3,434,452
Common stock issued upon exercise of warrants					1,193,330	1,198	70,692		71,890
Common stock issued upon conversion of Series A Convertible Preferred Stock	(18,334)	—			22,093	22	27,313		27,335
Stock-based compensation							1,048,127		1,048,127
Net loss								(9,519,269)	(9,519,269)
Balance at December 31, 2017	249,667	$ —	357,259	$ 1,032,650	14,551,234	$ 14,551	$ 14,012,053	$ (17,907,611)	$ (2,848,357)

See accompanying notes to the consolidated financial statements.

PAVMED INC.
and SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	Year Ended December 31,	
	2018	2017
Cash flows from operating activities		
Net loss - before noncontrolling interest ("NCI")	$ (18,172,822)	$ (9,519,269)
Adjustments to reconcile net loss - before NCI to net cash used in operating activities		
Depreciation expense	9,790	7,110
Stock-based compensation	1,228,699	1,048,127
Interest expense added to principal of Senior Secured Note	591,574	188,542
Interest expense - amortization of debt discount - Senior Secured Note	1,606,302	347,601
Debt extinguishment - Senior Secured Note	1,408,296	—
Change in fair value - Senior Secured Convertible Note	903,000	—
Modification expense - Series Z Warrant	1,140,995	—
Modification expense - Series A-1 Warrant	—	222,000
Series A and Series A-1 Exchange Offer - March 15, 2018	349,796	—
Series W Warrants Exchange Offer - April 5, 2018	766,456	—
Unit Purchase Options Exchange Offer - August 22, 2018	2,120	—
Loss on issuance of Series A Preferred Stock Units	—	3,124,285
Change in fair value - Series A Warrants derivative liability	96,480	(1,942,501)
Change in fair value - Series A Convertible Preferred Stock conversion option derivative liability	(64,913)	(643,318)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(149,573)	67,023
Accounts payable	872,111	(83,793)
Accrued expenses and other current liabilities	623,782	575,985
Net cash flows used in operating activities	(8,787,907)	(6,608,208)
Cash flows from investing activities		
Purchase of equipment	(26,609)	(5,301)
Net cash flows used in investing activities	(26,609)	(5,301)
Cash flows from financing activities		
Proceeds - issue of Senior Secured Convertible Note	7,000,000	—
Repayment of debt - Senior Secured Note	(5,000,000)	—
Proceeds - issue of units in an equity subscription rights offering	9,437,000	—
Payment - offering costs - equity subscription rights offering	(225,674)	—
Proceeds - issue of common stock in an underwritten public offering	4,388,099	—
Payment - offering costs - underwritten public offering	(113,438)	—
Proceeds - issue of common stock of majority-owned subsidiary	1,812	—
Proceeds - issue of Senior Secured Note	—	4,842,577
Proceeds - issue of Series A Preferred Stock Units private placement	—	2,537,012
Payment - offering costs - Series A Preferred Stock Units private placement	—	(388,628)
Proceeds - issue of Series A-1 Preferred Stock Units private placement	—	500,000
Payment - Series A Convertible Preferred Stock Dividends	(7,099)	—
Proceeds - issue of common stock upon exercise of warrants, net	20,913	71,890
Net cash flows provided by financing activities	15,501,613	7,562,851
Net increase in cash	$ 6,687,097	$ 949,342
Cash, beginning of period	1,535,022	585,680
Cash, end of period	$ 8,222,119	$ 1,535,022

See accompanying notes to the consolidated financial statements.

Note 1 — The Company and Description of the Business

PAVmed Inc. ("PAVmed" or the "Company") is a highly-differentiated multi-product technology medical device company organized to advance a broad pipeline of innovative medical technologies from concept to commercialization, employing a business model focused on capital efficiency and speed to market. The Company is focused on advancing its lead products towards regulatory approval and commercialization, protecting its intellectual property, and building its corporate infrastructure and management team. The Company was organized under the laws of the State of Delaware on June 26, 2014 (inception), originally under the name of PAXmed Inc., and on April 19, 2015, changed its name to PAVmed Inc. The Company operates in one segment as a medical device company. The Company's initial public offering (IPO) was consummated on April 28, 2016 under a registration statement on Form S-1 - File No. 333-203569 - declared effective January 29, 2016.

On May 8, 2018, Lucid Diagnostics Inc., a majority-owned subsidiary of the Company, was incorporated in the State of Delaware. On May 12, 2018, Lucid Diagnostics Inc. entered into the "EsoCheck™ License Agreement" with Case Western Reserve University ("CWRU"), with respect to the "EsoCheck™ Technology". See Note 7, *Agreements Related to Acquired Intellectual Property Rights*, for a discussion of the "EsoCheck™ License Agreement".

To date, the Company has not recognized revenue. The ability to generate revenue depends upon the Company's ability to successfully complete the development, obtain regulatory approval, and to initiate commercialization of its product candidates. Currently, the Company's activities are focused principally on obtaining FDA clearance and initializing commercialization of the lead product candidates, including CarpX™, EsoCheck™ CCD™, and PortIO™, along with advancing the EsoCheck EsoGuard™, DisappEAR™ and NextFlo™ product candidates through their respective research and development phase. The Company will also engage in research and development activities on other product candidates commensurate with the Company's available capital resources. The Company plans to incur research and development expenses for the foreseeable future from the continued development of its current and future product candidates.

The Company has financed its operations principally through the issuances of its common stock, preferred stock, warrants, and debt, including: proceeds from private offerings of its common stock and common stock purchase warrants prior to the April 8, 2016 closing of its IPO; proceeds from the April 28, 2016 closing of the IPO; and, subsequent issue of shares of convertible preferred stock and common stock purchase warrants in private placements, the issue of shares of common stock of the Company and common stock purchase warrants under effective registration statements; and the issue of debt. See Note 12, *Debt,* Note 13, *Preferred Stock,* and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for further information with respect to the various financing transactions

Collectively, PAVmed Inc. and Lucid Diagnostics Inc. have proprietary rights to the trademarks used herein, including, among others, PAVmed™, Lucid Diagnostics™, Caldus™, CarpX™, DisappEAR™, EsoCheck™, EsoCheck™ Cell Collection Device™, EsoCheck™ CCD™, EsoCheck™ EsoGuard™, EsoCheck™ Technology, NextCath™, NextFlo™, PortIO™, and "Innovating at the Speed of Life" ™, among others. Solely as a matter of convenience, trademarks and trade names referred to herein may or may not be accompanied with the requisite marks of "™" or "®", however, the absence of such marks is not intended to indicate, in any way, each of PAVmed Inc. and /or Lucid Diagnostics Inc. will not assert, to the fullest extent possible under applicable law, its rights or the rights to such trademarks and trade names.

Note 2 — Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned and majority-owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation. The Company holds a majority ownership interest and has a controlling financial interest in Lucid Diagnostics Inc., with the corresponding noncontrolling interest included as a separate component of consolidated stockholders' equity, including the recognition in the consolidated statement of operations of the net loss attributable to the noncontrolling interest based on the respective ownership interest in Lucid Diagnostics Inc. See Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a discussion of the Company's majority-owned subsidiary Lucid Diagnostics Inc. and the corresponding noncontrolling interest. Certain items have been reclassified to conform to the current period presentation.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make accounting estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Significant estimates in these consolidated financial statements include those related to the fair value of each of: debt obligations, common stock purchase warrants, and derivative liabilities, and stock-based compensation. Additional significant estimates includer research and development expenses, the provision or benefit for income taxes and the corresponding valuation allowance on deferred tax assets. In addition, management's assessment of the Company's ability to continue as a going concern involves the estimation of the amount and timing of future cash inflows and outflows. On an ongoing basis, the Company evaluates its estimates, judgements, and methodologies. The Company bases its estimates on historical experience and on various other assumptions believed to be reasonable. Due to the inherent uncertainty involved in making such judgements, assumptions, and accounting estimates, the actual financial statement results could differ materially from such accounting estimates and assumptions.

JOBS Act Accounting Election

The Company is an "emerging growth company" or "EGC", as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). Under the JOBS Act, an EGC can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. The Company has irrevocably elected to avail itself of this exemption from new or revised accounting standards, and, therefore, will not be subject to the same new or revised accounting standards as public companies who are not an EGC.

Segment Data

The Company manages its operations as a single operating segment for the purposes of assessing performance and making operating decisions. No revenue has been generated since inception, and all tangible assets are held in the United States.

Note 2 — Summary of Significant Accounting Policies - continued

Going Concern

The provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 205-40, *Presentation of Financial Statements - Going Concern* (ASC 205-40) requires management to assess an entity's ability to continue as a going concern within one year of the date of the financial statements are issued. In each reporting period, including interim periods, an entity is required to assess conditions known and reasonably knowable as of the financial statement issuance date to determine whether it is probable an entity will not meet its financial obligations within one year from the financial statement issuance date. Substantial doubt about an entity's ability to continue as a going concern exists when conditions and events, considered in the aggregate, indicate it is probable the entity will be unable to meet its financial obligations as they become due within one year after the date the financial statements are issued.

The Company is an early stage and emerging growth company and is subject-to the corresponding risk of such companies. Since inception the Company has not generated any revenues and has incurred losses and negative cash flows from operating activities. The Company does not expect to generate positive cash flows from operating activities in the near future until it completes the development process and regulatory approvals of its products, and thereafter begins to commercialize and achieve substantial marketplace acceptance for its products.

The Company incurred a net loss attributable to PAVmed Inc. common stockholders of approximately $18.8 million and net cash flows used in operating activities of approximately $8.8 million for the year ended December 31, 2018. As of December 31, 2018, the Company had an accumulated deficit of approximately $37.0 million and negative working capital of approximately $2.5 million, with such working capital inclusive of approximately $7.9 million of the Senior Secured Convertible Note classified as a current liability and approximately $8.2 million of cash.

The Company anticipates incurring operating losses and does not expect to experience positive cash flows from operating activities and may continue to incur operating losses for the next several years as it completes the development of its products, seeks regulatory approvals and clearances of such products, and begin to commercially market such products. These factors, which have existed since inception, are expected to continue, and raise substantial doubt about the Company's ability to continue as a going concern within one year after the date the accompanying consolidated financial statements are issued.

The Company's ability to fund its operations is dependent upon management's plans, which include raising additional capital, refinance the debt upon maturity, obtaining regulatory approvals for its products currently under development, commercializing and generating revenues from products currently under development, and continuing to control expenses. However, there is no assurance the Company will be successful in these efforts.

A failure to raise sufficient capital, refinance the debt upon maturity, obtain regulatory approvals and clearances for the Company's products, generate sufficient product revenues, or control expenditures, among other factors, will adversely impact the Company's ability to meet its financial obligations as they become due and payable and to achieve its intended business objectives, and therefore, raises substantial doubt of the Company's ability to continue as a going concern within one year after the date the consolidated financial statements are issued.

The Company's consolidated financial statements have been prepared on a going concern basis which contemplates the realization of assets and satisfaction of liabilities and commitments in the normal course of business. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities should the Company be unable to continue as a going concern.

Note 2 — Summary of Significant Accounting Policies - continued

Cash

The Company maintains its cash at a major financial institution with high credit quality. At times, the balance of its cash deposits may exceed federally insured limits. The Company has not experienced and does not anticipate any losses on deposits with commercial banks and financial institutions which exceed federally insured limits.

Equipment

Equipment is stated at cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the respective assets. Maintenance and repairs are charged to operations as incurred. Upon sale or retirement of assets, the cost and related accumulated depreciation are removed from the balance sheet and resulting gain or loss, if any, is included in the consolidated statement of operations. The useful lives of equipment are as follows:

Research and development equipment	5 years
Computer equipment	3 years

Long-Lived Assets

The Company evaluates its long-lived assets, including equipment, for impairment whenever events or changes in circumstances indicate the carrying value of these assets may not be recoverable. Recoverability of these assets is measured by comparison of the carrying amount of each asset to the future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. If the asset is considered impaired, the amount of any impairment is measured as the difference between the carrying value and the fair value of the impaired assets. The Company has not recorded impairment of any long-lived assets in the periods presented.

Offering Costs

Offering costs consist of certain legal, accounting, and other advisory fees incurred related to the Company's efforts to raise debt and equity capital. Offering costs in connection with equity financing are recognized as either an offset against the financing proceeds to extent the underlying security is equity classified or a current period expense to extent the underlying security is liability classified or for which the fair value option is elected. Except for debt for which the fair value option is elected, offering costs, lender fees, and warrants issued in connection with debt financing are recognized as debt discount, which reduces the reported carrying value of the debt, and amortized as interest expense, generally over the contractual term of the debt agreement, to result in a constant rate of interest. Offering costs associated with in-process capital financing are accounted for as deferred offering costs.

Research and Development Expenses

Research and development expenses are recognized as incurred and include the salary and stock-based compensation of employees engaged in product research and development activities, and the costs related to the Company's various contract research service providers, suppliers, engineering studies, supplies, and outsourced testing and consulting, as well as rental costs for equipment and access to certain facilities of contract research service providers.

Patent Costs and Purchased Patent License Rights

Patent related costs in connection with filing and prosecuting patent applications and patents filed by the Company are expensed as incurred and are included in the line item captioned "general and administrative expenses" in the accompanying consolidated statements of operations. Patent fee reimbursement expense incurred under the patent license agreement agreements are included in the line item captioned "research and development expenses" in the accompanying consolidated statements of operations. The purchase of patent license rights for use in research and development activities, including product development, are expensed as incurred and are classified as research and development expense.

Note 2 — Summary of Significant Accounting Policies - continued

Stock-Based Compensation

Stock-based awards are made to employees, members of its board of directors, and non-employees, under each of the PAVmed Inc. 2014 Long-Term Incentive Equity Plan and the Lucid Diagnostics Inc. 2018 Long-Term Incentive Equity Plan. Stock-based awards to employees and members of the Company's board of directors are accounted for in accordance with FASB ASC Topic 718, *Stock Compensation*, ("ASC 718") and stock-based awards to non-employees are accounted for in accordance with FASB ASC Topic 505-50, *Equity-Based Payments to Non-Employees* ("ASC 505-50"). See herein below for a discussion of "ASU 2018-07" with respect to ASC 505-50 non-employee stock-based compensation.

The Company measures the compensation expense of stock-based awards granted to employees and members of its board of directors using the grant-date fair value of the award and recognizes compensation expense for stock-based awards on a straight-line basis over the requisite service period, which is generally the vesting period of the respective stock-based award.

The Company measures the expense of stock-based awards granted to non-employees on a vesting date basis, fixing the fair value of vested non-employee stock options as of their respective vesting date. The fair value of vested non-employee stock options is not subject-to-change at subsequent reporting dates. The estimated fair value of the unvested non-employee stock options is remeasured to then current fair value at each subsequent reporting date. The expense of non-employee stock options is recognized on a straight-line basis over the service period, which is generally the vesting period of the respective non-employee stock-based award.

On June 20, 2018, the FASB issued its Accounting Standards Update ("ASU") 2018-07,*Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*" ("ASU 2018-07), which, upon the effective date, will result in non-employee stock-based compensation to be within the scope of ASC-718, and will supersede ASC 505-50. A principal change of the new guidance is to eliminate the ASC 505-50 required periodic fair value remeasure ("mark-to-market") and use of the "contractual term" as an input to the Black-Scholes option pricing model to calculate the estimated fair value of stock options issued to non-employees, in favor of the ASC 718 one-time measurement of the grant date fair value and use of an "expected term" as such valuation input, for non-employee stock-based compensation expense, as is currently done for employee stock-based compensation expense.

The amended ASC-718 non-employee stock-based compensation provisions are effective for public companies for fiscal years beginning after December 15, 2018, including interim periods within such fiscal year, and for all other companies for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Early adoption is permitted, but no earlier than a company's adoption of ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606). With respect to the Company and its majority-owned subsidiary, the amended ASC-718 non-employee stock-based compensation provisions are required to be adopted by no later than January 1, 2020, resulting from the Company's "JOBS Act EGC Election" as discussed herein above. Additionally, the Company, under its "JOBS Act EGC Election", is required to adopt ASC 606 by no later than January 1, 2019, which is the current required adoption date of ASC 606 for private companies. As such, at this time, the Company and its majority-owned subsidiary continue to apply the guidance of ASC-505-50 with respect to non-employee stock-based compensation, subject-to the future adoption date(s) of ASC-606 and the ASU 2018-07 amended ASC 718.

Note 2 — Summary of Significant Accounting Policies - continued

Financial Instruments Fair Value Measurements

The Company evaluates its financial instruments to determine if those instruments or any embedded components of those instruments potentially qualify as derivatives required to be separately accounted for in accordance with FASB ASC Topic 815, *Derivatives and Hedging* (ASC 815). The accounting for warrants issued to purchase shares of common stock of the Company is based on the specific terms of the respective warrant agreement, and are generally classified as equity, but may be classified as a derivative liability if the warrant agreement provides required or potential full or partial cash settlement. A warrant classified as a derivative liability, or a bifurcated embedded conversion or settlement option classified as a derivative liability, is initially measured at its issue-date fair value, with such fair value subsequently adjusted at each reporting period, with the resulting fair value adjustment recognized as other income or expense. If upon the occurrence of an event resulting in the derivate liability being subsequently classified as equity or otherwise derecognized, the fair value of the derivative liability will be adjusted on such date-of-occurrence, with such date-of-occurrence fair value adjustment recognized as other income or expense, and then the derivative liability will be derecognized at such date-of-occurrence fair value.

FASB ASC Topic 820, *Fair Value* Measurement, (ASC 820) defines fair value as the price which would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at a transaction measurement date. The ASC 820 three-tier fair value hierarchy prioritizes the inputs used in the valuation methodologies, as follows:

Level 1 Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets which are not active, or other inputs observable or can be corroborated by observable market data.

Level 3 Valuations based on unobservable inputs reflecting the Company's own assumptions, consistent with reasonably available assumptions made by other market participants. These valuations require significant judgment.

As of December 31, 2018 and December 31, 2017, the carrying values of cash, accounts payable, and accrued expenses, approximate their respective fair value due to the short-term nature of these financial instruments.

The Company evaluates its financial instruments to determine if those instruments or any potential embedded components of those instruments qualify as derivatives required to be separately accounted for in accordance with FASB ASC Topic 815, *Derivatives and Hedging* (ASC 815). Warrants are classified as either equity or a derivative liability depending on the specific terms of the respective warrant agreement. The Series A Warrants are accounted for as a derivative liability, as such warrants have an exercise price adjustment provision. Warrants containing a cash settlement provision are accounted for as a derivative liability. A warrant classified as a liability, or a bifurcated embedded derivative classified as a liability, is initially measured at its issue-date fair value, with such fair value subsequently adjusted at each reporting period, with the resulting adjustment recognized as other income or expense. If upon the occurrence of an event resulting in the warrant liability or the embedded derivative liability being subsequently classified as equity, the fair value will be adjusted on such date-of-occurrence, with such date-of-occurrence fair value adjustment recognized as other income or expense, and then it will be classified as equity at such date-of-occurrence adjusted fair value.

The Company accounts for the issued and outstanding Senior Secured Convertible Note under the "FVO election" of ASC 825,*Financial Instruments*, as discussed below. The Senior Secured Convertible Note is principally a debt financial instrument host containing embedded features and /or options which would otherwise be required to be bifurcated from the debt host and recognized as separate derivative liabilities subject to initial and subsequent periodic estimated fair value measurements under ASC 815. Notwithstanding, ASC ASC 825-10-15-4 provides for the "fair value option ("FVO"), to the extent not otherwise prohibited by ASC 825-10-15-5, to be afforded to financial instruments, wherein the financial instrument is initially measured at its issue-date estimated fair value and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date. Further, the estimated fair value adjustment, as required by ASC 825-10-45-5, is recognized as a component of other comprehensive income ("OCI") with respect to the portion of the fair value adjustment attributed to a change in the instrument-specific credit risk, with the remaining amount of the fair value adjustment recognized as other income (expense) in the consolidated statement of operations. With respect to the Company, the "other income (expense) component" of the Senior Convertible Note fair value adjustment is presented in a single line in the consolidated statement of operations, as provided for by ASC 825-10-50-30(b). See Note 11, *Financial Instruments Fair Value Measurements*, and Note 12, *Debt*, for a further discussion of such FVO election and the Senior Secured Convertible Debt.

Note 2 — Summary of Significant Accounting Policies - continued

Income Taxes

The Company accounts for income taxes using the asset and liability method, as required by FASB ASC Topic 740, Income Taxes, (ASC 740). Current tax liabilities or receivables are recognized for the amount of taxes estimated to be payable or refundable for the current year. Deferred tax assets and liabilities are recognized for estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis, along with net operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. See Note 6, *Income Taxes*, for a discussion of the "Tax Cuts and Jobs Act of 2017", enacted on December 22, 2017, which resulted in a change to future years' statutory federal corporate tax rate applicable to taxable income. Changes in deferred tax assets and liabilities are recorded in the provision for income taxes.

Under ASC 740, a "more-likely-than-not" criterion is applied when assessing the estimated realization of deferred tax assets through their utilization to reduce future taxable income, or with respect to a deferred tax asset for tax credit carryforward, to reduce future tax expense. A valuation allowance is established, when necessary, to reduce deferred tax assets, net of deferred tax liabilities, when the assessment indicates it is more-likely-than-not, the full or partial amount of the net deferred tax asset will not be realized. As a result of the evaluation of the positive and negative evidence bearing upon the estimated realizability of net deferred tax assets, and based on a history of operating losses, it is more-likely-than-not the deferred tax assets will not be realized, and therefore a valuation allowance reserve equal to the full amount of the deferred tax assets, net of deferred tax liabilities, has been recognized as a charge to income tax expense as of December 31, 2018 and December 31, 2017.

The Company recognizes the benefit of an uncertain tax position it has taken or expects to take on its income tax return if such a position is more-likely-than-not to be sustained upon examination by the taxing authorities, with the tax benefit recognized being the largest amount having a greater than 50% likelihood of being realized upon ultimate settlement. As of December 30, 2018 the Company does not have any unrecognized tax benefits resulting from uncertain tax positions.

The Company's policy is to record interest and penalties related to income taxes as part of its income tax provision. There were no amounts accrued for penalties or interest as of December 30, 2018 and December 31, 2017 or recognized during the three or nine months ended September 30, 2018 and 2017. The Company is not aware of any issues under review to potentially result in significant payments, accruals, or material deviations from its position.

Net Loss Per Share

The net loss per share is computed by dividing each of the respective net loss by the number of "basic weighted average common shares outstanding" and diluted weighted average shares outstanding" for the reporting period indicated. The basic weighted-average shares common shares outstanding are computed on a weighted average based on the number of days the shares of common stock of the Company are issued and outstanding during the respective reporting period indicated. The diluted weighted average common shares outstanding are the sum of the basic weighted-average common shares outstanding plus the number of common stock equivalents' incremental shares on an if-converted basis, computed using the treasury stock method, computed on a weighted average based on the number of days potentially issued and outstanding during the period indicated, if dilutive. The Company's common stock equivalents include: stock options, unit purchase options, convertible preferred stock, and common stock purchase warrants.

Notwithstanding, as the Company has a net loss for each reporting period presented, each of the basic and diluted net loss per share for each period presented is computed using only the basic weighted average common shares outstanding for each respective reporting period, as the inclusion of common stock equivalents incremental shares would be anti-dilutive.

Accordingly, as presented in the accompanying consolidated statement of operations, basic weighted average common shares outstanding are used to compute the basic and diluted net loss per share attributable to PAVmed Inc. and the basic and diluted net loss per share attributable to PAVmed Inc. common stockholders, for each reporting period presented.

Note 2 — Summary of Significant Accounting Policies - continued

Recent Accounting Pronouncements

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement,* which modifies the disclosure requirements on fair value measurement. The guidance is effective for annual periods beginning after December 15, 2019 and interim periods within those annual periods, and early adoption is permitted. The Company is currently evaluating the impact the standard will have on its consolidated financial statements.

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815) - Part I - Accounting for Certain Financial Instruments with Down-Round Features, and Part II - Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception.* Principally, ASU 2017-11 amendments simplify the accounting for certain financial instruments with down-round features. The amendments require companies to disregard the down-round feature when assessing whether the instrument is indexed to its own stock, for purposes of determining liability or equity classification. Companies that provide earnings per share (EPS) data will adjust their basic EPS calculation for the effect of the down-round feature when triggered (i.e., when the exercise price of the related equity-linked financial instrument is adjusted downward because of the down-round feature) and will also recognize the effect of the trigger within equity. Additionally, ASU 2017-11 also addresses "navigational concerns" within the FASB ASC related to an indefinite deferral available to private companies with mandatorily redeemable financial instruments and certain noncontrolling interests, which has resulted in the existence of significant "pending content" in the ASC. The FASB decided to reclassify the indefinite deferral as a scope exception, which does not have an accounting effect. The guidance of ASU 2017-11 is effective for public business entities, as defined in the ASC Master Glossary, for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and for all other entities, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Earlier adoption is permitted for all entities as of the beginning of an interim period for which financial statements (interim or annual) have not been issued or have not been made available for issuance. The Company is evaluating the impact of this guidance on its consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, *Compensation-Stock Compensation (Topic 718) - Scope of Modification Accounting.* In ASU 2017-09, the FASB provides guidance on determining which changes to the terms and conditions of stock-based compensation arrangements require the application of "modification accounting" under ASC 718. Generally, ASC 718 modification accounting is not applicable if the stock-based arrangement immediately before and after the modification has the same fair value, vesting conditions, and balance sheet classification. The guidance of ASU 2017-09 is effective for all entities for annual periods, and interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted, including adoption in any interim period, for public business entities, as defined in the ASC Master Glossary, for periods for which financial statements have not yet been issued, and for all other entities for reporting periods for which financial statements have not yet been made available for issuance. The Company adopted this guidance as of April 1, 2017, and it did not have an effect on the Company's consolidated financial statements.

In January 2017, the FASB issued ASU 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, which amends the guidance of FASB ASC Topic 805, Business Combinations (ASC 805) adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (disposals) of assets or businesses. The objective of ASU 2017-01 is to narrow the definition of what qualifies as a business under Topic 805 and to provide guidance for streamlining the analysis required to assess whether a transaction involves the acquisition (disposal) of a business. ASU 2017-01 provides a screen to assess when a set of assets and processes do not qualify as a business under Topic 805, reducing the number of transactions required to be considered as possible business acquisitions. ASU 2017-01 also narrows the definition of output under Topic 805 to make it consistent with the description of outputs under Topic 606. The guidance of ASU 2017-01 is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years and early adoption is permitted under certain circumstances. The adoption of this guidance as of January 1, 2018 did not have an effect on the Company's consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, which amended the guidance of FASB ASC Topic 230, Statement of Cash Flows (ASC 230) on the classification of certain cash receipts and payments. The primary purpose of ASU 2016-15 is to reduce the diversity in practice which has resulted from a lack of consistent principles on this topic, including to add or clarify guidance on eight specific cash flow issues, including debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitization transactions, and separately identifiable cash flows and application of the predominance principle. The adoption of this guidance as of January 1, 2018 did not have an effect on the Company's consolidated financial statements.

Note 2 — Summary of Significant Accounting Policies - continued

Recent Accounting Pronouncements (continued)

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* and subsequently issued additional updates amending the guidance contained in Topic 606 (ASC 606), thereby affecting the guidance contained in ASU 2014-09. ASU 2014-09 and the subsequent ASC 606 updates will supersede and replace nearly all existing U.S. GAAP revenue recognition guidance. The core principle of ASU 2014-09 is to recognize revenue when promised goods or services are transferred to customers in an amount equal to the consideration to which the entity expects to be entitled for those goods and services. ASU 2014-09 defines a five step process to achieve this core principle, and in doing so, more judgment and estimates may be required within the revenue recognition process than are required under existing U.S. GAAP. The standard is effective for annual periods beginning after December 15, 2017, including interim periods therein, using either of the following transition methods: (i) a full retrospective approach reflecting the application of the standard in each prior reporting period with the option to elect certain practical expedients, or (ii) a retrospective approach with the cumulative effect of initially adopting the standard recognized at the date of adoption (which includes additional footnote disclosures). To date, since its inception, the Company has not generated any revenue, as such, the provisions of ASC 606 have not impacted the Company's consolidated results of operations or financial condition.

In March 2016, the FASB issued ASU 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations* ("ASU 2016-08"). The amendments are intended to improve the operability and understandability of the implementation guidance on principal versus agent considerations by amending certain existing illustrative examples and adding additional illustrative examples to assist in the application of the guidance. The effective date and transition requirements for the amendments are the same as the effective date and transition requirements in Topic 606. The guidance is effective for the Company beginning January 1, 2018, although early adoption is permitted beginning January 1, 2017. To date, since its inception, the Company has not generated any revenue, as such, the provisions of ASC 606 have not impacted the Company's consolidated results of operations or financial condition.

In April 2016, the FASB issued ASU 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing* ("ASU 2016-10"). The amendments in ASU 2016-10 clarify the following two aspects of Topic 606: (a) identifying performance obligations; and (b) the licensing implementation guidance. The amendments do not change the core principle of the guidance in Topic 606. The effective date and transition requirements for the amendments are the same as the effective date and transition requirements in Topic 606. The guidance is effective for the Company beginning January 1, 2018, although early adoption is permitted beginning January 1, 2017. To date, since its inception, the Company has not generated any revenue, as such, the provisions of ASC 606 have not impacted the Company's consolidated results of operations or financial condition.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* ("ASU 2016-02"), which establishes a right-of-use ("ROU") model requiring a lessee to recognize a ROU asset and a lease liability for all leases with terms greater-than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods with those fiscal years. A modified retrospective transition approach is required for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. The adoption of this guidance did not have a significant effect on the Company's consolidated financial position, results of operations, and cash flows.

Note 3 — Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following as of:

	December 31, 2018	December 31, 2017
Security deposits	$ 14,250	$ 14,250
Advanced payments to service providers and suppliers	223,790	74,217
Total prepaid expenses and other current assets	$ 238,040	$ 88,467

Note 4 — Equipment, Net

	December 31, 2018	December 31, 2017
Research and development equipment	$ 40,380	$ 13,656
Computer equipment	16,584	13,438
Equipment, gross	56,964	27,094
Less: accumulated depreciation	(20,693)	(10,903)
Equipment, net	$ 36,271	$ 16,191

Depreciation expense recognized was $9,790 and $7,110 - inclusive of $4,886 and $4,379 included in “general and administrative expenses”, and $4,904 and $2,731 included in “research and development expenses” in the accompanying consolidated statements of operations, for the year ended December 31, 2018 and 2017, respectively.

The purchases of research and development equipment include $3,261 of such purchases included in accounts payable as of December 31, 2018 in the accompanying consolidated balance sheet.

Note 5 — Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following as of:

	December 31, 2018	December 31, 2017
Bonus	$ 873,621	$ 459,451
Payroll	145,937	125,088
Vacation	38,763	28,722
EsoCheck™ License Agreement fee	222,553	—
Fees - board of directors	—	82,500
Operating expenses	49,872	11,203
Total accrued expenses and other current liabilities	$ 1,330,746	$ 706,964

The accrued bonus as of December 31, 2018 and 2017 represents the guaranteed bonus payment to the Company’s Chief Executive Officer (“CEO”) under the CEO Employment Agreement and discretionary bonus payments to the CEO and other employees.

The Company’s CEO agreed to the payment of a reduced salary of $4,200 per month for the period July 1, 2017 through January 31, 2018, with such earned but unpaid salary to be paid to the CEO only upon the Senior Secured Note first being repaid-in-full. The earned but unpaid salary has been recognized as an accrued salary expense liability of $145,937 and $125,088 as of December 31, 2018 and December 31, 2017, respectively. The accrued CEO payroll was subsequently paid in January 2019 upon the Senior Secured Note being repaid-in-full on December 27, 2018 concurrent with the issue of the Senior Secured Convertible Note. See Note 12 — *Debt*, for a discussion of each of the “Senior Secured Convertible Note” and the “Senior Secured Note”.

The unpaid board of director fees as of December 31, 2018, of $61,250 included in accounts payable, and the fees as of December 31, 2017 included in accrued expense, each represent amounts payable to all non-executive members of the board of directors, including, as of December 31, 2017, $10,000 payable to each of two former board members each previously deemed to be a related party.

The EsoCheck™ License Agreement fee is the remaining unpaid balance of such fee incurred in connection with the EsoCheck™ License Agreement, as discussed in Note 7, *Agreements Related to Acquired Intellectual Property Rights*.

Note 6 — Income Taxes

Income tax (benefit) expense for respective periods noted is as follows:

	Year Ended	
	December 31, 2018	December 31, 2017
Current:		
Federal, state, and local	$ —	$ —
Deferred:		
Federal	(2,990,653)	(105,093)
State and local	(1,825,988)	(471,522)
	(4,816,641)	(576,616)
Less: Valuation allowance reserve	4,816,641	576,616
	$ —	$ —

The reconciliation of the federal statutory income tax rate to the effective income tax rate for respective periods noted is as follows:

	Year Ended	
	December 31,2018	December 31,2017
U.S. federal statutory rate	21.0%	35.0%
U.S. state and local income taxes, net of federal tax benefit	8.3%	5.6%
Permanent differences	(2.8)%	(2.3)%
Tax credits	—%	1.2%
Change in U.S. federal tax law	—%	(19.4)%
Valuation allowance	(26.5)%	(20.1)%
Effective tax rate	0.0%	0.0%

The approximate tax effects of temporary differences which give rise to the net deferred tax assets for respective periods noted are as follows:

	Year Ended	
	December 31,2018	December 31,2017
Deferred tax assets:		
Net operating loss	$ 7,155,358	$ 4,309,231
Non-deductible interest expense	247,938	—
Debt issue costs	426,817	—
Stock-based compensation expense	586,164	201,950
Patent licenses	15,826	17,077
Research and development tax credit carryforward	91,535	194,345
Accrued expenses	12,123	8,981
Section 195 deferred start-up costs	24,286	26,445
Deferred tax assets	8,560,047	4,758,029
Deferred tax liabilities:		
Discount on debt	—	(1,014,484)
Depreciation	(2,766)	(2,904)
Deferred tax liabilities	(2,766)	(1,017,388)
Deferred tax assets, net of deferred tax liabilities	8,557,281	3,740,641
Less: valuation allowance	(8,557,281)	(3,740,641)
Deferred tax assets, net after valuation allowance	$ —	$ —

Deferred tax assets and deferred tax liabilities resulting from temporary differences are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of the change in the tax rate is recognized as income or expense in the period the change in tax rate is enacted. As discussed below, the “Tax Cuts and Jobs Act” enacted in December 2017 resulted in a change to future years’ statutory federal corporate tax rate applicable to taxable income. Changes in deferred tax assets and deferred tax liabilities are recorded in the provision for income taxes.

Note 6 — Income Taxes - continued

The "Tax Cuts and Jobs Act" (Public Law No. 115-97), enacted on December 22, 2017, is a comprehensive revision to federal tax law which makes broad and complex changes to the U.S. tax code, including, but not limited to, reducing the U.S. federal corporate tax rate to 21% from 35%, eliminating the corporate alternative minimum tax (AMT), and changing how existing AMT credits can be realized; creating a new limitation on deductible interest expense; changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017; and limitations on the deductibility of certain executive compensation.

In December 2017, the SEC issued Staff Accounting Bulletin No. 118 ("SAB 118"), which addresses situations where the accounting is incomplete for the income tax effects of the Tax Cut and Jobs Act. SAB 118 directs taxpayers to consider the impact of the Tax Cut and Jobs Act as "provisional" when the Company does not have the necessary information available, prepared, or analyzed, including computations, to finalize the accounting for the changes resulting from the Tax Act of 2017. Companies are provided a measurement period of up to one year to obtain, prepare, and analyze information necessary to finalize the accounting for provisional amounts or amounts that cannot be estimated as of December 31, 2017. With regards to the Tax Cut and Jobs Act impact on our tax provision for the year ended December 31, 2017, we have recognized the provisional impact of the revaluation of deferred tax assets and deferred tax liabilities to 21% from 35%, which was fully offset by a corresponding change in the valuation allowance applied to the net deferred tax assets. Specifically, as of December 31, 2017, the revaluation of deferred tax assets and deferred tax liabilities to 21% from 35%, resulted in the recognition of approximately $1.6 million tax expense, with such tax expense fully offset by a corresponding change in the valuation allowance applied to the net deferred tax assets. As of December 31, 2018, there was no change in such estimated amount.

As required by FASB ASC Topic 740, *Income* Taxes", ("ASC 740), a "more-likely-than-not" criterion is applied when assessing the estimated realization of deferred tax assets through their utilization to reduce future taxable income, or with respect to a deferred tax asset for tax credit carryforward, to reduce future tax expense. A valuation allowance is established, when necessary, to reduce deferred tax assets, net of deferred tax liabilities, when the assessment indicates it is more-likely-than-not, the full or partial amount of the net deferred tax asset will not be realized. Accordingly, the Company evaluated the positive and negative evidence bearing upon the estimated realizability of the net deferred tax assets, and based on the Company's history of operating losses, concluded it is more-likely-than-not the deferred tax assets will not be realized, and therefore recognized a valuation allowance reserve equal to the full amount of the deferred tax assets, net of deferred tax liabilities, as of December 31, 2018 and 2017.

The Company has total estimated federal and state net operating loss ("NOL") carryforward of approximately $22.9 million and $13.8 million as of December 31, 2018 and 2017, respectively, which is available to reduce future taxable income and begin to expire in 2035. The Company has total estimated research and development ("R&D") tax credit carryforward of $91,535 and $194,345 as of December 31, 2018 and 2017, respectively, with the R&D tax credit carryforward available to reduce future tax expense, and begin to expire in 2035.

The Company files income tax returns in the United States in federal and applicable state and local jurisdictions. The Company's tax filings for the years 2015 and thereafter each remain subject to examination by taxing authorities. The Company's policy is to record interest and penalties related to income taxes as part of its income tax provision. The Company has not recognized any penalties or interest related to its income tax provision.

Note 7 — Agreements Related to Acquired Intellectual Property Rights

Patent License Agreement - Case Western Reserve University - EsoCheck™ Technology

On May 12, 2018, Lucid Diagnostics Inc., a majority-owned subsidiary of the Company, entered into a patent license agreement with Case Western Reserve University ("CWRU"), referred to as the "EsoCheck™ License Agreement". See Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a discussion of the Company's majority-owned subsidiary Lucid Diagnostics Inc. and the corresponding noncontrolling interest.

The EsoCheck™ License Agreement provides for the exclusive worldwide license of the intellectual property rights for the proprietary technologies of two distinct components - the "EsoCheck™ Cell Collection Device™" referred to as the "EsoCheck™ CCD™", and the EsoCheck™ EsoGuard™, a panel of methylated DNA biomarkers, and together are collectively referred to as the "EsoCheck™ Technology".

Under the EsoCheck™ License Agreement, Lucid Diagnostics Inc. incurred a payment obligation to CWRU of approximately $273,000, referred to as the "EsoCheck™ License Agreement Fee", with such license fee requiring an initial payment of $50,000, which the Company has paid, and quarterly payments of $50,000 until such fee is paid-in-full, provided, however, the commencement of such quarterly payments is subject to Lucid Diagnostics Inc. consummation of a bona fide financing with an unrelated third-party in excess of $500,000. In this regard, as of December 31, 2018, the remaining balance of the EsoCheck™ License Agreement is unpaid and has been recognized as an accrued expense liability.

On the May 12, 2018 effective date of the EsoCheck™ License Agreement, the EsoCheck™ License Agreement fee was recognized as a current period research and development expense in the consolidated statement of operations, with the remaining unpaid balance included in accrued expenses and other current liabilities in the consolidated balance sheet. The EsoCheck™ License Agreement was determined to not meet the "business combination" criteria under FASB ASC Topic 805, *Business Combinations* ("ASC 805"), as such license agreement did not meet the ASC 805 definition of a business, as the transaction resulted in an intangible asset of acquired intellectual property rights only, and the Company did not acquire any employees or tangible assets, or any processes, protocols, or operating systems. Accordingly, the transaction was determined to be to be an asset acquisition under ASC 805. Further, as noted, the cost of the acquired intellectual property rights were recognized as a current period research and development expense, as required under FASB ASC Topic 730, *Research and Development* (ASC 730), as the acquired intellectual property rights were purchased from others for use in a research and development activity, and for which there are no alternative future uses.

The EsoCheck™ License Agreement also provides for potential payments upon the achievement of certain product development and regulatory clearance milestones. If Lucid Diagnostics Inc. does not meet certain milestones listed in the EsoCheck™ License Agreement, then CWRU has the right, in its sole discretion, to require the Company to transfer to CWRU a percentage, varying up to 100%, of the shares of common stock of Lucid Diagnostics Inc. held by the Company. Lucid Diagnostics Inc. will also be required to pay a minimum annual royalty commencing the year after the first commercial sale of products resulting from the commercialization of the EsoCheck™ Technology, with the minimum amount rising based on net sales of such product(s), if any. Such contingent milestone and /or royalty payments, if any, will be recognized in the period in which such payment obligations are incurred. Reimbursement of patent fees under the EsoCheck™ License Agreement of $20,978 were recognized as research and development expense in 2018.

The EsoCheck™ License Agreement terminates upon the expiration of certain related patents, or on May 12, 2038 in countries where no such patents exist, or upon expiration of any exclusive marketing rights granted by the FDA or other U.S. government agency, whichever comes later.

The three physician inventors of the EsoCheck™ Technology, each entered into consulting agreements with Lucid Diagnostics Inc. to continue to support the development of the EsoCheck™ Technology. In addition to cash compensation based on a contractual rate per hour, additional compensation under each such consulting agreement includes: the grant of stock options under the Lucid Diagnostics Inc. 2018 Long-Term Incentive Equity Plan to each individual to purchase 100,000 shares of common stock of Lucid Diagnostics Inc. at an exercise price of $0.50 per share of such common stock; and, the grant under the PAVmed Inc. 2014 Long-Term Incentive Plan of stock options to each individual to purchase 25,000 shares of PAVmed Inc. common stock at an exercise price of $1.59 per share of such common stock. See Note 10, *Stock-Based Compensation*, for information regarding each of the "PAVmed Inc. 2014 Long-Term Incentive Plan" and the separate "Lucid Diagnostics Inc 2018 Long-Term Incentive Equity Plan", with respect to the stock options granted as discussed above.

Note 7 — Agreements Related to Acquired Intellectual Property Rights - continued

Patent License Agreement - Case Western Reserve University - EsoCheck™ Technology (continued)

In June 2018, Lucid Diagnostics Inc. entered into a contract development and manufacturing organization (CDMO) agreement with an unrelated third-party for the supply of the "EsoCheck™ CCD™", principally for use in research and development activities - referred to herein as the "EsoCheck™ CCD™ CDMO Supply Agreement". The EsoCheck™ CCD™ CDMO Supply Agreement contains a firm price per unit, and a contractual EsoCheck™ CCD™ purchase minimum quantity, is cancellable with 10 day notice, among other routine and customary provisions. With respect to the EsoCheck™ CCD™ purchase contractual minimum quantity, if Lucid Diagnostics Inc. terminates the EsoCheck™ CCD™ CDMO Supply Agreement without "good reason", as defined, prior to placing purchase orders for 5,000 units of the EsoCheck™ CCD™, then Lucid Diagnostics Inc. will make a single one-time $50,000 payment to the unrelated third-party CDMO. The minimum quantity contingent payment, if any, will be recognized as a current period expense if and when such payment obligation is incurred. Further, in June 2018 Lucid Diagnostics Inc. entered into a separate consulting agreement with the owner of the unrelated third-party supplier of the EsoCheck™ CCD™, with the sole compensation under such consulting agreement being the June 2018 issue of 75,000 Lucid Diagnostics Inc. stock options with an exercise price of $1.00 per share of common stock of Lucid Diagnostics Inc. See Note 10, *Stock-Based Compensation*, for information regarding the separate "Lucid Diagnostics Inc 2018 Long-Term Incentive Equity Plan".

Patent License Agreement - Tufts University - Antimicrobial Resorbable Ear Tubes

In November 2016, the Company executed a Patent License Agreement (the "Tufts Patent License Agreement") with Tufts University and its co-owners, the Massachusetts Eye and Ear Infirmary and Massachusetts General Hospital (the "Licensors"). Pursuant to the Tufts Patent License Agreement, the Licensors granted the Company the exclusive right and license to certain patents in connection with the development and commercialization of antimicrobial resorbable ear tubes based on a proprietary aqueous silk technology conceived and developed by the Licensors.

Upon execution of the Tufts Patent License Agreement, the Company paid the Licensors an upfront non-refundable fee of $50,000, with such fee recognized as of the transaction date as a current period research and development expense in the statement of operations. The Tufts Patent License Agreement was determined not to be meet the "business combination" criteria under FASB ASC Topic 805, *Business Combinations* ("ASC 805"), as such license agreement did not meet the ASC 805 definition of a business, as the transaction resulted in an intangible asset of acquired intellectual property rights only, and the Company did not acquire any employees or tangible assets, or any processes, protocols, or operating systems. Accordingly, the transaction was determined to be to be an asset acquisition under ASC 805. Further, the cost of the acquired intellectual property rights were recognized as a current period research and development expense, as required under ASC Topic 730, *Research and Development* (ASC 730), as the acquired intellectual property rights were purchased from others for use in a research and development activity, and for which there are no alternative future uses.

The Tufts Patent License Agreement also provides for potential payments from the Company to the Licensors upon the achievement of certain product development and regulatory clearance milestones as well as royalty payments on net sales upon the commercialization of products developed utilizing the licensed patents. The Company will recognize as a current period expense for contingent milestone payments or royalties in the period in which such payment obligations are incurred, if any. Reimbursement of patent fees under the Tufts Patent License Agreement of $113,688 and $67,501 were recognized as research and development expense in 2018 and 2017, respectively.

Note 8 — Related Party Transactions

Effective October 31, 2018, a management services agreement, previously effective October 2015, with HCP/Advisors LLC, an affiliate of a former director of the Company, expired and was not renewed by the Company. Under such agreement, the Company paid HCP/Advisors LLC an initial first month's fee of $35,000 commencing as of November 1, 2015, and thereafter, a monthly fee of $25,000 through October 31, 2018. The Company incurred an expense of $225,000 and $300,000 in 2018 and 2017, respectively, with such fees included in "general and administrative expenses" in the accompanying consolidated statements of operations.

Previously, effective September 2016, the Company and HCFP/Strategy Advisors LLC, an affiliate of certain former directors and current officers of the Company, entered into a management consulting agreement referred to as the "HCFP Strategic Advisory Agreement", which expired on May 14, 2017, as discussed below. Under the HCFP Strategic Advisory Agreement, HCFP/Strategy Advisors LLC had been engaged for an initial term of five months from September 14, 2016 to February 14, 2017, with an initial total fee of $110,000, including $30,000 paid upon execution of the agreement and four payments of $20,000 per month from October 2016 to January 2017. Subsequently, on February 17, 2017, the Company and HCFP/Strategy Advisors LLC executed an extension of the HCFP Strategic Advisory Agreement, effective as of February 15, 2017, extending the services from February 15, 2017 to May 14, 2017, and obligating the Company to make payments of $20,000 per month in each of February, March, and April 2017. The Company did not further renew the HCFP Strategic Advisory Agreement after its May 14, 2017 expiration date. Previously, at December 31, 2016, the Company recognized a $10,000 estimated accrued expense liability for HCFP/Strategy Advisors LLC asserted out-of-pocket expenses under the HCFP Strategic Advisory Agreement in effect as of December 31, 2016, with such estimated accrued expense liability reversed as of June 30, 2017, as supporting documentation had not been provided by HCFP/Strategy Advisors LLC. Accordingly, as of June 30, 2017, the Company had made all contractually obligated payments, and disclaimed any further payment obligations, under the HCFP Strategic Advisory Agreement.

Separately, at June 30, 2017, the Company recognized a $10,000 accrued expense liability in connection with a HCFP/Strategy Advisors LLC vendor invoice dated June 30, 2017 in the amount of $10,000 for professional services fees related to separate discrete discussions between the Company's management and HCFP /Strategy Advisors LLC conducted between the period of May 15, 2017 to May 31, 2017 regarding corporate matters. Such discussions were separate and apart from the previously expired HCFP Strategic Advisory Agreement. The Company incurred total expense of $80,000 in 2017 in total under the HCFP Strategic Advisory Agreement and the discrete invoice dated June 30, 2017, each as noted above, which is included in "General and administrative expenses" in the accompanying consolidated statements of operations.

Previously, in January 2017, the Company entered into an agreement with Xzerta Trading LLC d/b/a HCFP/Capital Markets ("HCFP/Capital Markets"), an affiliate of certain former directors and current officers of the Company, which has since expired, for HCFP/Capital Markets to be the Company's exclusive placement agent for the Series A Preferred Stock Units private placement transaction ("the HCFP/Capital Markets Placement Agent Agreement"), wherein, HCFP/Capital Markets was paid a fee of $177,576 representing 7.0% of the gross proceeds realized in such offering, with such fee included in the line item captioned "Loss on issuance of Series A Preferred Stock Units issued in a private placement" as a component of other income (expense) in the accompanying consolidated statements of operations. See Note 13, *Preferred Stock*, for a further discussion of the Series A Preferred Stock Units private placement.

Previously, effective June 30, 2017, the Company and Michael J. Glennon, Vice Chairman and member of the board of directors, agreed to terminate the consulting agreement in effect since October 1, 2016. The Company did not incur any expense or payment obligation under this consulting agreement, as effective as of December 31, 2016, Mr. Glennon waived his right to compensation under the consulting agreement for the year ended December 31, 2016, and, effective as of March 31, 2017, Mr. Glennon further waived his right to compensation under the consulting agreement for the six months ended June 30, 2017.

Note 9 — Commitments and Contingencies

Lease

The Company's corporate office lease is on a month-to-month basis, with a 5% per annum increase in the monthly lease payment effective February 1 of each year, and the lease agreement may be cancelled with three months written notice. Total rent expense incurred under the corporate office space lease arrangement was $125,186 and $147,276 for 2018 and 2017, respectively. As of December 31, 2018, the Company's future minimum lease payments for the corporate office lease on a month-to-month basis are estimated to be approximately $131,500 for the period January 1, 2019 to December 31, 2020.

Legal Proceedings

The Company executed a "Settlement Agreement & Mutual Releases", dated December 12, 2018, resulting in the Company making a settlement payment of $136,606, inclusive of plaintiff's legal fees of $11,006, to a former financial advisor to the Company. Previously, on July 2, 2018, such former financial advisor filed a complaint in New York State court of a claim of breach of contract based on the Company's purported failure to pay certain compensation claimed by the former financial advisor and seeking monetary damages to be determined at trial of not less than $125,400.

In the ordinary course of our business, particularly as we begin commercialization of our products, the Company may be subject to certain other legal actions and claims, including product liability, consumer, commercial, tax and governmental matters, which may arise from time to time. Except as otherwise noted herein, the Company does not believe it is currently a party to any other pending legal proceedings. Notwithstanding, legal proceedings are subject-to inherent uncertainties, and an unfavorable outcome could include monetary damages, and excessive verdicts can result from litigation, and as such, could result in a material adverse impact on the Company's business, financial position, results of operations, and /or cash flows. Additionally, although the Company has specific insurance for certain potential risks, the Company may in the future incur judgments or enter into settlements of claims which may have a material adverse impact on the Company's business, financial position, results of operations, and /or cash flows.

Employment Agreements

The Company has entered into employment agreements with each of: Dr. Lishan Aklog, M.D., Chief Executive Officer, with an annual base salary of $431,000 and an expiration date of December 31, 2019; Dennis M. McGrath, President and Chief Financial Officer, with an annual base salary of $345,000 and an expiration date of March 20, 2019; and, Dr. Brian J. deGuzman, M.D., Chief Medical Officer, with an annual base salary of $305,000 and an expiration date of June 30, 2021. Under the terms of the respective employment agreements, if the Company terminates employment without cause, or if such executive officer terminates his employment with the Company for good reason, each as defined in the respective employment agreement, then, Dr. Aklog may receive severance compensation payments equal to 150% of his base salary in effect at the time of the employment termination from the initial date of employment termination through the expiration date of his respective employment agreement; Mr. McGrath may receive 100% of the base salary in effect at the time of employment termination from the initial date of employment termination through six months thereafter; and, Dr. deGuzman may receive 100% of the base salary in effect at the time of the employment termination from the initial date of employment termination through the expiration date of his respective employment agreement. The contingent severance compensation payment(s) obligations, if any, will be recognized as a current period expense if and when such payment obligation is incurred.

Subsequently, effective March 15, 2019, the Company amended and restated the employment agreements for each of Dr. Aklog and Mr. McGrath, for an initial term of 3 years, with an automatic renewal of one year, unless terminated earlier, generally with a sixty notice requirement or thirty days for termination for cause, as defined. Upon termination without cause by the Company or voluntarily on the part of Dr. Aklog or Mr. McGrath for good reason, as defined, each may receive severance payments equal to 100% of base salary for twelve months, a pro-rata bonus for the year of termination, and up to twelve months of Company provided health insurance benefits. If termination occurs as a result of a change of control, as defined, then the base salary severance would be for twenty-four months. The employment agreements require confidentiality and non-competition from each of Dr. Aklog and Mr. McGrath for specified time periods. Additionally, Dr. Aklog's employment agreement provides additional compensation with respect to the payment of certain transportation and membership fees. Further, on March 15, 2019, Dr. Aklog and Mr. McGrath were each awarded 200,000 and 500,000 restricted stock awards, respectively, under the PAVmed Inc. 2014 Long-Term Incentive Equity Plan, each representing a corresponding number of shares of common stock of the Company, which vest ratably on an annual basis, with the first vesting date of March 15, 2020 and a final vesting date of March 15, 2022. See Note 10, *Stock Based Compensation*, for further information with respect to the PAVmed Inc. 2014 Long-Term Incentive Equity Plan.

Note 10 — Stock-Based Compensation

PAVmed Inc. 2014 Long-Term Incentive Equity Plan

The PAVmed Inc. 2014 Long-Term Incentive Equity Plan (the "PAVmed Inc. 2014 Equity Plan"), adopted by the Company's board of directors and stockholders in November 2014, is designed to enable the Company to offer employees, officers, directors, and consultants, as defined, an opportunity to acquire a proprietary interest in the Company. The types of awards that may be granted under the PAVmed Inc. 2014 Equity Plan include stock options, stock appreciation rights, restricted stock, and other stock-based awards subject to limitations under applicable law. All awards are subject to approval by the compensation committee of the Company's board of directors.

Stock options outstanding under the PAVmed Inc. 2014 Equity Plan is summarized as follows:

PAVmed Inc. 2014 Equity Plan	Number Stock Options	Weighted Average Exercise Price	Aggregate Intrinsic Value
Outstanding at December 31, 2017	1,936,924	$ 5.19	
Granted	1,585,324	$ 2.01	
Exercised	—	$ —	
Forfeited	(195,108)	$ 5.00	
Outstanding at December 31, 2018	3,327,140	$ 3.68	$ —
Vested and exercisable at December 31, 2018	1,620,310	$ 4.40	$ —
Unvested at December 31, 2018	1,656,830	$ 2.73	$ —
Outstanding at December 31, 2016	1,633,313	$ 5.14	
Granted	380,000	$ 5.35	
Exercised	—	$ —	
Forfeited	(76,389)	$ 5.00	
Outstanding at December 31, 2017	1,936,924	$ 5.19	$ —
Vested and exercisable at December 31, 2017	964,080	$ 5.14	$ —
Unvested at December 31, 2017	972,844	$ 5.23	$ —

The aggregate intrinsic value is computed as the difference between the quoted price of the PAVmed Inc. common stock on each of December 31, 2018 and 2017 and the exercise price of the underlying PAVmed Inc. stock options, to the extent such quoted price is greater than the exercise price.

As of December 31, 2018, a total of 5,951,081 shares of common stock of PAVmed Inc. are reserved for issuance under the PAVmed Inc. 2014 Equity Plan, of which, 3,124,795 shares are available for grant under such plan, exclusive of 500,854 PAVmed Inc. stock options granted outside the PAVmed Inc. 2014 Equity Plan, including 250,000 in 2017.

As of December 31, 2018, under the PAVmed Inc. 2014 Equity Plan, the weighted average remaining contractual term was 8.3 years for stock options outstanding and 7.8 years for stock options vested and exercisable.

As noted above, during the year ended December 31, 2018, an aggregate of 1,585,324 stock options were granted under the PAVmed Inc. 2014 Equity Plan, each with a ten year contractual term from date-of-grant, including:

- January 2018 - 175,000 PAVmed Inc. stock options were granted to a new hire employee, having an exercise price of $2.96 per share of common stock of PAVmed Inc. and vesting ratably on a quarterly basis commencing March 31, 2018 and ending December 31, 2020;

- February 2018 - a total of 500,000 PAVmed Inc. stock options were granted to non-executive members of the Company's board of directors, and a total of 590,216 PAVmed Inc. stock options were granted to employees, each having an exercise price of $2.01 per share of common stock of PAVmed Inc. and vesting ratably on a quarterly basis commencing March 31, 2018 and ending December 31, 2020; and,

- May 2018 - a total of 75,000 PAVmed Inc. stock options were granted, including 25,000 stock options granted to each of the three non-employee "EsoCheck™ Technology" physician inventors under each of their respective consulting agreements with Lucid Diagnostics Inc., having an exercise price of $1.59 per share of common stock of PAVmed Inc. and vesting ratably on a quarterly basis commencing June 30, 2018 and ending March 31, 2021. See Note 7, *Agreements Related to Acquired Intellectual Property Rights*, for a discussion of the "EsoCheck™ Technology" and the corresponding "EsoCheck™ License Agreement" between Lucid Diagnostics Inc. and Case Western Reserve University and the consulting agreements between the three individual physicians and Lucid Diagnostics Inc.

Note 10 — Stock-Based Compensation - continued

PAVmed Inc. 2014 Long-Term Incentive Equity Plan - continued

- July 2018 - 195,108 PAVmed Inc. stock options were granted to a new hire employee, having an exercise price of $1.58 per share of common stock of PAVmed Inc. and vesting ratably on a quarterly basis commencing September 30, 2018 and ending June 30, 2021.

- November 2018 - 50,000 PAVmed Inc. stock options were granted to a new hire employee having an exercise price of $0.97 per share of common stock of PAVmed Inc. and vesting ratably on a quarterly basis commencing December 31, 2018 and ending September 30, 2021.

In February 2018, a total of 195,108 stock options, previously granted under the PAVmed Inc. 2014 Equity Plan, were forfeited in connection with the resignation of two members from the Company's board of directors.

Lucid Diagnostics Inc. 2018 Long-Term Incentive Equity Plan

The Lucid Diagnostics Inc. 2018 Long-Term Incentive Equity Plan (the "Lucid Diagnostics Inc. 2018 Equity Plan") became effective on May 12, 2018 and is separate from the PAVmed Inc. 2014 Equity Plan discussed above. The Lucid Diagnostics Inc. 2018 Equity Plan is designed to enable Lucid Diagnostics Inc. to offer employees, officers, directors, and consultants, as defined, an opportunity to acquire shares of common stock of Lucid Diagnostics Inc. The types of awards that may be granted under the Lucid Diagnostics Inc. 2018 Equity Plan include stock options, stock appreciation rights, restricted stock, and other stock-based awards subject to limitations under applicable law. All awards are subject to approval by the Lucid Diagnostics Inc. board of directors.

Stock options outstanding under the Lucid Diagnostics Inc. 2018 Equity Plan is summarized as follows:

Lucid Diagnostics Inc. 2018 Equity Plan	Number Stock Options		Weighted Average Exercise Price
Outstanding at December 31, 2017	—	$	—
Granted	375,000	$	0.60
Exercised	—	$	—
Forfeited	—	$	
Outstanding at December 31, 2018	375,000	$	0.60
Vested and exercisable at December 31, 2018	87,500	$	0.57
Unvested at December 31, 2018	287,500	$	0.61

A total of 2,000,000 shares of common stock of Lucid Diagnostics Inc. are reserved for issuance under the Lucid Diagnostics Inc. 2018 Equity Plan. In this regard, as of September 30, 2018, 1,625,000 shares of common stock of Lucid Diagnostics Inc. were available for grant under the Lucid Diagnostics Inc. 2018 Equity Plan.

As of December 31, 2018, the weighted average remaining contractual term was 9.4 years for both stock options outstanding and stock options vested and exercisable under the Lucid Diagnostics Inc. 2018 Equity Plan.

As noted above, during the year ended December 31, 2018, an aggregate of 375,000 Lucid Diagnostics Inc. stock options were granted under the Lucid Diagnostics Inc. 2018 Equity Plan, each with a ten year contractual term from date-of-grant, including:

- May 2018 - under their respective consulting agreements with Lucid Diagnostics Inc., each of the three non-employee "EsoCheck™ Technology" physician inventors were granted 100,000 stock options under the Lucid Diagnostics Inc. 2018 Equity Plan to purchase shares of common stock of Lucid Diagnostics Inc. at an exercise price of $0.50 per share of common stock of Lucid Diagnostics Inc., with such stock options vesting ratably on a quarterly basis commencing June 30, 2018 and ending March 31, 2021. See Note 7, *Agreements Related to Acquired Intellectual Property Rights*, for a discussion of the "EsoCheck™ Technology" and the corresponding "EsoCheck™ License Agreement" between Lucid Diagnostics Inc. and Case Western Reserve University; and the consulting agreements between the three individual physicians and Lucid Diagnostics Inc; and,

- June 2018 - under a consulting agreement between Lucid Diagnostics Inc., as sole compensation under such consulting agreement, the unrelated third party owner of the manufacturing firm of the "EsoCheck™ CCD™ CDMO Supply Agreement", was granted 75,000 stock options under the Lucid Diagnostics Inc. 2018 Equity Plan to purchase shares of common stock of Lucid Diagnostics Inc. at an exercise price of $1.00 per share of common stock of Lucid Diagnostics Inc., with such stock options vesting ratably on a quarterly basis commencing September 30, 2018 and ending June 30, 2021. See Note 7, *Agreements Related to Acquired Intellectual Property Rights*, for a discussion of each of the separate consulting agreement and the EsoCheck™ CCD™ CDMO Supply Agreement.

Note 10 — Stock-Based Compensation (continued)

Subsequently, an aggregate of 1,600,000 stock options were granted under the PAVmed Inc. 2014 Equity Plan, including 800,000 such stock options granted to non-executive members of the Company's board of directors and 800,000 of such stock options granted to employees, each with a grant date of March 7, 2019, an exercise price of $1.00 per share of PAVmed Inc common stock, vesting ratably on a quarterly basis commencing March 31, 2019 and ending December 31, 2021, and a ten year contractual term from date-of-grant.

Subsequently, in connection with a new hire employee, the following stock options were granted: (i) 150,000 stock options were granted under the PAVmed Inc. 2014 Equity Plan, with a grant date of March 7, 2019, an exercise price of $1.00 per share of common stock of PAVmed Inc., vesting ratably on a quarterly basis commencing March 31, 2019 and ending December 31, 2021, and a ten year contractual term from date-of-grant; and, (ii) 300,000 stock options were granted under the Lucid Diagnostics Inc. 2018 Long-Term Incentive Equity Plan, with a grant date of February 18, 2019, an exercise price of $1.00 per share of common stock of Lucid Diagnostics Inc., and with 200,000 such stock options vesting immediately upon grant, and 100,000 of such stock options vesting ratably on a quarterly basis commencing March 31, 2019 and ending December 31, 2021, and having a ten year contractual term from date-of-grant. In addition to the 300,000 Lucid Diagnostics Inc. stock options granted on February 18, 2019, such new hire employee is eligible for a separate grant of 200,000 Lucid Diagnostics Inc stock options upon achievement of certain product development objective(s), with the achievement of such objective(s) determined solely by the Lucid Diagnostics Inc. board of directors.

Subsequently, as discussed in Note 9, *Commitments and Contingencies*, under the caption "Employment Agreements", a total of 700,000 restricted stock awards were granted under the PAVmed Inc. 2014 Equity Plan, representing a corresponding number of shares of common stock of the Company, which vest ratably on an annual basis, with the first vesting date of March 15, 2020 and a final vesting date of March 15, 2022.

Stock-Based Compensation Expense

Consolidated stock-based compensation expense recognized for both the PAVmed Inc. 2014 Equity Plan and the Lucid Diagnostics Inc. 2018 Equity Plan, for the periods indicated, was as follows:

	Year Ended December 31,	
	2018	2017
General and administrative expenses	$ 948,143	$ 925,534
Research and development expenses	280,556	122,593
Total	$ 1,228,699	$ 1,048,127

The stock-based compensation expense related to stock options granted to employees and directors is based on the grant-date fair value, and for stock options granted to non-employees is based on the vesting date fair value, with the expense recognized on a straight-line basis over the award's requisite service period.

Stock-based compensation recognized by Lucid Diagnostics Inc. included $12,485 in the year ended December 31, 2018 with respect to stock options granted under the PAVmed Inc. 2014 Equity Plan to non-employees providing services to Lucid Diagnostics Inc., and $40,748 in the year ended December 31, 2018 with respect to stock options granted under the Lucid Diagnostics Inc. 2018 Equity Plan to non-employees providing services to Lucid Diagnostics Inc. - with each such stock based compensation expense included in consolidated research and development expense as presented above. There was no such Lucid Diagnostics Inc. stock-based compensation expense recognized for the prior year period.

As of December 31, 2018, under the PAVmed Inc. 2014 Equity Plan, total unrecognized stock-based compensation expense of approximately $1.4 million is expected to be recognized over the weighted average remaining requisite service period of 1.3 years; and, under the Lucid Diagnostics Inc. 2018 Equity Plan, total unrecognized stock-based compensation expense of approximately $152,000 is expected to be recognized over the weighted average remaining requisite service period of 2.3 years.

The Company uses the Black-Scholes valuation model to estimate the fair value of stock options granted under both the PAVmed Inc. 2014 Equity Plan and the Lucid Diagnostics Inc. 2018 Equity Plan, which requires the Company to make certain estimates and assumptions, with the weighted-average valuation assumptions for stock-based awards, as follows: weighted-average risk-free interest rate is based on the interest rate payable on U.S. Treasury securities in effect at the time of grant for a period commensurate with the assumed expected option term; expected term of stock options represents the period of time stock options are expected to be outstanding, which for employees is the expected term derived using the simplified method and for non-employees is the contractual term; expected stock price volatility is based on historical stock price volatilities of similar entities within the Company's industry over the period commensurate with the expected term of the stock option; and, expected dividend yield is based on annual dividends of $0.00 as the Company has not historically paid, and does not expect to pay dividends for the foreseeable future.

Note 10 — Stock-Based Compensation - continued

Stock-Based Compensation Expense - continued

Stock-based compensation expense recognized for stock options granted to employees and members of the board of directors under the PAVmed Inc. 2014 Equity Plan was based on a weighted average fair value of $1.21 per share and $2.62 per share, during the year ended December 31, 2018 and 2017, respectively, calculated using the following weighted average Black-Scholes valuation model assumptions:

	Year Ended December 31,	
	2018	2017
Risk free interest rate	2.1%	2.1%
Expected term of stock options (in years)	5.8	5.8
Expected stock price volatility	50%	50%
Expected dividend yield	0%	0%

Stock-based compensation expense recognized for stock options granted to non-employees under the PAVmed Inc. 2014 Equity Plan was based on a weighted average fair value of $1.97 per share and $2.80 per share, during the year ended December 31, 2018 and 2017, respectively, calculated using the following weighted average Black-Scholes valuation model assumptions:

	Year Ended December 31,	
	2018	2017
Risk free interest rate	2.5%	2.3%
Expected term of stock options (in years)	8.7	9.0
Expected stock price volatility	60%	60%
Expected dividend yield	0%	0%

Stock-based compensation expense recognized for stock options granted to non-employees under the Lucid Diagnostics Inc. 2018 Equity Plan was based on a weighted average fair value of $0.51 per share during the year ended December 31, 2018, calculated using the following weighted average Black-Scholes valuation model assumptions:

	Year Ended December 31, 2018
Risk free interest rate	2.7%
Expected term of stock options (in years)	9.4
Expected stock price volatility	62%
Expected dividend yield	0%

There was no such Lucid Diagnostics Inc. 2018 Equity Plan stock-based compensation expense for the prior year period.

Note 11 — Financial Instruments Fair Value Measurements

Recurring Fair Value Measurements

The fair value hierarchy table for the periods indicated is as follows:

	Fair Value Measurement on a Recurring Basis at Reporting Date Using[1]			
	Level-1 Inputs	Level-2 Inputs	Level-3 Inputs	Total
December 31, 2018				
Senior Secured Convertible Note	$ —	$ —	$ 7,903,000	$ 7,903,000
Series A Warrants derivative liability[2]	—	—	—	—
Series A Convertible Preferred Stock conversion option derivative liability[2]	—	—	—	—
Totals	$ —	$ —	$ —	$ —
December 31, 2017				
Series A Warrants derivative liability	$ —	$ —	$ 761,123	$ 761,123
Series A Convertible Preferred Stock conversion option derivative liability	—	—	212,217	212,217
Totals	$ —	$ —	$ 973,340	$ 973,340

(1) *As noted above, as presented in the fair value hierarchy table, Level-1 represents quoted prices in active markets for identical items, Level-2 represents significant other observable inputs, and Level-3 represents significant unobservable inputs.*

(2) *The Series A Warrants derivative liability and the Series A-1 Convertible Preferred Stock conversion option derivative liability were fully extinguished-upon-exchange on the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as discussed herein below.*

Senior Secured Convertible Note -

In a private placement transaction with an institutional investor - referred to herein as “Investor”, “Lender”, and /or “Holder” - on December 27, 2018, the Company entered into a Securities Purchase Agreement under which was issued a Senior Secured Convertible Note Agreement, with such agreement having an issue date of December 27, 2018, a contractual maturity date of December 31, 2020, a face value principal of $7.75 million, and a stated interest rate of 7.875% per annum - the “Senior Convertible Note”. At the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company. The Senior Convertible Note proceeds were $7.0 million after payment of $750,000 of lender fees.

The Senior Convertible Note requires bi-monthly payments, with such payments due and payable on each of the 15th calendar day of each month and the Last Trading Day of each month, with the first bi-monthly payment date of January 15, 2019 and the last bi-monthly payment date of December 31, 2020. The bi-monthly payments have two components: a bi-monthly “Installment Repayment” which commences June 28, 2019 through Dec 31, 2020, and a bi-monthly “Non-Installment Payment” which commences Jan 15, 2019 through the Dec 31, 2020. The bi-monthly Installment Repayments are prescribed and the bi-monthly Non-Installment Repayments are a function of the remaining Senior Convertible Note face value principal outstanding. See Note 12, *Debt*, for further information with respect to the Senior Convertible Note.

The Senior Convertible Note is principally a debt financial instrument host containing embedded features and /or options which would otherwise be required to be bifurcated from the debt host and recognized as separate derivative liabilities subject to initial and subsequent periodic estimated fair value measurements under ASC 815, *Derivatives and Hedging*. Notwithstanding, the Senior Convertible Note is being afforded the guidance of the “fair value option (“FVO”) of ASC 825,*Financial Instruments*, specifically, the FVO election provided for under ASC 825-10-15-4. As such, the Senior Convertible Note will be initially measured at its December 27, 2018 issue-date estimated fair value and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date.

Note 11 — Financial Instruments Fair Value Measurements - continued

Senior Secured Convertible Note - continued

The Senior Convertible Note estimated fair value as of the December 27, 2018 issue date is as follows:

Senior Secured Convertible Note - Issue Date - December 27, 2018	Fair Value
Face value principal payable - issue date December 27, 2018	$ 7,750,000
Lender fees paid - issue date December 27, 2018	(750,000)
Proceeds, net - issue date December 27, 2018	$ 7,000,000
Fair value adjustment - December 27, 2018	750,000
Fair value - issue date December 27, 2018	$ 7,750,000

The Senior Convertible Note estimated fair value, changes in fair value, face value principal payable, and changes in face value principal payable, as of December 31, 2018 is as follows:

Senior Secured Convertible Note - December 31, 2018	Fair Value	Face Value Principal Payable
Fair Value /Face Value Principal Payable - issue date December 27, 2018	$ 7,750,000	$ 7,750,000
Less: bi-monthly Installment Repayments - as of December 31, 2018	—	—
Less: bi-monthly Non-Installment Payments - as of December 31, 2018	—	—
Fair Value /Face Value Principal Payable - before fair value adjustment	7,750,000	7,750,000
Fair value adjustment - December 31, 2018	153,000	—
Fair Value /Face Value Principal Payable - December 31, 2018	$ 7,903,000	$ 7,750,000

The estimated fair value adjustment of the Senior Convertible Note, as required by ASC 825-10-45-5, is recognized as a component of other comprehensive income (OCI) with respect to the portion of the fair value adjustment attributed to a change in the instrument-specific credit risk, with the remaining amount of the fair value adjustment recognized as other income (expense) in the consolidated statement of operations. The “other income (expense) component” of the Senior Convertible Note fair value adjustment is presented in a single line in the consolidated statement of operations, as provided for by ASC 825-10-50-30(b). The total fair value adjustment of $903,000 of each of the fair value adjustments of December 27, 2018 issue date of and December 31, 2018, as presented above, was recognized as an expense in other income (expense) in the consolidated statement of operations, as no portion of such fair value adjustment resulted from instrument-specific credit risk of the Senior Convertible Note, as of the dates noted.

The estimated fair value of the Senior Convertible Note as of the December 27, 2018 issue date and as of December 31, 2018, was computed using a combination of the present value of its cash flows using a synthetic credit rating analysis’ required rate of return and the Black-Scholes option pricing model, using the following assumptions:

Fair Value Assumptions	Issue Date	
Senior Secured Convertible Note	December 27, 2018	December 31, 2018
Fair value	$ 7,750,000	$ 7,903,000
Face value principal payable	$ 7,750,000	$ 7,750,000
Required rate of return	13.2%	13.1%
Conversion price	$ 1.60	$ 1.60
Value of common stock	$ 0.92	$ 0.96
Expected term (years)	2.0	2.0
Volatility	46%	50%
Risk free rate	2.5%	2.5%
Dividend yield	0%	0%

Note 11 — Financial Instruments Fair Value Measurements - continued

Series A Preferred Stock Units

The Series A Preferred Stock Units issued in a private placement in the three months ended March 31, 2017 were each comprised of one share of Series A Convertible Preferred Stock and one Series A Warrant, wherein, at the option of their respective holder, may be converted into /exercised for shares of common stock of the Company. See Note 13, *Preferred Stock,* for a further discussion of the Series A Preferred Stock Units private placement and the Series A Convertible Preferred Stock, and, Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series A Warrants.

The Series A Warrant and the Series A Convertible Preferred Stock conversion option were each determined to be a derivative liability under FASB ASC Topic 815, *Derivative and Hedging* (ASC 815), as the Series A Warrant exercise price and the Series A Convertible Preferred Stock common stock exchange factor denominator, were each subject to potential adjustment resulting from future financing transactions, under certain conditions, along with certain other provisions which may result in required or potential full or partial cash settlement. Through the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as such exchange offer is discussed herein below, the respective Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability were each classified as a current liability in the consolidated balance sheet, and each were initially measured at estimated fair value at the time of issuance and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date, with changes in estimated fair value recognized as other income or expense in the consolidated statement of operations.

The number of Series A Warrants and shares of Series A Convertible Preferred Stock issued and outstanding as of December 31, 2018 is as follows:

Issued and Outstanding - December 31, 2018	Series A Warrants	Series A Convertible Preferred Stock
Issued and outstanding as of December 31, 2017	268,001	249,667
Series A and Series A-1 Exchange Offer - March 15, 2018	(268,001)	(249,667)
Issued and outstanding as of December 31, 2018	—	—

As of the Series A and Series A-1 Exchange Offer - March 15, 2018 Exchange Date, as discussed below, there were no issued and outstanding Series A Warrants and shares of Series A Convertible Preferred Stock, as each were fully exchanged for Series Z Warrants and shares Series B Convertible Preferred Stock, respectively.

The reconciliation of each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability as of December 31, 2018 is as follows:

Derivative Liability - December 31, 2018	Series A Warrants	Series A Convertible Preferred Stock Conversion Option
Balance at December 31, 2017	$ 761,123	$ 212,217
Change in fair value - March 15, 2018 Exchange Date	(246,561)	(64,913)
Series A and Series A-1 Exchange Offer - March 15, 2018	(514,562)	(147,304)
Balance at December 31, 2018	$ —	$ —

As noted above, the Series A Warrants derivative liability and the Series A-1 Convertible Preferred Stock conversion option derivative liability were each initially measured at fair value at the time of issuance and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date, with changes in estimated fair value recognized as other income or expense.

The Series A Warrants derivative liability and the Series A-1 Convertible Preferred Stock conversion option derivative liability were fully extinguished-upon-exchange on the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as discussed below. Accordingly, the final estimated fair value of each respective derivative liability was as of the March 15, 2018 Exchange Date, with such change in estimated fair value resulting in the respective recognition of income of $246,561 and $64,913, with a corresponding decrease in each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability, respectively, during the year ended December 31, 2018.

Note 11 — Financial Instruments Fair Value Measurements - continued

Series A Preferred Stock Units - continued

Series A Warrants and shares of Series A Convertible Preferred Stock issued and outstanding as of December 31, 2017 was as follows:

Issued and Outstanding - December 31, 2017	Series A Warrants	Series A Convertible Preferred Stock
Issued and outstanding as of December 31, 2016	—	—
Issued in Series A Preferred Stock Units private placement	422,838	422,838
Conversion of Series A Convertible Preferred Stock	—	(18,334)
Series A Exchange Offer - November 17, 2017	(154,837)	(154,837)
Issued and outstanding as of December 31, 2017	268,001	249,667

The reconciliation of each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability as of December 31, 2017 is as follows:

Derivative Liability - December 31, 2017	Series A Warrants	Series A Convertible Preferred Stock Conversion Option
Balance at December 31, 2016	$ —	$ —
Initial fair value on dates of issuance	4,050,706	1,221,963
Change in fair value	(1,942,501)	(643,318)
Conversion of Series A Convertible Preferred Stock	—	(27,335)
Series A Exchange Offer - November 17, 2017	(1,347,082)	(339,093)
Balance at December 31, 2017	$ 761,123	$ 212,217

The change in estimated fair value resulted in the respective recognition of income of $1,942,501 and $643,318, with a corresponding decrease in each of the Series A Warrants and the Series A Convertible Preferred Stock conversion option derivative liability, respectively, during the year ended December 31, 2017.

Fair Value Assumptions - Derivative Liability - Series A Warrants and Series A Convertible Preferred Stock Conversion Option

The initial issue date and subsequent recurring reporting period date estimated fair value of each of the Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability, were estimated using a Monte Carlo simulation valuation model using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs to take into account the probabilities of certain events occurring over their respective life, including, assumptions regarding the estimated volatility in the value of the Company's common stock price and the likelihood and timing of future dilutive transactions, as applicable, using the following assumptions as of the dates indicated:

Fair Value Assumptions Series A Warrants Derivative Liability	March 15, 2018[1]	December 31, 2017
Calculated aggregate estimated fair value	$ 514,562	$ 761,123
Series A Warrants outstanding	268,001	268,001
Value of common stock	$ 1.70	$ 2.29
Exercise price per share - Series A Warrant	$ 6.61	$ 6.61
Exercise price per share - Series X Warrant	$ 6.00	$ 6.00
Expected term (years)	6.1	6.3
Volatility	59%	55%
Risk free rate	2.7%	2.2%
Dividend yield	0%	0%

Fair Value Assumptions Series A Convertible Preferred Stock Conversion Option Derivative Liability	March 15, 2018[1]	December 31 2017
Calculated aggregate estimated fair value	$ 147,304	$ 212,217
Series A Convertible Preferred Stock shares	249,667	249,667
Value of common stock	$ 1.70	$ 2.29
Common stock exchange factor numerator	$ 6.00	$ 6.00
Common stock exchange factor denominator	$ 4.97	$ 4.97
Expected term (years)	6.1	6.3
Volatility	59%	55%
Risk-free interest rate	2.7%	2.2%
Dividend yield	0%	0%

(1) *As the Series A Warrants and shares of Series A Convertible Preferred Stock were each fully exchanged on the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, the final estimated fair value of each respective derivative liability was as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer discussed below.*

Note 11 — Financial Instruments Fair Value Measurements - continued

Series A and Series A-1 Exchange Offer - March 15, 2018

On March 15, 2018, the "Series A and Series A-1 Exchange Offer" was completed, wherein, two shares of Series B Convertible Preferred Stock were issued-upon-exchange of one share of Series A Convertible Preferred Stock, and five Series Z Warrants were issued-upon-exchange of one Series A Warrant; and, 1.33 shares of Series B Convertible Preferred Stock were issued-upon-exchange of one share of Series A-1 Convertible Preferred Stock, and five Series Z Warrants were issued-upon-exchange of one Series A-1 Warrant. Collectively, such exchanges are referred to as the "Series A and Series A-1 Exchange Offer" and the "March 15, 2018 Exchange Date". The Series A and Series A-1 Exchange Offer was offered to and accepted by all holders of the Series A Convertible Preferred Stock and Series A Warrants and the Series A-1 Convertible Preferred Stock and Series A-1 Warrants.

On the March 15, 2018 Exchange Date: (i) a total of 975,568 shares of Series B Convertible Preferred Stock were issued-upon-exchange, including 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange of 249,667 shares of Series A Convertible Preferred Stock and 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange of 357,259 shares of Series A-1 Convertible Preferred Stock; and, (ii) a total of 2,739,190 Series Z Warrants were issued-upon-exchange, including 1,340,005 Series Z Warrants issued-upon-exchange of 268,001 Series A Warrants and 1,399,185 Series Z Warrants issued-upon-exchange of 279,837 Series A-1 Warrants.

As of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants, nor shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants, as each were fully exchanged-upon-issue of shares of Series B Convertible Preferred Stock and Series Z Warrants, respectively. Additionally, each of the corresponding Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability were each fully extinguished-upon-exchange as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer.

See Note 13, *Preferred Stock,* for further information with respect to Series B Convertible Preferred Stock, Series A-1 Convertible Preferred Stock, and Series A Convertible Preferred Stock, and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for further information with respect to Series Z Warrants, Series A-1 Warrants, and Series A Warrants.

Note 11 — Financial Instruments Fair Value Measurements - continued

Series A and Series A-1 Exchange Offer - March 15, 2018 -
Series B Convertible Preferred Stock Issued-Upon-Exchange of Series A Convertible Preferred Stock
Series Z Warrants Issued-Upon-Exchange Of Series A Warrants

As noted above, the Series A and Series A-1 Exchange Offer resulted in the extinguishment of: 249,667 shares of Series A Convertible Preferred Stock along with the corresponding (bifurcated) conversion option derivative liability, and, 268,001 Series A Warrants, each resulting from the issue-upon-exchange of: 499,334 shares of Series B Convertible Preferred Stock and 1,340,005 Series Z Warrants, respectively, each as discussed herein below.

Series A and Series A-1 Exchange Offer - March 15, 2018
Series B Convertible Preferred Stock Issued-Upon-Exchange of Series A Convertible Preferred Stock

The March 15, 2018 Exchange Date estimated fair value of the consideration given of $873,835 of the 499,334 shares of the equity-classified Series B Convertible Preferred Stock issued-upon-exchange, as compared to the (temporary equity) carrying value of 249,667 shares of Series A Convertible Preferred Stock and the estimated fair value of the corresponding conversion option derivative liability of $147,304, resulted in incremental estimated fair value of $726,531 recognized as a deemed dividend charged to accumulated deficit on the March 15, 2018 Exchange Date, with such deemed dividend included as a component of "net loss attributable to PAVmed Inc. common stockholders", summarized as follows:

Series B Convertible Preferred Stock Issued-Upon-Exchange Series A Convertible Preferred Stock and Conversion Option Derivative Liability Extinguished-Upon-Exchange Deemed Dividend Charged to Accumulated Deficit	Series A Series A-1 Exchange Offer March 15, 2018 Exchange Date
Fair value - 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange	$ 873,835
Less: Fair value - Series A Convertible Preferred Stock conversion option derivative liability extinguished-upon-exchange	147,304
Less: Carrying value - 249,667 shares of Series A Convertible Preferred Stock extinguished-upon-exchange	—
Deemed dividend charged to accumulated deficit	$ 726,531

The March 15, 2018 Exchange Date estimated fair value of $873,835 of the 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange of 249,667 Series A Convertible Preferred Stock was computed using a combination of the present value of its cash flows using a synthetic credit rating analysis' required rate of return and the Black-Scholes option pricing model, using the following assumptions:

Fair Value Assumptions Series B Convertible Preferred Stock	Series A Series A-1 Exchange Offer March 15, 2018 Exchange Date
Aggregate fair value	$ 873,835
Series B Convertible Preferred Stock shares	499,334
Required rate of return	27.0%
Common stock conversion factor numerator	$ 3.00
Common stock conversion factor denominator	$ 3.00
Value of common stock	$ 1.70
Expected term (years)	6.1
Volatility	59%
Risk free rate	2.7%
Dividend yield	0%

The Series A Convertible Preferred Stock was classified in temporary equity in the consolidated balance sheet and had a carrying value of $0 resulting from the issuance date initial estimated fair values of the Series A Warrant derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability being in excess of the Series A Preferred Stock Units private placement issuance gross proceeds, with such excess recognized as a current period loss in the consolidated statement of operations. See Note 13, *Preferred Stock,* for a further discussion of the Series A Preferred Stock Units private placement and the Series A Convertible Preferred Stock.

Note 11 — Financial Instruments Fair Value Measurements - continued

Series B Convertible Preferred Stock and Series Z Warrants - Series A and Series A-1 Exchange Offer - March 15, 2018 - continued

Series A and Series A-1 Exchange Offer - March 15, 2018 -
Series Z Warrants Issued-Upon-Exchange of Series A Warrants

The Series Z Warrants issued-upon-exchange of Series A Warrants in the Series A and Series A-1 Exchange Offer, as discussed above, resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, wherein an exchange of warrants is deemed to be a modification of the initial warrant agreement by the replacement with a revised warrant agreement, requiring the incremental estimated fair value, measured as the difference between the estimated fair value immediately after the modification as compared to the estimated fair value immediately before the modification, to the extent an increase, recognized as a modification expense. In this regard, the March 15, 2018 Exchange Date adjustment of the estimated fair value of the Series A Warrants derivative liability resulted in the recognition of a net expense of $96,480 comprised of: (i) income of $246,561 upon the Series A Warrant derivative liability being adjusted to its March 15, 2018 Exchange Date estimated fair value of $514,562, as noted above, and (ii) an expense of $343,041 resulting from the incremental estimated fair value of the consideration given of $857,603 of the 1,340,005 Series Z Warrants issued-upon-exchange as compared to the estimated fair value of $514,562 of the 268,001 Series A Warrants derivative liability extinguished-upon-exchange, summarized as follows:

Series Z Warrants Issued Upon Exchange of Series A Warrants - March 15, 2018	Series A Warrants Derivative Liability	Series Z Warrants Additional Paid In Capital Equity	Fair Value Change Series A Warrant Derivative Liability Other Income (Expense)
Series A Warrants derivative liability - December 31, 2017	$ 761,123	$ —	$ —
Series A Warrants derivative liability change in fair value - March 15, 2018	(246,561)		246,561
Sub-Total: Series A Warrants derivative liability - March 15, 2018 Exchange Date	514,562	—	246,561
Series Z Warrants issued-upon-exchange of Series A Warrants - estimated fair value	(514,562)	857,603	(343,041)
Series Z Warrants issued-upon-exchange of Series A Warrants - March 15, 2018	$ —	$ 857,603	$ (96,480)

The March 15, 2018 Exchange Date estimated fair value of $857,603 of the 1,340,005 Series Z Warrants issued-upon-exchange of 268,001 Series A Warrants was computed using a Black-Scholes valuation model, using the following assumptions:

Fair Value Assumptions Series Z Warrants issued upon exchange of Series A Warrants	March 15, 2018 Exchange Date
Aggregate fair value	$ 857,603
Series Z Warrants issued upon exchange of Series A Warrants	1,340,005
Exercise price per share - Series Z Warrant	$ 3.00
Value of common stock	$ 1.70
Expected term (years)	6.1
Volatility	59%
Risk free rate	2.7%
Dividend yield	0%

Note 11 — Financial Instruments Fair Value Measurements - continued

Series B Convertible Preferred Stock and Series Z Warrants - Series A and Series A-1 Exchange Offer - March 15, 2018 - continued

Series A and Series A-1 Exchange Offer - March 15, 2018 -
Series B Convertible Preferred Stock Issued-Upon-Exchange of Series A-1 Convertible Preferred Stock
Series Z Warrants Issued-Upon-Exchange of Series A-1 Warrants

As noted above, the Series A and Series A-1 Exchange Offer resulted in the extinguishment of: 357,259 shares of Series A-1 Convertible Preferred Stock and, 279,837 Series A-1 Warrants, resulting from the issue-upon-exchange of 476,234 shares of Series B Convertible Preferred Stock and 1,399,185 Series Z Warrants, respectively, each as discussed herein below.

Series A and Series A-1 Exchange Offer - March 15, 2018
Series B Convertible Preferred Stock Issued Upon Exchange of Series A-1 Convertible Preferred Stock

The March 15, 2018 Exchange Date estimated fair value of the consideration given of $833,410 of the equity-classified 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange, was less than the carrying value of $1,032,650 of the equity-classified 357,259 shares Series A-1 Convertible Preferred Stock, resulting in an increase to additional paid in capital of $199,241 on the March 15, 2018 Exchange Date, with such amount included as a component of "net loss attributable to PAVmed Inc. common stockholders", summarized as follows:

Series B Convertible Preferred Stock Issued-Upon-Exchange Series A-1 Convertible Preferred Stock Extinguished-Upon-Exchange Increase - Additional Paid-In Capital		Series A Series A-1 Exchange Offer March 15, 2018 Exchange Date
Fair value - 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange	$	833,410
Less: Carry value - 357,259 shares - Series A-1 Convertible Preferred Stock extinguished-upon-exchange		1,032,650
Increase - additional paid-in capital	$	199,241

The March 15, 2018 Exchange Date estimated fair value of $833,410 of the 476.234 shares of Series B Convertible Preferred Stock issued-upon-exchange of 357,259 shares of Series A-1 Convertible Preferred Stock was computed using a combination of the present value of its cash flows using a synthetic credit rating analysis required rate of return and the Black-Scholes option pricing model, using the following assumptions:

Fair Value Assumptions Series B Convertible Preferred Stock - issued upon exchange of Series A-1 Convertible Preferred Stock		Series A Series A-1 Exchange Offer March 15, 2018 Exchange Date
Aggregate fair value	$	833,410
Series B Convertible Preferred Stock shares		476,234
Required rate of return		27.0%
Common stock conversion factor numerator	$	3.00
Common stock conversion factor denominator	$	3.00
Value of common stock	$	1.70
Expected term (years)		6.1
Volatility		59%
Risk free rate		2.7%
Dividend yield		0%

Note 11 — Financial Instruments Fair Value Measurements - continued

Series B Convertible Preferred Stock and Series Z Warrants - Series A and Series A-1 Exchange Offer - March 15, 2018 - continued

Series A and Series A-1 Exchange Offer - March 15, 2018 (continued)
Series Z Warrants Issued-Upon-Exchange of Series A-1 Warrants

The "Series Z Warrants issued-upon-exchange of Series A-1 Warrants" in the Series A and Series A-1 Exchange Offer, as discussed above, resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, wherein an exchange of warrants is deemed to be a modification of the initial warrant agreement by the replacement with a revised warrant agreement, requiring the incremental estimated fair value, measured as the difference between the estimated fair value immediately after the modification as compared to the estimated fair value immediately before the modification, to the extent an increase, recognized as a modification expense. In this regard, the March 15, 2018 Exchange Date estimated fair value of $895,478 of the equity-classified 1,399,185 Series Z Warrants issued-upon-exchange as compared to the estimated fair value of $545,682 of the equity-classified 279,837 Series A-1 Warrants extinguished-upon-exchange, resulted in an incremental estimated fair value of $349,796 recognized as a modification expense included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid in capital, summarized as follows:

Series Z Warrants - issued-upon-exchange of Series A-1 Warrants - March 15, 2018		Series A Series A-1 Exchange Offer March 15, 2018 Exchange Date
Fair value - 1,399,185 Series Z Warrants issued-upon-exchange	$	895,478
Less: fair value - 279,837 Series A-1 Warrants extinguished-upon-exchange		545,682
Modification expense /increase to additional paid in capital		349,796
Carry value - 279,837 Series A-1 Warrants extinguished-upon-exchange - equity classified		1,879,532
Carry value - Series Z Warrants issued-upon-exchange of Series A-1 Warrants - equity classified	$	2,229,328

The March 15, 2018 Exchange Date estimated fair value of $895,478 of the 1,399,185 Series Z Warrants issued-upon-exchange of 279,837 Series A-1 Warrants was computed using a Black-Scholes valuation model, using the following assumptions:

Fair Value Assumptions Series Z Warrants - issued upon exchange of Series A-1 Warrants		March 15, 2018 Exchange Date
Aggregate fair value	$	895,478
Series Z Warrants issued upon exchange of Series A-1 Warrants		1,399,185
Exercise price per share - Series Z Warrant	$	3.00
Value of common stock	$	1.70
Expected term (years)		6.1
Volatility		59%
Risk free rate		2.7%
Dividend yield		0%

The March 15, 2018 Exchange Date estimated fair value of $545,682 of the 279,837 Series A-1 Warrants extinguished-upon-exchange for 1,399,185 Series Z Warrants was computed using a Black-Scholes valuation model, using the following assumptions:

Fair Value Assumptions Series A-1 Warrants - exchanged for Series Z Warrants		March 15, 2018 Exchange Date
Aggregate fair value	$	545,682
Series A-1 Warrants exchanged for Series Z Warrants		279,837
Exercise price per share - Series A-1 Warrant	$	6.67
Series W Warrants		1,399,185
Exercise price per share - Series W Warrant		5.00
Value of common stock	$	1.70
Expected term (years)		3.9
Volatility		67%
Risk free rate		2.5%
Dividend yield		0%

Note 11 — Financial Instruments Fair Value Measurements - continued

Series A Exchange Offer - November 17, 2017

On November 17, 2017, the "Series A Exchange Offer" was completed, wherein 1.5 shares of Series A-1 Convertible Preferred Stock were issued-upon-exchange of one share of Series A Convertible Preferred Stock, and one Series A-1 Warrant was issued-upon-exchange of one Series A Warrant, with such exchanges referred to as the "Series A Exchange Offer" and the "November 17, 2017 Exchange Date". The Series A Exchange Offer was offered to all 28 holders and accepted by 13 holders of the Series A Convertible Preferred Stock and Series A Warrants.

On the November 17, 2017 Exchange Date, a total of 232,259 shares of Series A-1 Convertible Preferred Stock were issued-upon-exchange of 154,837 shares of Series A Convertible Preferred Stock and a total of 154,837 Series A-1 Warrants were issued-upon-exchange of 154,837 Series A Warrants.

Consequently, as of the November 17, 2017 Exchange Date, 154,837 shares of Series A Convertible Preferred Stock and 154,837 Series A Warrants were fully extinguished-upon-exchange for shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants, respectively. Additionally, each of the corresponding Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability were each extinguished-upon-exchange as of the November 17, 2017 Exchange Date of the Series A Exchange Offer.

Series A Exchange Offer - November 17, 2017
Series A-1 Convertible Preferred Stock Issued-Upon-Exchange of Series A Convertible Preferred Stock

The November 17, 2017 Exchange Date estimated fair value of the equity-classified 232,259 shares of Series A-1 Convertible Preferred Stock issued-upon-exchange was $843,100, with such fair value recognized as the carrying value of the issued shares of Series A-1 Convertible Preferred Stock. The fair value of the consideration given in the form of the issued shares of Series A-1 Convertible Preferred Stock of $843,100, as compared to the extinguishment of both the carrying value of the Series A Convertible Preferred Stock and the estimated fair value of the corresponding conversion option derivative liability, resulted in $504,007 of incremental estimated fair value recognized as a deemed dividend charged to accumulated deficit in the consolidated balance sheet on the November 17, 2017 Exchange Date, with such deemed dividend included as a component of "net loss attributable to PAVmed Inc. common stockholders", summarized as follows:

Series A-1 Convertible Preferred Stock Issued-Upon-Exchange Series A Convertible Preferred Stock and Conversion Option Derivative Liability Extinguished-Upon-Exchange Deemed Dividend Charged to Accumulated Deficit	Series A Exchange Offer November 17, 2017 Exchange Date
Fair value - 232,259 shares of Series A-1 Convertible Preferred Stock issued-upon-exchange	$ 843,100
Less: Fair value - Series A Convertible Preferred Stock conversion option derivative liability extinguished-upon-exchange	339,093
Less: Carry value - 154,837 shares of Series A Convertible Preferred Stock extinguished-upon-exchange	—
Deemed dividend charged to accumulated deficit	$ 504,007

The November 17, 2017 Exchange Date estimated fair value of $843,100 of the 232,259 shares of Series A-1 Convertible Preferred Stock issued-upon-exchange of 154,837 shares of Series A Convertible Preferred Stock was computed using a combination of the present value of its cash flows using a synthetic credit rating analysis required rate of return and the Black-Scholes option pricing model, using the following assumptions:

Fair Value Assumptions - Series A-1 Convertible Preferred Stock issued upon exchange of Series A Convertible Preferred Stock	November 17, 2017 Exchange Date
Aggregate fair value	$ 843,100
Series A-1 Convertible Preferred Stock shares	232,259
Required rate of return	27.0%
Common stock conversion factor numerator	$ 4.00
Common stock conversion factor denominator	$ 4.00
Value of common stock	$ 4.33
Expected term (years)	6.45
Volatility	53%
Risk free rate	2.2%
Dividend yield	0%

Note 11 — Financial Instruments Fair Value Measurements - continued

Series A Exchange Offer - November 17, 2017(continued)
Series A-1 Convertible Preferred Stock Issued Upon Exchange of Series A Convertible Preferred Stock(continued)

The November 17, 2017 Exchange Date estimated fair value of $339,093 of the extinguished-upon-exchange Series A Convertible Preferred Stock conversion option derivative liability was estimated using a Monte Carlo simulation valuation model, using the Company's common stock price and certain other Level-3 inputs to take into account the probabilities of certain events occurring over their respective life, using the following assumptions.

Fair Value Assumptions - Series A Convertible Preferred Stock Conversion Option Derivative Liability		November 17, 2017 Exchange Date
Aggregate fair value	$	339,093
Series A Convertible Preferred Stock shares		154,837
Value of common stock	$	4.33
Common stock exchange factor numerator	$	6.00
Common stock exchange factor denominator	$	4.97
Expected term (years)		6.45
Volatility		53%
Risk-free interest rate		2.2%
Dividend yield		0%

The Series A Convertible Preferred Stock is classified in temporary equity in the consolidated balance sheet and has a carrying value of $0 resulting from the issuance date initial fair values of the Series A Warrant derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability being in excess of the Series A Preferred Stock Units private placement issuance gross proceeds, with such excess recognized as a current period loss in the consolidated statement of operations. See Note 13, *Preferred Stock,* for a further discussion of the Series A Preferred Stock Units private placement and the Series A Convertible Preferred Stock.

Series A Exchange Offer - November 17, 2017
Series A-1 Warrants Issued-Upon-Exchange of Series A Warrants

As of the November 17, 2017 Exchange Date, the Series A Warrants derivative liability estimated fair value was adjusted, with the resulting change in such estimated fair value recognized as other income (expense) in the consolidated statement of operations. Further, the estimated fair value of the 154,837 Series A Warrant derivative liability extinguished-upon exchange were further adjusted to the November 17, 2017 Exchange Date estimated fair value of $1,347,082 of the 154,837 Series A-1 Warrants issued-upon-exchange (i.e. the consideration given), with the resulting change in such estimated fair value recognized as other income (expense) in the consolidated statement of operations. Immediately thereafter, such November 17, 2017 adjusted estimated fair value of $1,347,082 of the 154,837 Series A Warrants derivative liability extinguished-upon-exchange was derecognized, along with a corresponding recognition of such amount in additional paid-in capital of the equity-classified 154,837 Series A-1 Warrants issued-upon-exchange.

The November 17, 2017 Exchange Date estimated fair value of $1,347,082 of the 154,837 Series A-1 Warrants issued-upon-exchange of the 154,837 Series A Warrants extinguished-upon-exchange was computed using a Black-Scholes valuation model assuming the exchange of one Series A-1 Warrant for five Series W Warrants, using the following assumptions:

Fair Value Assumptions Series A-1 Warrants - issued upon exchange of Series A Warrants		November 17, 2017 Exchange Date
Aggregate fair value	$	1,347,082
Exercise price per share - Series W Warrant	$	5.00
Value of common stock	$	4.33
Expected term (years)		4.2
Volatility		57%
Risk free rate		2.0%
Dividend yield		0%

Note 11 — Financial Instruments Fair Value Measurements - continued

Non-recurring Fair Value Measurements

In addition to the Senior Secured Convertible Debt, the Series A and Series A-1 Exchange Offer on March 15, 2018, and the Series A Exchange Offer on November 17, 2017, each as discussed above, the other issue-date and /or date -of-occurrence non-recurring estimated fair values include: the Series W Warrants Exchange Offer on April 5, 2018, the Series Z Warrant exercise price adjustment on June 1, 2018, and the UPO Exchange Offer on August 22, 2018; along with the Series A Preferred Stock Units private placement during the three months ended March 31, 2017, the Senior Secured Note and Series S Warrants issued in connection with the Note and Security Purchase Agreement between the Company and Scopia Holdings LLC on July 3, 2017; the Series A-1 Preferred Stock Units private placement on August 4, 2017; the Series A-1 Warrants Agreement Amendment No. 1 on October 18, 2017, and the conversion of shares of Series A Convertible Preferred Stock into shares of common stock of the Company in November 2017 and December 2017.

See the following Notes herein for further information regarding these non-recurring estimated fair values, including Note 12, Debt, Note 13, *Preferred Stock, and,* Note 14, *Stockholders' Equity and Common Stock Purchase Warrants.*

The recurring and non-recurring estimated fair values discussed herein, utilize the Company's common stock price along with certain Level 3 inputs, as discussed below, in the development of Monte Carlo simulation models, discounted cash flow analyses, and /or Black-Scholes valuation models.

The recurring and non-recurring estimated fair values presented herein are subjective and are affected by changes in inputs to the valuation models /analyses, including the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs including, assumptions regarding the estimated volatility in the value of the Company's common stock price and /or probabilities associated with the likelihood and timing of future dilutive transactions. Changes in these assumptions can materially affect the estimated fair values.

Note 12 — Debt

Senior Secured Convertible Note

On December 27, 2018, the Company completed a private placement transaction with an institutional investor - with such institutional investor referred to herein as "Investor", "Lender", and /or "Holder" - wherein the Company entered into a Securities Purchase Agreement under which on such date, it issued to the Investor a Senior Secured Convertible Note, having a face value principal payable of $7.75 million, a stated interest rate of 7.875% per annum, and a maturity date of December 31, 2020 - the "Senior Convertible Note". At the election of the Holder, the Senior Convertible Note may be converted into shares of common stock of the Company. The Senior Convertible Note Holder does not have voting rights.

The Senior Convertible Note proceeds were $7.0 million after payment of $750,000 of lender fees. The Company incurred total offering costs of $614,940, inclusive of the payment of $455,000 placement agent fee and legal fees, with such offering costs recognized as an expense in other income (expense) in the consolidated statement of operations. Additionally, concurrent with the Senior Convertible Note Closing on December 27, 2018, a $5.0 million payment was made with respect to the repayment of the Company's previously issued Senior Secured Note, as further discussed below.

Conversion

As noted, at the election of the Holder, at any time after the December 27, 2018 issue date, the Senior Convertible Note may be converted into shares of common stock of the Company at an initial contractual conversion price of $1.60 per share. The conversion price per share is subject-to adjustment for the effect of stock dividends, stock splits, or similar events affecting the common stock of the Company - i.e. "plain vanilla standard anti-dilution provisions". The conversion price may also be adjusted: if the Company issues or agrees to issue any variable rate securities, in which case the Holder shall be entitled to substitute the variable price for the initial stated conversion price; or if certain Events of Default occur, as defined, in which case the Holder is entitled to convert all or a portion of the Senior Convertible Note at the lower of (i) the actual conversion price then in effect or (ii) 80% of the market price of the Company's common stock, as defined, but not lower than a floor price of $0.19 per share.

Additionally, the Senior Convertible Note provides for a "Voluntary Adjustment" of the conversion price by at the discretion of the Company, with the consent of the Holder, wherein during the term of the Senior Convertible Note, the Company may at any time reduce the then current conversion price to any amount and for any period of time deemed appropriate by the board of directors of the Company. The Company's board of directors have adopted guidelines surrounding such a Senior Convertible Note Voluntary Adjustment of the conversion price, if any, to be implemented by management when favorable market conditions exist for the Company to orderly and effectively reduce its outstanding debt to the investor. Under such guidelines, any such Senior Convertible Note Voluntary Adjustment of the conversion price may not be lower than the previous day's closing price per share of the common stock of the Company, may not apply to more than one million shares of common stock of the Company converted during a Voluntary Adjustment period, and may not extend for a period of time greater than 21 days for each occurrence of a respective Voluntary Adjustment of the conversion price.

Subsequently, consistent with the "Voluntary Adjustment of the conversion price" discussed above, the Company initiated a Voluntary Adjustment of the Senior Convertible Note conversion price from the current $1.60 per share to the greater of $1.00 per share or the prior trading day closing price per share, with such Voluntary Adjustment of the conversion price effective for the period March 20, 2019 through April 9, 2019. The Sr Convertible Note holder tendered a conversion notice dated March 20, 2019 for the conversion of a total of $51,545, inclusive of $51,500 face value principal and earned but unpaid interest thereon, at conversion price of $1.03 per share, resulting in the issue of 50,044 shares of common stock of the Company.

Note 12 — Debt - continued

Senior Secured Convertible Note - continued

Bi-Monthly Payments

The Senior Convertible Note requires bi-monthly payments, with such payments due and payable on each of the 15th calendar day of each month and the Last Trading Day of each month, with the first bi-monthly payment date of January 15, 2019 and the last bi-monthly payment date of December 31, 2020.

The bi-monthly payments have two components: a bi-monthly "Installment Repayment" which commences June 28, 2019 through Dec 31, 2020, and a bi-monthly "Non-Installment Payment" which commences Jan 15, 2019 through the Dec 31, 2020,summarized as follows:

* The bi-monthly "Installment Repayments" reduce Senior Convertible Note face value principal, and are comprised of: a total of 35 bi-monthly payments of $193,750 starting on the bi-monthly due date of June 28, 2019 through the bi-monthly due date of November 30, 2020; and, a payment on each of December 15, 2020 of $484,375, and December 31, 2020 of $432,875, with the December 31, 2020 bi-monthly payment reduced by $51,500 resulting from the conversion on March 20, 2019, as discussed above.

* The bi-monthly "Non-Installment Payment" computed as 7.875% per annum periodic rate applied to the unpaid Senior Convertible Note face value principal payable, and commences with the bi-monthly due date of January 15, 2019 through the bi-monthly due date of December 31, 2020. Upon an Event of Default, as define, the annual interest rate is 18.0% until the Event of Default is cured.

At the Company's election, the "Non-Installment Payment" bi-monthly payments from January 15, 2019 to June 15, 2019 may be either paid in cash or paid by the issue of shares of common stock of the Company at a price per share equal to the lower of (i) the conversion price in effect, or (ii) 82.5% of the volume weighted average price of the Company's common stock, as defined, but no lower than a floor price of $0.19 per share. In this regard, subsequently, the Company has cash paid a total of $159,190 of Non-Installment Payments for the bimonthly due dates from January 15, 2019 to March 29, 2019, for the period December 27, 2018 to March 31, 2019.

Commencing with the bi-monthly payment due on June 28, 2019 through the bi-monthly payment due on December 31, 2020, the Company, at its election, may pay each of the bi-monthly Installment Repayment and /or the Non-Installment Payment in cash - referred to as an "Installment Redemption" - or by issue of shares of common stock of the Company - referred to as an "Installment Conversion" - with the number of such shares issued resulting from the dollar amount of the Installment Repayment and /or Non-Installment Payment divided by a conversion price per share computed as the lower of (i) the stated contractual conversion price per share then in effect or (ii) a conversion price per share computed as 82.5% of the volume weighted average price per share of the common stock of the Company, as defined. Notwithstanding, such conversion price per share shall not be less-than a floor price of $0.19 per share.

Further, if the Company elects to issue shares of common stock, then the Holder may elect either: (a) to defer all or a portion of such conversion until a subsequent Installment Repayment bi-monthly date, with such (future) bi-monthly date set by the Holder, or (b) to accelerate the conversion of future Installment Repayments to such bi-monthly date of the Company's Installment Redemption election, subject to certain restrictions.

Moreover, if the Company lacks the ability to issue shares of common stock underlying an Installment Conversion, the Holder can require the Company to either (i) redeem the Installment Repayment in cash equal to 115%, or (ii) void its Installment Conversion election and obtain the right to convert the Installment Repayment at the *lesser* of the conversion price per share then in effect on the such "void date" or the conversion price per share as of the date of the Installment Conversion.

Note 12 — Debt - continued

Senior Secured Convertible Note - continued

Redemption Rights

The Holder has the option to require the Company to redeem all or a portion of the Senior Convertible Note face value principal then unpaid /outstanding, as follows:

* Event of Default - Upon the occurrence of an Event of Default, as defined, the Holder has the option to require the Company to redeem all or a portion of the Senior Convertible Note face value principal then unpaid /outstanding for cash at a price equal to the greater of (a) 115% of the then unpaid /outstanding Senior Convertible Note face value principal, plus earned-but-unpaid Non-Installment Payments, and late charge fees, or (b) the market value of the common stock of the Company underlying the Senior Convertible Note.

* Change of Control - Upon the occurrence of a Change of Control, the Holder has the option to require the Company to redeem all or a portion of the Senior Convertible Note for cash at a price equal to the greater of: (a) 115% of the then unpaid /outstanding Senior Convertible Note face value principal plus earned-but-unpaid Non-Installment Payments, and late charge fees; (b) 115% of the market value of the common stock of the Company underlying the Senior Convertible Note; or, (c) 115% of the aggregate cash consideration payable in respect of the common stock of the Company underlying the Senior Convertible Note.

* Bankruptcy - Upon occurrence of a Bankruptcy Event of Default, as defined, the Company must immediately pay cash to the Holder equal to 115% of the sum of (a) Senior Convertible Note unpaid /outstanding face value principal, (b) earned-but-unpaid Non-Installment Payments, and (c) late charge fees. Notwithstanding, the Holder may waive the right to receive such payment and retain the conversion and payment rights.

Covenants and Other Provisions

Under the Senior Secured Convertible Debt Agreement, the Company is subject to certain customary affirmative and negative covenants regarding the incurrence of indebtedness, the existence of liens, the repayment of indebtedness, the payment of cash in respect of dividends, distributions or redemptions, and the transfer of assets, and to have an unrestricted cash balance of at least $1.75 million at each quarterly balance sheet date, among other matters, including, under the Securities Purchase Agreement, the following provisions and covenants:

* Through June 28, 2019, to the extent any portion of the Senior Convertible Note face value principal remains outstanding, the Company we may not consummate the sale of any equity or equity-linked security at a price per share less than the initial conversion price of the Senior Convertible Note, without the consent of the Holder. After June 28, 2019, if any portion of the Senor Convertible Note remains outstanding, the Company may consummate the sale of any equity or equity-linked security provided the price per share is equal to or greater than the initial conversion price of the Senior Convertible Note and the aggregate consideration is less than or equal to $5.0 million and compliance with the terms and conditions of the Senior Convertible Note as to the acceleration of Installment Repayments after giving effect to such issuance.

* The Company agreed to hold a stockholder meeting by no later than June 28, 2019 to approve stockholder resolutions with respect to each of: approving an increase in the authorized shares of common stock of the Company to 100 million shares from the current 75 million shares; and approving the issuance of shares of common stock of the Company in connection with the Senior Convertible Note for the purposes of compliance with the stockholder approval rules of The Nasdaq Stock Market (“Nasdaq”). The Company will be obligated to continue to seek stockholder approval quarterly until such approval is obtained.

* If at any time the number of shares of common stock of the Company authorized and reserved for issuance under the Senior Convertible Note is not sufficient to meet the minimum required reserve amounts of such shares specified in the Securities Purchase Agreement, then the Company will promptly take all corporate action necessary to authorize and reserve the minimum required reserve amount of such shares, including, without limitation, calling a special meeting to obtain stockholder approval of an increase in the number authorized shares of common stock of the Company.

* During the three year period ended December 27, 2021, the Senior Convertible Note private placement investor may participate up to 50%, in future equity and equity-linked securities offered by the Company. The Company will not effect or enter an agreement to effect any variable rate transaction.

Guaranty Agreement

The payment of all amounts due and payable under the Senior Convertible Note are guaranteed by PAVmed Inc. and its majority-owned subsidiary Lucid Diagnostics Inc., and the obligations under the Senior Convertible Note are secured by all of the assets of these entities pursuant to the terms of a Guaranty Agreement executed in connection with the Senior Secured Convertible Note private placement discussed above. The Lender may transfer or assign all or any part of the Senior Convertible Note to any person with the prior written consent of the Company, provided no consent shall be required from the Company for any transfer to an affiliate of the Lender, or upon the occurrence and during the continuance of an Event of Default, as defined.

Note 12 — Debt - continued

Senior Secured Convertible Note - continued

Fair Value Option - Senior Secured Convertible Note

The Senior Convertible Note is principally a debt financial instrument host containing embedded features and /or options which would otherwise be required to be bifurcated from the debt host and recognized as separate derivative liabilities subject to initial and subsequent periodic estimated fair value measurements under ASC 815, *Derivatives and Hedging*. Notwithstanding, the Senior Convertible Note measurement and recognition is under the guidance of the "fair value option ("FVO") of ASC 825, *Financial Instruments* - specifically, "the FVO election" provided for under ASC 825-10-15-4. As such, the Senior Convertible Note will be initially measured at its December 27, 2018 issue-date estimated fair value and subsequently remeasured at estimated fair value on a recurring basis at each reporting period date, with changes in estimated fair value recognized as current period income or expense.

The Senior Convertible Note estimated fair value as of the December 27, 2018 issue date is as follows:

Senior Secured Convertible Note - Issue Date - December 27, 2018	Fair Value
Face value principal payable - issue date December 27, 2018	$ 7,750,000
Lender fees paid - issue date December 27, 2018	(750,000)
Proceeds, net - issue date December 27, 2018	$ 7,000,000
Fair value adjustment - December 27, 2018	750,000
Fair value - issue date December 27, 2018	$ 7,750,000

The Senior Convertible Note estimated fair value, changes in fair value, face value principal payable, and changes in face value principal payable, as of December 31, 2018 is as follows:

Senior Secured Convertible Note - December 31, 2018	Fair Value	Face Value Principal Payable
Fair Value /Face Value Principal Payable - issue date December 27, 2018	$ 7,750,000	$ 7,750,000
Less: bi-monthly Installment Repayments - as of December 31, 2018	—	—
Less: bi-monthly Non-Installment Payments - as of December 31, 2018	—	—
Fair Value /Face Value Principal Payable - before fair value adjustment	7,750,000	7,750,000
Fair value adjustment - December 31, 2018	153,000	—
Fair Value /Face Value Principal Payable - December 31, 2018	$ 7,903,000	$ 7,750,000

The total fair value adjustment of $903,000 resulting from each of the fair value adjustments as of the December 27, 2018 issue date and as of December 31, 2018, as presented above, was recognized as an expense in other income (expense) in the consolidated statement of operations, as no portion of such fair value adjustment resulted from instrument-specific credit risk of the Senior Convertible Note as of the dates noted. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the estimated fair value with respect to the Senior Convertible Note for the dates noted.

Registration Statement - Form S-3 - File No 333-229372

In connection with the Senior Convertible Note private placement, the Company filed with the Securities and Exchange Commission ('SEC") an effective registration statement on Form S-3 - File No. 333- 229372 - referred to as the "Senior Convertible Note Registration Statement" - registering for resale the maximum number of shares of common stock of the Company issuable upon conversion of the Senior Convertible Note and the shares issued in connection with the repayment of the Senior Secured Note. The Company timely filed with SEC the initial Senior Convertible Note Registration Statement on January 25, 2019 and such registration statement became effective on February 14, 2019, with each such date consistent with the requirements of the registration rights agreement entered into in connection with the Senior Secured Convertible Note private placement discussed above. If the Senior Convertible Note Registration Statement effectiveness is not maintained, then, the Company is required to make payments of 1% of the Senior Convertible Note face value principal payable on the date of such event, and every thirty days thereafter until the effectiveness failure is cured.

Note 12 — Debt - continued

Senior Secured Note and Series S Warrants -

In July 2017, the Company and Scopia Holdings LLC ("Scopia" or the "Lender") previously entered into a Note and Security Purchase Agreement, whereupon Scopia delivering to the Company $4.8 million in net cash proceeds, the Company issued to Scopia and its designees, a Senior Secured Note with an initial principal of $5.0 million ("Senior Secured Note"), and 2,660,000 Series S Warrants to purchase a corresponding number of shares of common stock of the Company.

On December 27, 2018, concurrent with the issue of the Senior Convertible Note as discussed above, the Company repaid-in-full the previously issued Senior Secured Note, inclusive of the total outstanding principal payable and the accrued but unpaid interest expense payable as of December 27, 2018, with such repayment comprised of a $5.0 million cash payment and the issue to Scopia of 600,000 shares of common stock of the Company. The Senior Secured Note repayment was executed under a Notice of Prepayment agreement dated December 27, 2018. The Sr Secured Note had a contractual maturity date of June 30, 2019, with such maturity date not subject-to any early repayment provisions. The Company recognized as other income (expense), a debt extinguishment loss of $1.4 million, as discussed below.

The Senior Secured Note annual interest rate was 15.0%, with interest payable semi-annually in arrears on June 30 and December 30 of each calendar year, commencing December 30, 2017 ("15% interest expense"). At its sole discretion, the Company was able to defer payment of up to 50% of each of the semi-annual 15% interest expense payable, with such deferred amount added to the outstanding interest-bearing principal balance of the Senior Secured Note. In this regard, the Senior Secured Note principal balance was $5,780,116 and $5,188,542, as of December 27, 2018 and December 31, 2017, respectively, with each such principal amount comprised of the initial principal of $5.0 million and the total unpaid semi-annual interest as of December 27, 2018 and December 31, 2017, respectively.

The Senior Secured Note and the Series S Warrants are freestanding financial instruments, as the Series S Warrants were immediately legally detachable from the Senior Secured Note and were immediately exercisable. The Series-S Warrants are equity classified in the consolidated balance sheet. See Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a further discussion of the Series S Warrants.

The $4.8 million of cash proceeds, which were net of the Lender's issue costs, were allocated to the Senior Secured Note and the Series S Warrants based on their respective relative fair value, as discussed below, resulting in an allocation of $1,408,125 to the Senior Secured Note and $3,434,452 to the Series S Warrants, with the resulting difference of $3,591,875 recognized as Senior Secured Note debt discount, amortized as interest expense over the term of the Senior Secured Note.

The Senior Secured Note total interest expense of $2,392,447 and $724,684, for the year ended December 31, 2018 and 2017, respectively, was comprised of $786,145 and $377,083, respectively, resulting from the 15% interest expense and $1,606,302 and $347,601, respectively, resulting from the amortization of the debt discount. The Senior Secured Note remaining unamortized debt discount was $1,637,972 as of December 27, 2018 and $3,244,274 as of December 31, 2017.

As noted above, on the December 27, 2018 repayment date, the Company recognized as other income (expense), a debt extinguishment loss of $1.4 million resulting from the difference between a $5.5 million debt reacquisition price and a $4.1 million debt carrying value, net, of the Senior Secured Note as of December 27, 2018, as follows:

Senior Secured Note - Debt Extinguishment	December 27, 2018
Cash payment	$ 5,000,000
Fair value - 600,000 shares of common stock issued	550,440
Debt reacquisition price Senior Secured Note	$ 5,550,440
Senior Secured Note - original principal	$ 5,000,000
Senior Secured Note - additional principal - unpaid interest expense	780,116
Senior Secured Note - total principal	$ 5,780,116
Less: Senior Secured Note - remaining unamortized debt discount	(1,637,972)
Senior Secured Note - debt carrying value, net	$ 4,142,144
Debt extinguishment loss	$ (1,408,296)

Note 12 — Debt - continued

The Note and Security Purchase Agreement with Scopia had provided for, to the extent the Lender held at least 50% of the aggregate remaining unpaid principal balance of the Senior Secured Note, the Lender had the ability to nominate one individual to the Company's board of directors, provided the board of directors had the right to reject any such Lender nominee if it determined in good faith such Lender nominee was not reasonably acceptable. In this regard, on August 3, 2017, the Lender nominee was appointed to the Company's board of directors, with such individual currently continuing to serve as a member of the board of directors after repayment of the Senior Secured Note.

Payment of all amounts due and payable under the Senior Secured Note were guaranteed by the Company, and the obligations under the Senior Secured Note were secured by all of the assets of the Company pursuant to the terms of a Note and Guaranty Security Agreement. The Lender may transfer or assign all or any part of the Senior Secured Note to any person with the prior written consent of the Company, provided no consent shall be required from the Company for any transfer to an affiliate of the Lender, or upon the occurrence and during the continuance of an Event of Default, as defined in the Senior Secured Note. Notwithstanding, the Company obtained from Scopia a Waiver Letter regarding the Company's compliance with both: the "subsidiary guaranty" provision of the Note and Guaranty Security Agreement with respect to the Company's majority-owned subsidiary Lucid Diagnostics Inc.; and Case Western Reserve University ("CWRU") having the right, in its sole discretion under the "EsoCheck™ License Agreement", to require the Company to transfer to CWRU a percentage, varying up to 100%, of the shares of common stock of Lucid Diagnostics Inc. held by PAVmed Inc., if Lucid Diagnostics Inc. does not meet certain milestones listed in the EsoCheck™ License Agreement. See Note 7, *Agreements Related to Acquired Intellectual Property Rights*, for information regarding the "EsoCheck™ License Agreement".

The Senior Secured Note had an estimated fair value of $4.6 million as of December 31. 2017. The Senior Secured Note July 3, 2017 issue-date fair value of $4.1 million was estimated using a discounted cash flow analysis with a required rate of return of 25.5%, with such rate of return determined through a synthetic credit rating analysis involving a comparison of market yields on publicly-traded secured corporate debentures with characteristics similar to those of the Senior Secured Note. The Series S Warrants issue-date fair value of $10.0 million was estimated using a Black-Scholes valuation model using the following assumptions:

Series S Warrants	Issue Date
Exercise price per share	$ 0.01
Value of common stock	$ 4.50
Expected term (years)	15.0
Volatility	48%
Risk free rate	2.4%
Dividend yield	0%

Note 13 — Preferred Stock

The Company is authorized to issue 20 million shares of its preferred stock, par value of $0.001 per share, with such designation, rights, and preferences as may be determined from time-to-time by the Company's board of directors.

As discussed below, as of December 31, 2018 and 2017, the following shares of preferred stock were issued and outstanding: 1,069,941 and 0 shares of Series B Convertible Preferred Stock (classified in permanent equity), respectively, 0 and 249,667 shares of Series A Convertible Preferred Stock (classified in temporary equity), respectively, and 0 and 357,259 shares of Series A-1 Convertible Preferred Stock (classified in permanent equity), respectively.

Previously, a total of 422,838 shares of Series A Convertible Preferred Stock and 422,838 Series A Warrants were issued in the "Series A Preferred Stock Units private placement" on the three separate closing dates in the three months ended March 31, 2017; and, 125,000 shares of Series A-1 Convertible Preferred Stock and 125,000 Series A-1 Warrants were issued in the "Series A-1 Preferred Stock Units private placement" on the August 4, 2017 close date - as each such Preferred Stock Units private placement transaction is discussed below.

On November 17, 2017, the "Series A Exchange Offer" was completed, wherein, 1.5 shares of Series A-1 Convertible Preferred Stock were issued-upon-exchange of one share of Series A Convertible Preferred Stock, and one Series A-1 Warrant was issued-upon-exchange of one Series A Warrant, with such exchanges referred to as the "Series A Exchange Offer" and the "November 17, 2017 Exchange Date". The Series A Exchange Offer was offered to all 28 holders and accepted by 13 holders of the Series A Convertible Preferred Stock and Warrants. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the November 17, 2017 Series A Exchange Offer.

On the November 17, 2017 Exchange Date, a total of 232,259 shares of Series A-1 Convertible Preferred Stock were issued-upon-exchange of 154,837 shares of Series A Convertible Preferred Stock and a total of 154,837 Series A-1 Warrants were issued-upon-exchange of 154,837 Series A Warrants. Additionally, in November and December 2017, a total of 18,334 shares of Series A Convertible Preferred Stock were converted into a total of 22,093 shares of common stock of the Company.

As of December 31, 2017, there were 249,667 shares of Series A Convertible Preferred Stock (classified in temporary equity), 357,259 shares of Series A-1 Convertible Preferred Stock (classified in permanent equity), 268,001 Series A Warrants, and 279,837 Series A-1 Warrants, each issued and outstanding.

On March 15, 2018, the "Series A and Series A-1 Exchange Offer" was completed, wherein, two shares of Series B Convertible Preferred Stock were issued-upon-exchange of one share of Series A Convertible Preferred Stock, and five Series Z Warrants were issued-upon-exchange of one Series A Warrant; and, 1.33 shares of Series B Convertible Preferred Stock were issued-upon-exchange of one share of Series A-1 Convertible Preferred Stock, and five Series Z Warrants were issued-upon-exchange of one Series A-1 Warrant. Collectively, such exchanges are referred to as the "Series A and Series A-1 Exchange Offer" and the "March 15, 2018 Exchange Date". The Series A and Series A-1 Exchange Offer was offered to and accepted by all holders of the Series A Convertible Preferred Stock and Series A Warrants and the Series A-1 Convertible Preferred Stock and Series A-1 Warrants. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the March 15, 2018 Series A and Series A-1 Exchange Offer.

On the March 15, 2018 Exchange Date: (i) a total of 975,568 shares of Series B Convertible Preferred Stock were issued-upon-exchange, including 499,334 shares of Series B Convertible Preferred Stock issued-upon-exchange of 249,667 shares of Series A Convertible Preferred Stock and 476,234 shares of Series B Convertible Preferred Stock issued-upon-exchange of 357,259 shares of Series A-1 Convertible Preferred Stock; and, (ii) a total of 2,739,190 Series Z Warrants were issued-upon-exchange, including 1,340,005 Series Z Warrants issued-upon-exchange of 268,001 Series A Warrants and 1,399,185 Series Z Warrants issued-upon-exchange of 279,837 Series A-1 Warrants.

As a result of the Series A and Series A-1 Exchange Offer, as of the March 15, 2018 Exchange Date, there were no issued and outstanding shares of Series A Convertible Preferred Stock and Series A Warrants, nor shares of Series A-1 Convertible Preferred Stock and Series A-1 Warrants, as each were fully exchanged-upon-issue of shares of Series B Convertible Preferred Stock and Series Z Warrants, respectively. Additionally, each of the corresponding Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability were each fully extinguished-upon-exchange as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding each such derivative liability.

Note 13 — Preferred Stock - continued

Series B Convertible Preferred Stock

As discussed above, as of December 31, 2018, 1,069,941 shares of Series B Convertible Preferred Stock (classified in permanent equity) were issued and outstanding, including: 975,568 shares issued-upon-exchange in the March 15, 2018 Exchange Offer, as such exchange offer is discussed above, 33,325 shares of Series B Convertible Preferred Stock converted into a corresponding number of shares of common stock of the Company in July 2018, at the holders election, and a total of 127,698 shares issued in settlement of the aggregate Series B Convertible Preferred Stock dividend payouts, as discussed below.

The Series B Convertible Preferred Stock has a par value of $0.001 per share, no voting rights, a stated value of $3.00 per share, and is immediately convertible upon its issuance. At the holders' election, a share of Series B Convertible Preferred Stock is convertible into a number of shares of common stock of the Company at a common stock conversion exchange factor equal to a numerator and denominator of $3.00, with each such numerator and denominator not subject to further adjustment, except for the effect of stock dividends, stock splits or similar events affecting the Company's common stock. The Series B Convertible Preferred Stock shall not be redeemed for cash and under no circumstances shall the Company be required to net cash settle the Series B Convertible Preferred Stock. The Series B Convertible Preferred Stock is equity-classified and the initial 975,568 shares issued-upon-exchange were measured at estimated fair value on the March 15, 2018 Exchange Date. See Note 11, *Financial Instruments Fair Value Measurements*, for a discussion of the issue date estimated fair value of the Series B Convertible Preferred Stock.

The Series B Convertible Preferred Stock provides for dividends at a rate of 8% per annum based on the $3.00 per share stated value of the Series B Convertible Preferred Stock, with such dividends compounded quarterly, accumulate, and are payable in arrears upon being declared by the Company's board of directors. The Series B Convertible Preferred Stock dividends from April 1, 2018 through October 1, 2021 are payable-in-kind ("PIK") in additional shares of Series B Convertible Preferred Stock. The dividends may be settled after October 1, 2021, at the option of the Company, through any combination of the issuance of additional Series B Convertible Preferred Stock, shares of common stock, and /or cash payment. The Series B Convertible Preferred Stock dividends are included in the calculation of basic and diluted net loss attributable to PAVmed Inc. common stockholders as applicable for each of the periods presented.

To-date through December 31, 2018, the Company's board of directors have declared Series B Convertible Preferred Stock dividend payment of earned but unpaid dividends as of September 30, 2018, payable as of October 1, 2018, of an aggregate of $382,920, with such dividend payment settled by the issue of an additional 127,698 shares of Series B Convertible Preferred Stock in accordance with the PAVmed Inc. Certificate of Designation of Preferences, Rights, and Limitations of Series B Convertible Preferred Stock ("Series B Convertible Preferred Stock Certificate of Designation").

The previous Series B Convertible Preferred Stock dividend payable as of July 1, 2018 of earned but unpaid dividends as of June 30, 2018, was inclusive of $243,994 of total dividends related to the previously held and exchanged respective shares of Series A and Series A-1 Convertible Preferred Stock, each earned through the March 15, 2018 Exchange Date, and, upon-exchange, such dividend balance was transferred to the respective holders' Series B Convertible Preferred Stock dividend balances.

As of December 31, 2018, Series B Convertible Preferred Stock dividends of $64,196 were cumulatively earned, unpaid, accumulated, and in arrears, as the Company's board of directors had not declared such dividends payable as of December 31, 2018, and, therefore, were not recognized as a dividend payable liability in the accompanying consolidated balance sheet. Subsequently, in January 2019, the Company's board-of-directors declared a Series B Convertible Preferred Stock dividend payment of earned but unpaid dividends as of December 31, 2018, payable as of January 1, 2019, of $64,196, with such dividend payment settled by the issue of an additional 21,413 shares of Series B Convertible Preferred Stock in accordance with the Series B Convertible Preferred Stock Certificate of Designation.

Note 13 — Preferred Stock - continued

Series A Preferred Stock Units Private Placement

On January 26, 2017, the Company entered into a Securities Purchase Agreement, wherein an aggregate of $3,000,000 of Series A Preferred Stock Units may be issued at a price of $6.00 per unit in a private placement transaction ("Series A Preferred Stock Units private placement"). At the Series A Preferred Stock Units private placement initial closing on January 26, 2017, and at subsequent closings on January 31, 2017 and March 8, 2017, a total of 422,838 Series A Preferred Stock Units were issued for aggregate gross proceeds of approximately $2.5 million and net proceeds of approximately $2.2 million, after payment of placement agent fees and closing costs.

The Series A Preferred Stock Unit was comprised of one share of Series A Convertible Preferred Stock and one Series A Warrant. The Series A Convertible Preferred Stock and Series A Warrants were immediately separable upon their issuance, and became convertible and exercisable, respectively, on May 21, 2017 upon stockholder approval of the Series A Preferred Stock Units private placement, with such approval obtained in accordance with Nasdaq Stock Market Rule 5635(d).

At the election of their respective holder, a share of Series A Convertible Preferred Stock was convertible into a number of shares of common stock of the Company at a prescribed common stock exchange factor, and, a Series A Warrant was exercisable for one share of common stock of the Company, or could have been exchanged for four Series X Warrants, with each such Series X Warrant exercisable for one share of common stock of the Company. See Note 14, *Stockholders Equity and Common Stock Purchase Warrants*, for further information with respect to the Series A Warrants, and the Series X Warrants.

The Series A Warrant and the Series A Convertible Preferred Stock conversion option were each determined to be a derivative liability under FASB ASC 815, as discussed below. The issuance of the Series A Preferred Stock Units resulted in the recognition of a loss of $3,124,285, resulting from the aggregate initial fair value of each of the Series A Warrant and the Series A Convertible Preferred Stock conversion option derivative liability, being in excess of the gross proceeds of the Series A Preferred Stock Units private placement, with such excess amounting to $2,735,657, recognized as a current period expense, along with offering costs of $388,628, which were also recognized as a current period expense, as follows:

	Series A Preferred Stock Units Issue Dates (Aggregate)
Series A Preferred Stock Units issuance gross proceeds	$ 2,537,012
Less: Series A Warrants derivative liability initial fair value	(4,050,706)
Less: Series A Convertible Preferred Stock conversion option derivative liability initial fair value	(1,221,963)
Excess of initial fair value of derivative liabilities over gross proceeds	(2,735,657)
Offering costs of the issuance of the Series A Preferred Stock Units	(388,628)
Loss on issuance of Series A Preferred Stock Units	$ (3,124,285)

See Note 11, Financial Instruments Fair Value Measurements, for information with respect to the initial issue date estimated fair valueof each of the Series A Warrants derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability.

Note 13 — Preferred Stock - continued

Series A Convertible Preferred Stock

As discussed above, as of December 31, 2017, there were 249,667 shares of Series A Convertible Preferred Stock issued and outstanding, and, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A Convertible Preferred Stock, and the corresponding Series A Convertible Preferred Stock conversion option derivative liability was fully extinguished-upon-exchange for the Series B Convertible Preferred Stock. See above for further information regarding the Series B Convertible Preferred Stock issued-upon-exchange of the Series A Convertible Preferred Stock, and, see Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding both the March 15, 2018 Series A and Series A-1 Exchange Offer and the November 17, 2017 Series A Exchange Offer.

The Series A Convertible Preferred Stock, classified in temporary equity in the consolidated balance sheet, had a par value of $0.001 per share, no voting rights, a stated value of $6.00 per share, and became convertible on May 21, 2017 upon stockholder approval of the Series A Preferred Stock Units private placement, with such approval obtained in accordance with Nasdaq Stock Market Rule 5635(d). The Series A Convertible Preferred Stock has a carrying value of $0 resulting from the issuance date initial fair values of the Series A Warrant derivative liability and the Series A Convertible Preferred Stock conversion option derivative liability being in excess of the Series A Preferred Stock Units private placement issuance gross proceeds, with such excess recognized as a current period loss in the consolidated statement of operations, as discussed above.

At the holders' election, a share of Series A Convertible Preferred Stock was convertible into a number of shares of common stock of the Company at a common stock conversion exchange factor equal to a (fixed) numerator of $6.00 and a denominator subject to further adjustment by a prescribed formula should any subsequent issuances by the Company of common stock, or securities convertible into common stock, be at a price lower than such denominator immediately prior to such new issuance. Previously, at issuance, the Series A Convertible Preferred Stock common stock conversion exchange factor denominator was initially $6.00, and was subsequently adjusted to $5.00 upon the issuance of the Series S Warrants on July 3, 2017, then to $4.99 upon the issuance of the Series A-1 Preferred Stock Units on August 4, 2017, and then to $4.97 upon the issuance of Series A-1 Convertible Preferred Stock and Series A-1 Warrants on the November 17, 2017 Exchange Date of the Series A Exchange Offer.

Conversion of Series A Convertible Preferred Stock

At the election of their respective holders, in November 2017, 8,334 shares of Series A Convertible Preferred Stock were converted into 10,021 shares of common stock of the Company, and in December 2017, 10,000 shares of Series A Convertible Preferred Stock were converted into 12,072 shares of common stock of the Company. The Series A Convertible Preferred Stock conversion option derivative liability fair value was adjusted as of each respective conversion date, with the resulting change in fair value recognized as other income or expense in the consolidated statement of operations, and immediately thereafter, the corresponding Series A Convertible Preferred Stock conversion option derivative liability was derecognized, with a corresponding recognition of common stock par value and additional paid-in capital with respect to the resulting issue of shares of common stock of the Company, summarized as follows:

Series A Convertible Preferred Stock Converted to Shares of Common Stock of the Company November and December 2017		Conversion Dates Aggregated
Shares of Series A Convertible Preferred Stock converted to common stock of the Company		18,334
Shares of common stock issued upon conversion of Series A Convertible Preferred Stock		22,093
Fair Value - Series A Convertible Preferred Stock conversion option derivative liability derecognized	$	27,335
Common stock issued - par value	$	22
Common stock issued - additional paid-in capital	$	27,313

On each of the respective conversion dates, the Series A Convertible Preferred Stock conversion option derivative liability fair value was estimated using a Monte Carlo simulation valuation model using the Company's common stock price, the Company's dividend yield, the risk-free rates based on U.S. Treasury security yields, and certain other Level-3 inputs to take into account the probabilities of certain events occurring over their respective life, including, assumptions regarding the estimated volatility in the value of the Company's common stock price and the likelihood and timing of future dilutive transactions, as applicable.

In August 2018, the Company's board of directors declared a Series A Convertible Preferred Stock dividend payment dated July 1, 2018 of earned but unpaid dividends totaling $7,099 with respect to the shares of Series A Convertible Preferred Stock previously converted in November and December 2017, as discussed above. The Series A Convertible Preferred Stock dividends were settled with cash payments. See below for a further discussion of the Series A Convertible Preferred Stock dividends.

Note 13 — Preferred Stock - continued

Series A Convertible Preferred Stock

The Series A Convertible Preferred Stock conversion option is accounted for as a bifurcated derivative liability under FASB ASC 815, as along with other provisions, the Series A Convertible Preferred Stock common stock exchange factor denominator, as discussed above, is subject to potential adjustment resulting from future financing transactions, under certain conditions. The Series A Convertible Preferred Stock conversion option derivative liability is classified as a current liability on the balance sheet, initially measured at fair value at the time of issuance, and subsequently remeasured at fair value at each reporting period, with changes in its fair value recognized as other income or expense in the statement of operations. Upon the occurrence of an event resulting in the Series A Convertible Preferred Stock conversion option derivative liability to be subsequently derecognized, its fair value will first be adjusted on such date, with the fair value adjustment recognized as other income or expense, and then such derivative liability will be derecognized. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the fair value of the Series A Convertible Preferred Stock conversion option derivative liability.

The Series A Convertible Preferred Stock provided for dividends at a rate of 8% per annum based on the $6.00 per share stated value of the Series A Convertible Preferred Stock, with such dividends compounded quarterly, accumulate, and are payable in arrears upon being declared by the Company's board of directors. The Series A Convertible Preferred Stock dividends from April 1, 2017 through April 1, 2021 were payable-in-kind ("PIK") in additional shares of Series A Convertible Preferred Stock. Upon the closing of the Series A and Series A-1 Exchange Offer on the March 15, 2018 Exchange Date, cumulative aggregate earned, unpaid, and undeclared Series A Convertible Preferred Stock dividends of $139,058 were transferred to the respective holders' Series B Convertible Preferred Stock dividend balances, with such balance transferred inclusive of $26,487 earned for the period January 1, 2018 through the March 15, 2018 Exchange Date. In the prior year period, Series A Convertible Preferred Stock dividends of $119,669 for the year ended December 31, 2017 were earned and undeclared. The Series A Convertible Preferred Stock dividends for each respective period were earned, unpaid, accumulated, and in arrears, as the Company's board of directors had not declared such dividends payable, and, therefore, such dividends are were recognized as a dividend payable liability in the consolidated balance sheet until declared by the Company's board of directors. Notwithstanding, the Series A Convertible Preferred Stock dividends earned and undeclared for the year ended December 31, 2018 and 2017 are included in the calculation of basic and diluted net loss attributable to PAVmed Inc. common stockholders for each respective period.

In the event of a Deemed Liquidation Event, as defined in the Certificate of Designation of Preferences, Rights, and Limitations of the Series A Convertible Preferred Stock, the Series A Convertible Preferred Stock can become redeemable at the election of at least two-thirds of holders of the then number of issued and outstanding Series A Convertible Preferred Stock, if the Company fails to effect a dissolution of the Company under the Delaware General Corporation Law within ninety (90) days after such Deemed Liquidation Event. In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Company or a Deemed Liquidation Event, as defined, the holders of the Series A Convertible Preferred Stock then outstanding are entitled to be paid out the assets of the Company available for distribution to its stockholders before any payment shall be made to the holders of the common stock of the Company, an amount per share equal to the greater of (i) the stated value, plus any dividends accrued but unpaid, or (ii) such amount per share as would have been payable had all the shares of Series A Convertible Preferred Stock been converted into shares of common stock of the Company prior to such liquidation, dissolution, winding up, or Deemed Liquidation Event, as defined. As the Deemed Liquidation Event, as defined, is a contingent event, the Series A Convertible Preferred Stock is classified outside of stockholders' equity in temporary ("mezzanine") equity. Further, as the Series A Convertible Preferred Stock is not currently redeemable and redemption is not probable, as a Deemed Liquidation Event, as defined, has not occurred and is not probable, the Series A Convertible Preferred Stock will not be measured at fair value until such time as a redemption trigger occurs which causes redemption to be probable.

Note 13 — Preferred Stock - continued

Series A-1 Preferred Stock Units Private Placement

On August 4, 2017, the Company entered into a Securities Purchase Agreement pursuant to which the Company may issue up to an aggregate of $600,000 (subject to increase) of Series A-1 Preferred Stock Units at a price of $4.00 per unit, in a private placement transaction (Series A-1 Preferred Stock Units private placement). On the August 4, 2017 closing date of the Series A-1 Preferred Stock Units private placement, a total of 125,000 Series A-1 Preferred Stock Units were issued for cash proceeds of $500,000 - the Company did not incur placement agent fees in connection with the Series A-1 Preferred Stock Units private placement. The Series A-1 Preferred Stock Unit was comprised of one share of Series A-1 Convertible Preferred Stock and one Series A-1 Warrant, and at their issuance were immediately separable, and each was immediately convertible and exercisable, respectively.

At the election of their respective holder, a share of Series A-1 Convertible Preferred Stock was convertible into one share of common stock of the Company at a prescribed common stock exchange factor, and, a Series A-1 Warrant was exercisable for one share of common stock of the Company or could have been exchanged for four Series X-1 Warrants or five Series W Warrants, with each such warrant exercisable for one share of common stock of the Company - each as more fully described herein below.

On October 18, 2017, the Series A-1 Convertible Preferred Stock holders unanimously approved Amendment No. 1 to Series A-1 Preferred Stock Units private placement transaction documents ("Series A-1 Amendment No. 1), wherein, a Series A-1 Warrant may be exchanged for four Series X-1 Warrants or exchanged for five Series W Warrants. See herein below for a discussion of the expense recognized resulting from the Series A-1 Amendment No. 1 modification to provide for the additional exchange of one Series A-1 Warrant for five Series W Warrants. The Series X-1 Warrants replaced the previous election to exchange one Series A-1 Warrant for four Series X Warrants. The Series X-1 Warrants are substantively equivalent to the Series X Warrants with respect to material contractual terms and conditions, including the same $6.00 per share exercise price, and dates of exercisability and expiry. The Series X-1 Warrant also confirms such warrants are not subject to redemption, and under no circumstances will the Company be required to net cash settle the Series X-1 Warrants, for any reason, nor to pay any liquidated damages or other payments, resulting from a failure to satisfy any obligations under the Series X-1 Warrant, notwithstanding such provisions were applicable to the Series X Warrant through the operation of the Securities Purchase Agreement of the Series A-1 Preferred Stock Units private placement.

Additionally, the Series A-1 Amendment No. 1 removed the requirement for the Company to file an initial registration statement within sixty days of the Series A-1 Close Date. Further, on December 29, 2017, the Series A-1 Convertible Preferred Stock holders unanimously approved Amendment No.2 to Series A-1 Preferred Stock Units private placement transaction documents ("Series A-1 Amendment No. 2), wherein, the due date for an effective registration statement was changed to 210 days from 150 days of the August 4, 2017 close date of the Series A-1 Preferred Stock Units private placement. See Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for further information with respect to the modification expense recognized in connection with the Series A-1 Warrant Agreement Amendment No.1 and for a discussion of the Series X-1 Warrants or Series W Warrants issued upon exchange of a Series A-1 Warrant.

The Series A-1 Preferred Stock Units private placement cash proceeds of $500,000 were allocated as $189,550 to the Series A-1 Convertible Preferred Stock and $310,450 to the Series A-1 Warrants, based on their respective relative fair value. The issue-date fair value of the Series A-1 Convertible Preferred Stock was estimated using a combination of the Series A-1 Convertible Preferred Stock's present value of its cash flows using a required rate of return determined through a synthetic credit rating analysis and the Black-Scholes valuation model; and the fair value of the Series A-1 Warrants was estimated using a Black-Scholes valuation model and assuming the exchange of one Series A-1 Warrant for four Series X Warrants, using the following assumptions:

Fair Value Assumptions - Issue Date	Series A-1 Convertible Preferred Stock	Series A-1 Warrants
Allocated fair value	$ 189,550	$ 310,450
Series A-1 Convertible Preferred Stock /Series A-1 Warrants	125,000	125,000
Value of common stock	$ 2.98	2.98
Common stock conversion factor numerator	$ 4.00	N/A
Common stock conversion factor denominator	$ 4.00	N/A
Exercise price per share - Series X Warrants	N/A	$ 6.00
Required rate of return	27.0%	N/A
Expected term (years)	6.74	6.74
Volatility	52%	52%
Risk free rate	2.0%	2.0%
Dividend yield	0%	0%

Note 13 — Preferred Stock - continued

Series A-1 Convertible Preferred Stock

As discussed above, as of December 31, 2017, there were 357,259 shares of Series A-1 Convertible Preferred Stock issued and outstanding, and, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no issued and outstanding shares of Series A-1 Convertible Preferred Stock. See above for further information regarding the Series B Convertible Preferred Stock issued-upon-exchange of the Series A-1 Convertible Preferred Stock, and, see Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding both the March 15, 2018 Series A and Series A-1 Exchange Offer and the November 17, 2017 Series A Exchange Offer.

The Series A-1 Convertible Preferred Stock was classified in permanent equity in the consolidated balance sheet, had a par value of $0.001 per share, no voting rights, a stated value of $4.00 per share, and was immediately convertible upon its issuance. At the holders' election, a share of Series A Convertible Preferred Stock was convertible into one share of common stock of the Company at a common stock conversion exchange factor equal to a (fixed) numerator of $4.00 and a denominator of $4.00, with such denominator not subject to further adjustment, except for the effect of stock dividends, stock splits or similar events affecting the Company's common stock. The Series A-1 Convertible Preferred Stock was not be redeemed for cash and under no circumstances shall the Company be required to net cash settle the Series A-1 Convertible Preferred Stock.

As discussed above, the Series A-1 Preferred Stock Units private placement cash proceeds allocated to the Series A-1 Convertible Preferred Stock of $189,550 resulted in an effective conversion price below the issue-date fair value of the underlying shares of common stock of the Company, resulting in a $182,500 beneficial conversion feature, which was accounted for as an implied discount on the Series A-1 Convertible Preferred Stock. The Series A-1 Convertible Preferred Stock does not have a stated redemption date and was immediately convertible upon issuance, resulting in the full accretion of the beneficial conversion feature as a deemed dividend paid to the Series A-1 Convertible Preferred Stock on the August 4, 2017 issue date, with such deemed dividend included as a component of net loss attributable to attributable to common stockholders.

The Series A-1 Convertible Preferred Stock provided for dividends at a rate of 8% per annum on the $4.00 per share stated value of the Series A-1 Convertible Preferred Stock, with such dividends compounded quarterly, accumulate, and are payable in arrears upon being declared by the Company's board of directors. The Series A-1 Convertible Preferred Stock dividends from October 1, 2017 through October 1, 2021 were payable-in-kind ("PIK") in additional shares of Series A-1 Convertible Preferred Stock. Upon the closing of the Series A and Series A-1 Exchange Offer on the March 15, 2018 Exchange Date, cumulative aggregate earned, unpaid, and undeclared Series A-1 Convertible Preferred Stock dividends of $104,936 were transferred to the respective holders' Series B Convertible Preferred Stock dividend balances, with such balance transferred inclusive of $25,148 earned for the period January 1, 2018 through the March 15, 2018 Exchange Date. In the prior year period, Series A-1 Convertible Preferred Stock dividends of $79,788 for the year ended December 31, 2017 were earned and undeclared. The Series A-1 Convertible Preferred Stock dividends for each respective period were earned, unpaid, accumulated, and in arrears, as the Company's board of directors had not declared such dividends payable, and, therefore, such dividends were not recognized as a dividend payable liability in the consolidated balance sheet until declared by the Company's board of directors. Notwithstanding, the Series A-1 Convertible Preferred Stock dividends earned and undeclared for the year ended December 31, 2018 and 2017 are included in the calculation of basic and diluted net loss attributable to PAVmed Inc. common stockholders for each respective period.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants

Common Stock

As of December 31, 2018, the Company is authorized to issue up to 75.0 million shares of common stock, par value of $0.001 per share. There were 27,142,979 and 14,551,234 shares of common stock issued and outstanding, as of December 31, 2018 and 2017, respectively, summarized as follows:

Shares of Common Stock Issued and Outstanding	
Issued and outstanding as of December 31, 2017	14,551,234
Equity Subscription Rights Offering	9,000,000
Underwritten public offering	2,649,818
Repayment of debt - Senior Secured Note	600,000
Series W Warrant exercises	34,345
Series S Warrant exercises	274,257
Series B Convertible Preferred Stock conversion	33,325
Issued and outstanding as of December 31, 2018	27,142,979
Issued and outstanding as of December 31, 2016	13,330,811
Series W Warrant exercises	12,250
Series S Warrant exercises	1,186,080
Series A Convertible Preferred Stock conversion	22,093
Issued and outstanding as of December 31, 2017	14,551,234

- On December 27, 2018, 600,000 shares of common stock of the Company were issued in connection with the repayment of the Senior Secured Note debt. See Note 12, Debt, for further information with respect to the Senior Secured Note repayment.

- The Company completed an equity subscription rights offering on the June 7, 2018 expiration date of the equity subscription period, with such transaction having a June 12, 2018 close date - referred to herein as the "June 12, 2018 Equity Subscription Rights Offering" - and was completed under a registration statement on Form S-1 - File No. 333-222581 - declared effective by the SEC on May 23, 2018.

  The June 12, 2018 Equity Subscription Rights Offering - "ESRO" - involved the Company distributing one non-transferable equity subscription for each of the 17,509,654 issued and outstanding shares of common stock of the Company, as of the record date of May 21, 2018, subject-to the acceptance by the Company of a maximum of 9,000,000 fully-paid equity subscriptions tendered as of the June 7, 2018 expiration date of the equity subscription period. The equity subscription provided for the purchase of a common stock unit at a $1.15 per unit, with each such unit comprised of one share of common stock of the Company and one Series Z Warrant, and immediately separated upon issue into its underlying components.

  The June 12, 2018 ESRO resulted in approximately $10.4 million of gross cash proceeds, before approximately $1.0 million of commissions and fees to the dealer-managers, and approximately $0.2 million of offering costs incurred by the Company, upon the issue on June 12, 2018 of 9.0 million common stock units, comprised of one share of common stock of the Company and one Series Z Warrant, as noted above. The June 12, 2018 ESRO proceeds after the dealer-manager commissions and fees and the offering costs incurred by the Company, were allocated based on relative fair value of approximately $7.1 to the shares of common stock par value and additional paid-in capital and approximately $2.1 million to additional paid-in capital with respect to the Series Z Warrants.

- In January 2018, the Company conducted an underwritten public offering resulting in the issue of a total of 2,649,818 shares of common stock of the Company pursuant to its previously filed and effective shelf registration statement on SEC Form S-3 - File No. 333-220549 - declared effective October 6, 2017, along with a corresponding prospectus supplement dated January 19, 2018. On January 19, 2018, the Company entered into an underwriting agreement with Dawson James Securities, Inc., as sole underwriter, under which the Company agreed to issue to the underwriter at $1.80 per share, 2,415,278 shares of common stock on a firm commitment basis and up to an additional 362,292 shares solely to cover underwriter over-allotments, if any, at the option of the underwriter, exercisable within 45 calendar days from January 19, 2018. On January 23, 2018, 2,415,278 shares of common stock of the Company were issued, and on January 25, 2018, an additional 234,540 shares of common stock of the Company were issued under the underwriter's over-allotment, resulting in cash proceeds, net of the underwriter's discount of $4,388,099, before $113,438 of offering costs incurred by the Company.

- On February 8, 2018, the Company issued at total 34,345 shares of common stock from the exercise of a corresponding number of Series W Warrants, at temporary exercise price of $2.00 per share, resulting in $68,690 of cash proceeds, before offering costs of $50,520. See herein below for a discussion of the "Series W Warrants Offer-to-Exercise".

- In March 2018, 274,257 shares of common stock of the Company were issued, resulting from a corresponding number of Series S Warrants exercised for $2,743 of cash proceeds.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Common Stock - continued

- In July 2018, 33,325 shares of common stock of the Company were issued upon the conversion of a corresponding number of shares of Series B Convertible Preferred Stock.

- In March and September 2017, 400 shares and 11,850 shares of common stock of the Company were issued, resulting from a corresponding number of Series W Warrants exercised for $2,000 and $59,250 of cash proceeds, respectively.

- In October 2017, 532,000 shares of common stock of the Company were issued, resulting from a corresponding number of Series S Warrants exercised for $5,320 of cash proceeds; in November 2017, 122,080 shares of common stock of the Company were issued, resulting from the cashless exercise of 122,360 Series S Warrants; and, in November 2017, 532,000 shares of common stock of the Company were issued, resulting from a corresponding number of Series S Warrants exercised for $5,320 of cash proceeds.

- In November and December 2017, 10,021 and 12,072 shares of common stock of the Company were issued upon the conversion of 8,334 and 10,000 shares of Series A Convertible Preferred Stock, respectively.

As discussed in Note 12, *Debt*, 50,044 shares of common stock of the Company were subsequently issued in March 2019, in connection with the Senior Convertible Note Voluntary Adjustment of the conversion price.

Common Stock Purchase Warrants

The following table summarizes outstanding warrants to purchase common stock of the Company at the dates indicated:

	Common Stock Purchase Warrants Issued and Outstanding at				
	December 31, 2018	Weighted Average Exercise Price /Share	December 31, 2017	Weighted Average Exercise Price	Expiration Date
Equity classified warrants					
Series Z Warrants	16,815,039	$ 1.60	—	$ —	April 2024
UPO - Series Z Warrants	53,000	$ 1.60	—	$ —	January 2022
Series W Warrants	381,818	$ 5.00	10,567,845	$ 5.00	January 2022
UPO - Series W Warrants	—	$ —	53,000	$ 5.00	January 2022
Series S Warrants	1,199,383	$ 0.01	1,473,640	$ 0.01	June 2032
Series A-1 Warrants	—	$ —	279,837	$ 6.67	April 2024
Liability classified warrants					
Series A Warrants	—	$ —	268,001	$ 6.61	April 2024
Total	18,449,240	$ 1.57	12,642,323	$ 4.49	

Series Z Warrants

There were 16,815,039 Series Z Warrants issued and outstanding as of December 31, 2018, including: the initial issue of 2,739,190 Series Z Warrants on the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, as such exchange offer is discussed above; the issue of 5,075,849 Series Z Warrants on the April 5, 2018 Exchange Date of the "Series W Warrants Exchange Offer", as such exchange offer is discussed below; and the issue of 9,000,000 Series Z Warrants on the June 12, 2018 close date of the Equity Subscription Rights Offering, as such offering is discussed above.

Upon issue, a Series Z Warrant is exercisable to purchase one share of common stock of the Company at an exercise price of $1.60 per share, effective June 1, 2018. The Series Z Warrant exercise price was initially $3.00 per share through May 31, 2018. On May 15, 2018, the Company's board of directors approved a reduction to the Series Z Warrant exercise price to $1.60 per share, effective June 1, 2018, upon completion of the period-of-notice to the holders of Series Z Warrants then issued and outstanding. See herein below for further information with respect to the modification expense recognized in connection with the Series Z Warrant exercise price adjustment. The Series Z Warrant $1.60 exercise price is not subject-to further adjustment, unless by action of the PAVmed Inc board of directors, or the effect of stock dividends, stock splits or similar events affecting the common stock of the Company. Under no circumstances will the Company be required to net cash settle the Series Z Warrants, nor to pay any liquidated damages in lieu of delivery of shares of common stock of the Company resulting from a failure to satisfy any obligations under the Series Z Warrant, and, the Series Z Warrants expire after the close of business on April 30, 2024, if not earlier redeemed by the Company, as discussed below.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Common Stock Purchase Warrants - continued

Series Z Warrants - continued

Commencing on May 1, 2019, the Company may redeem the outstanding Series Z Warrants, at the Company's option, in whole or in part, at a price of $0.01 per Series Z Warrant at any time while the Series Z Warrants are exercisable, upon a minimum of 30 days' prior written notice of redemption, if, and only if, the volume weighted average closing price of the common stock of the Company equals or exceeds $9.00 (subject to adjustment) for any 20 out of 30 consecutive trading days ending three business days before the Company issues its notice of redemption, and provided the average daily trading volume in the common stock of the Company during such 30-day period is at least 20,000 shares per day; and if, and only if, there is a current registration statement in effect with respect to the shares of Common Stock underlying such Series Z Warrants.

As noted above, on April 5, 2018, a total of 5,075,849 Series Z Warrants were issued-upon-exchange of 10,151,682 Series W Warrants, referred to as the "Series W Warrants Exchange Offer" and the "April 5, 2018 Exchange Date". In this regard, pursuant to an offer-to-exchange letter dated February 20, 2018, as included in a Tender Offer Statement on Schedule TO filed with the SEC on February 20, 2018, the Company offered to issue one Series Z Warrant in exchange for two Series W Warrants. Such Series W Warrants Exchange Offer commenced on February 20, 2018 and had April 2, 2018 expiration date. The Series W Warrants Offer-to-Exchange was completed after expiration of the guaranteed delivery period on April 5, 2018.

The Series Z Warrant exercise price adjustment to $1.60 per share from $3.00 per share, as discussed above, resulted in the recognition of a modification expense on the June 1, 2018 effective date of the Series Z Warrant exercise price adjustment, under the analogous guidance with respect to stock option modification under FASB ASC Topic 718, *Stock-Based Compensation* (ASC 718), wherein an exchange of warrants is deemed to be a modification of the initial warrant agreement by the replacement with a revised warrant agreement, requiring the incremental fair value, measured as the difference between the fair value immediately after the modification as compared to the fair value immediately before the modification, to the extent an increase, recognized as a modification expense. In this regard, the Series Z Warrant June 1, 2018 exercise price adjustment resulted in the recognition of a current period modification expense of $1,140,995 included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid-in capital in the consolidated balance sheet. The modification expense incremental fair value was estimated using a Black-Scholes valuation model, using the following assumptions:

Fair Value Assumptions - June 1, 2018 Series Z Warrant Exercise Price Adjustment	Immediately After Modification	Immediately Before Modification
Calculated aggregate estimated fair value	$ 3,477,692	$ 2,336,697
Series Z Warrants - issued and outstanding - June 1, 2018	7,815,039	7,815,039
Value of common stock per share	$ 1.00	$ 1.00
Exercise price per share - Series Z Warrant	$ 1.60	$ 3.00
Expected term - years	5.9	5.9
Volatility	58%	58%
Risk free interest rate	2.8%	2.8%
Dividend yield	0%	0%

Additionally, the Series Z Warrants issued in both the Series A and Series A-1 Exchange Offer on March 15, 2018 and the Series W Warrants Exchange Offer on April 5, 2018, as each exchange offer is discussed above, were issued under the (original) "Series Z Warrant Agreement". The Company's board of directors approved Amendment No. 1 to the original Series Z Warrant Agreement, resulting in the "Amended and Restated Series Z Warrant Agreement", dated June 8, 2018, referred to as the Amended Series Z Warrant Agreement. The principal provisions of the Series Z Warrant Agreement Amendment No. 1, include among other items: to provide for a "late delivery fee" for shares issued outside of the "standard delivery period", including delivery of shares upon Series Z Warrant exercise for open market or other purchase transactions - i.e. "buy-in fee", with each such payment, if any, in addition to and not in lieu of delivery of shares, and, to provide for a standard provision ("plain vanilla") in the event the Company engages in a "Fundamental Transaction", as defined, wherein the Series Z Warrant may participate pari passu with common stockholders in the consideration paid by an acquiror for the Company's shares, with such payment, if any, made by the acquiring entity and not paid by the Company as issuer. The Series Z Warrant Agreement Amendment No. 1, was evaluated under the analogous guidance with respect to stock option modification under FASB ASC 718, as discussed above, but did not result in the recognition of a modification expense as there was no incremental increase in the estimated fair value as described above.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Common Stock Purchase Warrants - continued

Series W Warrants

There were 381,818 and 10,567,845 Series W Warrants issued and outstanding as of December 31, 2018 and 2017, respectively. The Series W Warrants have an exercise price of $5.00 per share, with such exercise price not subject to further adjustment, except in the event of stock dividends, stock splits or similar events affecting the common stock of the Company, and became exercisable on October 28, 2016 and expire on January 29, 2022, or earlier upon redemption by the Company, as discussed below. Under no circumstances will the Company be required to net cash settle the Series W Warrants, nor to pay any liquidated damages resulting from a failure to satisfy any obligations under the Series W Warrant.

Previously, a total of 1,060,000 Series W Warrants were issued on the April 28, 2016 closing date of the Company's IPO, and on the same April 28, 2016 IPO closing date, there were 9,560,295 remaining unexercised warrants previously issued in private placements before the IPO, with such warrants automatically converted into identical Series W Warrants issued in the IPO, and are therefore aggregated with the Series W Warrants issued in the IPO, and together are collectively referred to as "Series W Warrants".

The Series W Warrant Exchange Offer, as discussed above, resulted in the recognition of a modification expense on the April 5, 2018 Exchange Date, under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the "Series Z Warrant June 1, 2018 exercise price adjustment". In this regard, the Series W Warrants exchanged-upon-issue of the Series Z Warrants resulted in the recognition of a current period modification expense of $766,456 included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid-in capital, resulting from the incremental estimated fair value of the consideration given of $3,304,377 of the 5,075,849 Series Z Warrants issued-upon-exchange as compared of the $2,537,921 estimated fair value of the 10,151,682 Series W Warrants extinguished-upon-exchange. The April 5, 2018 Exchange Date estimated fair values of each of the Series Z Warrants and Series W Warrants noted above, were each computed using the Black-Scholes option pricing model, using the following assumptions:

Fair Value Assumptions

April 5, 2018 Exchange Date	Series Z Warrants	Series W Warrants
Calculated aggregate estimated fair value	$ 3,304,377	$ 2,537,921
Series Z Warrants issued-upon-exchange	5,075,849	—
Series W Warrants extinguished-upon-exchange	—	10,151,682
Value of common stock	$ 1.66	$ 1.66
Exercise price per share	$ 3.00	$ 5.00
Expected term (years)	2.7	3.8
Volatility	55%	55%
Risk free rate	2.7%	2.5%
Dividend yield	0%	0%

On January 11, 2018, the Company filed with the SEC a Tender Offer Statement on Schedule TO offering Series W Warrants holders a temporary exercise price of $2.00 per share, with such offer having an expiry of February 8, 2018, referred to as the "Series W Warrants Offer-to-Exercise". As of the February 8, 2018 expiry date, a total of 34,345 Series W Warrants were exercised at the temporary exercise of $2.00 per share, resulting in $68,690 of cash proceeds, before offering costs of $50,520.

In March 2017 and September 2017, 400 and 11,850 Series W Warrants were exercised for cash proceeds of $2,000 and $59,250, respectively, resulting in the issuances of a corresponding number of shares of common stock of the Company.

Commencing April 28, 2017, the Company may redeem the outstanding Series W Warrants (other than those outstanding prior to the IPO held by the Company's management, founders, and members thereof, but including the warrants held by the initial investors), at the Company's option, in whole or in part, at a price of $0.01 per warrant: at any time while the warrants are exercisable; upon a minimum of 30 days' prior written notice of redemption; if, and only if, the volume weighted average price of the Company's common stock equals or exceeds $10.00 (subject-to adjustment) for any 20 consecutive trading days ending three business days before the Company issues its notice of redemption, and provided the average daily trading volume in the stock is at least 20,000 shares per day; and, if, and only if, there is a current registration statement in effect with respect to the shares of common stock of the Company underlying such warrants. The right to exercise will be forfeited unless the Series W Warrants are exercised prior to the date specified in the notice of redemption. On and after the redemption date, a record holder of an Series W Warrant will have no further rights except to receive the redemption price for such holder's Series W Warrant upon its surrender.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Common Stock Purchase Warrants - continued

Series S Warrants

There were 1,199,383 and 1,473,640 Series S Warrants issued and outstanding as of December 31, 2018 and 2017, respectively. Previously, under the Note and Security Purchase Agreement with Scopia, the Company issued a total of 2,660,000 Series S Warrants to Scopia and its designees, which were immediately exercisable upon issuance and each may be exercised for one share of common stock of the Company at an exercise price of $0.01 per share, with such exercise price not subject to further adjustment, except for the effect of stock dividends, stock splits or similar events affecting the common stock of the Company. The Series S Warrants may be exercised for cash or on a cashless basis. Any Series S Warrants outstanding on the June 30, 2032 expiration date will be automatically exercised on a cashless basis.

In March 2018, a total of 274,257 Series S Warrants exercised for $2,743 of cash proceeds, resulting in the issue of a corresponding number of a shares of common stock of the Company. In each of October 2017 and November 2017, 532,000 (or a total of 1,064,000) Series S Warrants were exercised for total cash proceeds of $10,640, resulting in the issuance of a corresponding number of shares of common stock of the Company, and in November 2017, a total of 122,360 Series S Warrants were exercised on a cashless basis, resulting in the issuance of a total of 122,080 shares of common stock of the Company.

The Senior Secured Note and the Series S Warrants are freestanding financial instruments, as the Series S Warrants were immediately legally detachable from the Senior Secured Note and were immediately exercisable. Under no circumstances will the Company be required to net cash settle the Series S Warrants, nor to pay any liquidated damages resulting from a failure to satisfy any obligations under the Series S Warrant. The Series-S Warrants are classified as equity in the consolidated balance sheet. The Senior Secured Note net cash proceeds were allocated to the Senior Secured Note and the Series S Warrants based on their respective relative fair value, resulting in an allocation of $1,408,125 to the Senior Secured Note and $3,434,452 to the Series S-Warrants. See Note 12, *Debt*, for further information regarding the Note and Security Purchase Agreement with Scopia, including the non-recurring issue-date fair values of the Senior Secured Note and Series S Warrants.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Common Stock Purchase Warrants - continued

Series A-1 Warrants

As noted above, there were 0 and 279,837 Series A-1 Warrants issued and outstanding as of December 31, 2018 and December 31, 2017, respectively.

Previously, the initial issue of 125,000 Series A-1 Warrants occurred in connection with the close of the "Series A-1 Preferred Stock Units private placement" on August 4, 2018, as discussed above. The November 17, 2017 Series A Exchange Offer resulted in 154,837 Series A-1 Warrants issued-upon-exchange of 154,837 Series A Warrants. As of December 31, 2017, there were 279,837 Series A-1 Warrants issued and outstanding. The Series A and Series A-1 Exchange Offer resulted in the 279,837 Series A-1 Warrants being exchanged-upon-issue of 1,399,185 Series Z Warrants. Accordingly, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there we no Series A-1 Warrants issued and outstanding. See above for further information regarding the Series Z Warrant. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the March 15, 2018 Series A and Series A-1 Exchange Offer and the November 17, 2017 Series A Exchange Offer.

The Series A-1 Warrants were immediately exercisable upon issuance and would have expired after the close of business on April 30, 2024, and each were exercisable for one share of common stock of the Company at an exercise price of $6.67 per share, with such exercise price not subject to further adjustment, except for the effect of stock dividends, stock splits or similar events affecting the common stock of the Company. Additionally, through April 30, 2024, each Series A-1 Warrant, at the option of the holder, may be exchanged into either five Series W Warrants of four Series X-1 Warrants. The Series W Warrants or Series X-1 Warrants issued upon the exchange of a Series A-1 Warrant are discussed below. No Series A-1 Warrants had been exchanged for Series W Warrants nor Series X-1 Warrants as of the Series A and Series A-1 Exchange Offer March 15, 2018 Exchange Date and December 31, 2017.

The Series A-1 Warrants were not subject to redemption, and under no circumstances was the Company be required to net cash settle the Series A-1 Warrants. The Series A-1 Warrants have been accounted for as equity-classified warrants, with an issue-date allocated fair value of $310,450, as discussed above. During the time the Series A-1 Warrants are outstanding, the holders were entitled to participate in dividends or other distributions on a pro rata basis based upon the equivalent number of common shares that would have been outstanding had the warrants been fully exercised.

As discussed in Note 13,*Preferred Stock*, the Series A-1 Warrant Agreement Amendment No.1 provided for a Series A-1 Warrant to be exchanged for four Series X-1 Warrants, or additionally, exchanged for five Series W Warrants. The Series X-1 Warrants replaced the previous election to exchange one Series A-1 Warrant for four Series X Warrants. Notwithstanding, the Series X-1 Warrants are substantively equivalent to the Series X Warrants with respect to material contractual terms and conditions, including the same $6.00 per share exercise price, and dates of exercisability and expiry.

The Series A-1 Warrant Agreement Amendment No.1, as discussed in Note 13, *Preferred Stock*, resulted in a current period recognition of a modification expense on the Amendment No. 1 October 17, 2017 effective date, under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the "Series Z Warrant June 1, 2018 exercise price adjustment". In this regard, the Series A-1 Warrant Agreement Amendment No.1 resulted in the recognition of a modification expense of $222,000 included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid-in capital in the consolidated balance sheet. The modification expense incremental estimated fair value was estimated using a Black-Scholes valuation model, assuming the exchange of one Series A-1 Warrant for five Series W Warrants after the Series A-1 Warrant modification, as compared to an exchange of one Series A-1 Warrant for four Series X Warrants before such modification, using the following assumptions:

	Series A-1 Amendment No. 1 Series A-1 Warrants Modification Fair Value - October 18, 2017	
Fair Value Assumptions - October 18, 2017 Series A-1 Warrant Agreement - Amendment No. 1	Immediately After Modification	Immediately Before Modification
Calculated aggregate estimated fair value	$ 1,531,000	$ 1,309,000
Series A-1 Warrants - issued and outstanding - October 18, 2017	125,000	125,000
Value of common stock per share	$ 5.40	$ 5.40
Exercise price per share - Series W Warrant	$ 5.00	—
Exercise price per share - Series X Warrant	$ —	$ 6.00
Expected term - years	4.3	$ 6.5
Volatility	55%	52%
Risk free interest rate	1.9%	2.1%
Dividend yield	0%	0%

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Common Stock Purchase Warrants - continued

Series A Warrants

As noted above, as of September 30, 2018 and December 31, 2017, there were 0 and 268,001 Series A Warrants issued and outstanding, respectively.

Previously, a total of 422,838 Series A Warrants were issued in the Series A Preferred Stock private placement in the three months ended March 31, 2017, as discussed herein above. The November 17, 2017 Series A Exchange Offer resulted in 154,837 Series A Warrants exchanged-upon-issue of 154,837 Series A-1 Warrants. As of December 31, 2017, there were 268,001 Series A Warrants issued and outstanding. The Series A and Series A-1 Exchange Offer resulted in 268,001 Series A Warrants being exchanged-upon-issue of 1,340,005 Series Z Warrants. Accordingly, as of the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer, there were no Series A Warrants issued and outstanding. See above for further information regarding the Series Z Warrant. See Note 11, *Financial Instruments Fair Value Measurements*, for further detail regarding the March 15, 2018 Series A and Series A-1 Exchange Offer and the November 17, 2017 Series A Exchange Offer.

The Series A Warrants became exercisable on May 21, 2017 upon stockholder approval of the Series A Preferred Stock Units private placement, with such approval obtained in accordance with Nasdaq Stock Market Rule 5635(d) and expire after the close of business on April 30, 2024. The Series A Warrants are not subject to redemption.

The Series A Warrants were exercisable for one share of common stock of the Company at an exercise price of $6.61 per share, subject-to adjustment. In this regard, the Series A Warrant exercise price, initially $8.00 per share, was subject to further reduction by a prescribed formula on a weighted average basis in the event the Company issues common stock, options, or convertible securities at a price lower than the exercise price of Series A Warrants immediately prior to such securities issuance.

Additionally, through April 30, 2024, each Series A Warrant, at the election of the holder, could be exchanged for four Series X Warrants, with such warrants exercisable for one share of common stock of the Company at $6.00 per share, with such exercise price not subject to further adjustment, except in the event of stock dividends, stock splits or similar events affecting the common stock of the Company. The Series X Warrants were exercisable commencing on the first trading day following October 31, 2018 and would have expired April 30, 2024.

The Series A Warrants are accounted for as a derivative liability under FASB ASC 815, as, along with other provisions, the conversion price is subject to potential adjustment resulting from future financing transactions, under certain conditions. The Series A Warrant was classified as a current liability in the consolidated balance sheet, initially measured at its issue-date fair value, with such fair value subsequently remeasured at each reporting period, with the resulting fair value adjustment recognized as other income or expense in the consolidated statement of operations. See Note 11, *Financial Instruments Fair Value Measurements*, and Note 13, Preferred Stock, for further detail regarding the Series A Warrants derivative liability.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Unit Purchase Options

Previously, on the April 28, 2016 closing date of the Company's IPO, a total of 53,000 unit purchase options were issued to the IPO selling agents, with each such unit purchase option issued on April 28, 2016 referred to as an "UPO-W". The UPO-W, with an exercise price of $5.50 per unit, could have been exercised to purchase the same unit issued in the Company's IPO, with such unit comprised of one share of common stock of the Company and one Series W Warrant to purchase one share of common stock of the Company at an exercise price of $5.00 per share, along with the other provisions of the Series W Warrant as discussed above. The UPO-W had a January 29, 2021 expiration date. The issue of the UPO-W to the IPO selling agents was recognized as an offering cost of the Company's IPO, with an estimated fair value of $105,100, determined using a Black-Scholes option pricing model with the following assumptions: fair value of the underlying unit of $5.00, expected volatility of 50%, risk free rate of 1.28%, remaining contractual term of 4.6 years, and a dividend yield of 0%.

On August 22, 2018, the "UPO Exchange Offer" was completed, wherein, 53,000 "UPO-Z" were issued-upon-exchange of all the previously issued and outstanding 53,000 UPO-W. The UPO-Z, with an exercise price of $5.50 per unit, may be exercised to purchase a unit comprised of one share of common stock of the Company and one Series Z Warrant to purchase one share of common stock of the Company at an exercise price of $1.60 per share, along with the other provisions of the Series Z Warrant as discussed above. The UPO-Z has a January 29, 2021 expiration date.

The UPO Exchange Offer resulted in the recognition of a modification expense under the analogous guidance with respect to stock option modification under FASB ASC 718, as described above with respect to the "June 1, 2018 Series Z Warrant exercise price adjustment". In this regard, the UPO-Z issued-upon-exchange of the UPO-W resulted in the recognition of a modification expense of $2,120 included in other income (expense) in the consolidated statement of operations, with a corresponding increase to additional paid-in capital in the consolidated balance sheet, resulting from the incremental estimated fair value of the consideration given of $3,180 of the 53,000 UPO-Z issued-upon-exchange as compared to the estimated fair value of $1,060 of the 53,000 UPO-W extinguished-upon-exchange. The August 22, 2018 estimated fair values of each of the UPO-Z and UPO-W were each computed using the Black-Scholes option pricing model, using the following assumptions:

Fair Value Assumptions

August 22, 2018 UPO Exchange Offer Exchange Date	UPO-Z	UPO-W
Calculated aggregate estimated fair value	$ 3,180	$ 1,060
UPO-Z issued-upon-exchange /UPO-W extinguished-upon-exchange	53,000	53,000
Value of common stock	$ 1.38	$ 1.38
Value of Series Z Warrant /Series W Warrants	$ 0.53	$ 0.05
Exercise price per unit - UPO-Z /UPO-W	$ 5.50	$ 5.50
Expected term (years)	2.4	2.4
Volatility	42%	42%
Risk free rate	2.6%	2.6%
Dividend yield	0%	0%

Registration Statement - Form S-3 - File No. 333-227718

The Company has filed with the SEC an effective registration statement on Form S-3 - File No. 333-227718 - declared effective on October 17, 2018, which registers for resale (i) the 257,776 shares of common stock of the Company underlying the Series W Warrants privately issued prior to the Company's IPO, (ii) the 4,638,818 shares of common stock of the Company underlying the Series Z Warrants privately issued prior to the Company's IPO, (iii) the 53,000 shares of common stock of the Company underlying the UPOs issued to the selling agent and its designees in connection with the Company's IPO, the 53,000 Series Z Warrants underlying the UPOs and the 53,000 shares of common stock of the Company issuable upon exercise of the Series Z Warrants underlying the UPOs, (iv) the 2,739,190 shares of common stock of the Company underlying the Series Z Warrants privately issued-upon-exchange of each of the Series A Warrants and Series A-1 Warrants, and (v) the 2,659,720 shares of common stock of the Company issued or issuable upon exercise of the Series S Warrants. The registration statement also registers the initial issuance by the Company of 124,042 shares of common stock of the Company upon exercise of publicly held Series W Warrants and 437,031 shares of common stock of the Company upon exercise of publicly held Series Z Warrants, as well as all of the shares of common stock of the Company underlying the Series W Warrants and Series Z Warrants listed in clauses (i) to (iv) of the preceding sentence to the extent such Series W Warrants and Series Z Warrants are publicly transferred prior to their exercise.

Note 14 — Stockholders' Equity and Common Stock Purchase Warrants- continued

Noncontrolling Interest

The noncontrolling interest ("NCI") included as a component of consolidated total stockholders' equity for the periods indicated is as follows:

	Year Ended December 31, 2018
NCI - equity (deficit) - beginning of period	$ —
Investment in majority-owned subsidiary	1,812
Payment of share Subscription Receivable	—
Net loss attributable to NCI	(204,072)
Increase in additional paid-in capital of Lucid Diagnostics Inc. - stock-based compensation - Lucid Diagnostics Inc 2018 Equity Plan	40,748
NCI - equity (deficit) - end of period	$ (161,512)

The noncontrolling interest presented above is with respect to Lucid Diagnostics Inc., a majority-owned subsidiary of PAVmed Inc. Lucid Diagnostics Inc. was incorporated in the State of Delaware on May 8, 2018, and on May 12, 2018, under separate share Subscription Agreements between Lucid Diagnostics Inc. and each of the respective common stock purchasers, Lucid Diagnostics Inc. issued a total of 10.0 million shares of its common stock for a purchase price of $0.001 per share, including: the issue of 8,187,499 shares to PAVmed Inc.; the issue of 943,464 shares to Case Western Reserve University ("CWRU"); and, the issue of 289,679 shares to each of the three individual physician inventors of the "EsoCheck™ Technology". As of December 31, 2018, Lucid Diagnostics Inc. had received payment-in-full of each of the respective purchasers' share Subscription Agreement. See Note 7, *Agreements Related to Acquired Intellectual Property Rights*, for a discussion of the "EsoCheck™ Technology" and the corresponding "EsoCheck™ License Agreement" between Lucid Diagnostics Inc. and CWRU.

As of December 31, 2018, there were 10.0 million shares of common stock of Lucid Diagnostics Inc. issued and outstanding, of which PAVmed Inc. holds a 81.875% majority-interest ownership and has a controlling financial interest, with the remaining 18.125% minority-interest ownership held by CWRU and each of the three physician inventors of the "EsoCheck™ Technology". Accordingly, Lucid Diagnostics Inc. is a fully-consolidated majority-owned subsidiary of the Company, for which a provision of a noncontrolling interest (NCI) is included as a separate component of consolidated stockholders' equity in the consolidated balance sheet as of December 31, 2018, along with the recognition of a net loss attributable to the NCI in the consolidated statement of operations in the year ended December 31, 2018. As Lucid Diagnostics Inc. was incorporated on May 8, 2018, there is no such NCI in the corresponding prior year period.

The stock-based compensation expense recognized in the consolidated financial statements includes: 12,485 during the year ended December 31, 2018 recognized by Lucid Diagnostics Inc. with respect to stock options granted under the PAVmed Inc. 2014 Equity Plan to non-employees providing services to Lucid Diagnostics Inc., and $40,748 during the year ended December 31, 2018 recognized by Lucid Diagnostics Inc. with respect to stock options granted under the Lucid Diagnostics Inc. 2018 Equity Plan to non-employees providing services to Lucid Diagnostics Inc. - with each such stock based compensation expense classified in research and development expense. There was no such Lucid Diagnostics Inc. stock-based compensation expense recognized for the prior year period. See Note 10, *Stock-Based Compensation*, for further information with respect to the PAVmed Inc. 2014 Equity Plan, the Lucid Diagnostics Inc. 2018 Equity Plan, and the corresponding consolidated stock-based compensation expense recognized by the Company.

Note 15 —Loss Per Share

The "Net loss per share - attributable to PAVmed Inc. - basic and diluted" and "Net loss per share - attributable to PAVmed Inc. common stockholders - basic and diluted" - for the respective periods indicated - is as follows:

	Year Ended December 31,	
	2018	2017
Numerator		
Net loss - as reported, before noncontrolling interest	$ (18,172,822)	$ (9,519,269)
Net loss attributable to noncontrolling interest	204,072	
Net loss - as reported, attributable to PAVmed Inc.	(17,968,750)	(9,519,269)
Convertible Preferred Stock dividends[1]:		
Series B	(203,123)	—
Series A-1	(25,148)	(79,788)
Series A	(26,487)	(112,570)
Series A and Series A-1 Exchange Offer - March 15, 2018 - deemed dividend - incremental fair value - Series B Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	(726,531)	—
Series A and Series A-1 Exchange Offer - March 15, 2018 - increase to additional paid-in capital - incremental fair value - Series B Convertible Preferred Stock issued-upon-exchange of Series A-1 Convertible Preferred Stock	199,241	—
Deemed dividend Series A-1 Convertible Preferred Stock	—	(182,500)
Series A Exchange Offer - November 17, 2017 - deemed dividend - incremental fair value - Series A-1 Convertible Preferred Stock issued-upon-exchange of Series A Convertible Preferred Stock	—	(504,007)
Net loss attributable to PAVmed Inc. common stockholders	$ (18,750,798)	$ (10,398,134)
Denominator		
Weighted-average common shares outstanding basic and diluted[2]	22,276,347	13,495,951
Loss per share[3]		
Basic and diluted		
- Net loss - as reported, attributable to PAVmed Inc.	$ (0.81)	$ (0.71)
- Net loss attributable to PAVmed Inc. common stockholders	$ (0.84)	$ (0.77)

The following common stock equivalents have been excluded from the computation of diluted weighted average shares outstanding as their inclusion would be anti-dilutive:

	December 31,	
	2018	2017
Stock Options	3,327,140	1,936,924
Unit purchase options - "UPO-Z" /"UPO-W" - as to shares of common stock[4]	53,000	53,000
Unit purchase options - "UPO-Z" - as to shares underlying Series Z Warrants[4]	53,000	—
Unit purchase options - "UPO-W" - as to shares underlying Series W Warrants[4]	—	53,000
Series Z Warrants[5]	16,815,039	—
Series W Warrants[5]	381,818	10,567,845
Series S Warrants[6]	1,199,383	1,473,640
Series B Convertible Preferred Stock[7]	1,069,941	—
Series A-1 Convertible Preferred Stock[8]	—	357,259
Series A-1 Warrants[8]	—	279,837
Series A Convertible Preferred Stock[9]	—	249,667
Series A Warrants[9]	—	268,001
Total	22,899,321	15,239,173

Note 15 —Loss Per Share- continued

(1)The convertible preferred stock dividends are included in the calculation of basic and diluted net loss attributable to PAVmed Inc. common stockholders for each respective periods presented, including: for the current year period - with respect to the Series B Convertible Preferred Stock, from March 16, 2018 to December 31, 2018, and with respect to each of the Series A-1 and Series A Convertible Preferred Stock, from January 1, 2018 to March 15, 2018; and, for the prior year period - with respect to the Series A Convertible Preferred Stock, from each of the respective Series A Preferred Stock Units private placement close dates from January 26, 2017, January 31, 2017, and March 8, 2018 to December 31, 2017; and, with respect to the Series A-1 Convertible Preferred Stock, from the Series A-1 Preferred Stock Units private placement close date from August 4, 2017 to December 31, 2017. See Note 13, *Preferred Stock*, for a further discussion of the dividends for each of the respective series of convertible preferred stock.

(2)Basic weighted-average number of shares of common stock outstanding for the period excludes common stock equivalent incremental shares, while diluted weighted average number of shares outstanding includes such incremental shares. However, as the Company was in a loss position for all periods presented, basic and diluted weighted average shares outstanding are the same, as the inclusion of the incremental shares would be anti-dilutive.

(3)The Series B Convertible Preferred Stock has the right to receive common stock dividends, and prior to the March 15, 2018 Exchange Date of the Series A and Series A Exchange Offer, holders of the Series A Warrants and the Series A-1 Warrants previously had the right to receive common stock dividends. As such, the Series B Convertible Preferred Stock and the Series A Warrants and Series A-1 Warrants would potentially been considered participating securities under the two-class method of calculating net loss per share. However, the Company has incurred net losses to-date, and as such holders are not contractually obligated to share in the losses, there is no impact on the Company's net loss per share calculation for the periods indicated.

(4)On August 22, 2018, the "UPO Exchange Offer" was completed, wherein, 53,000 "UPO-Z" were issued-upon-exchange of all the previously issued and outstanding 53,000 UPO-W. The UPO-Z may be exercised to purchase a unit comprised of one share of common stock of the Company and one Series Z Warrant; and the UPO-W was exercisable to purchase a unit comprised of one share of common stock of the Company and one Series W Warrant. See Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a discussion of the UPO-Z, UPO-W, and the August 22, 2018 UPO Exchange Offer.

(5)There were 16,815,039 Series Z Warrants issued and outstanding as of December 31, 2018, including: 2,739,190 Series Z Warrants initially issued on the March 15, 2018 Exchange Date of the Series A and Series A-1 Exchange Offer discussed above; 5,075,849 Series Z Warrants issued on the April 5, 2018 Exchange Date of the "Series W Warrants Exchange Offer" discussed herein above; and 9,000,000 Series Z Warrants issued in the June 12, 2018 Equity Subscription Rights Offering. See Note 14, *Stockholders Equity and Common Stock Purchase Warrants*, for a further discussion of the Series Z Warrants and the Series W Warrants.

(6)The Series S Warrants were issued in connection with the Note and Security Purchase Agreement with Scopia Holdings LLC. See Note 12, *Debt* for a discussion of such Note and Security Purchase Agreement and the corresponding Senior Secured Note, and Note 14, *Stockholders' Equity and Common Stock Purchase Warrants*, for a discussion of the Series S Warrants.

(7)If converted at the election of the holder, the shares of Series B Convertible Preferred Stock issued and outstanding would result in a corresponding number of additional outstanding shares of common stock of the Company. See Note 13, *Preferred Stock*, for a further discussion of the Series B Convertible Preferred Stock common stock conversion election.

(8)As of December 31, 2018, there were no shares of Series A-1 Convertible Preferred Stock nor Series A-1 Warrants issued and outstanding, as a result of the March 15, 2018 Series A and Series A-1 Exchange Offer. As of December 31, 2017, if converted at the election of the holder, the shares of Series A-1 Convertible Preferred Stock issued and outstanding would have resulted in the issue of a corresponding number of shares of common stock of the Company, resulting from a common stock conversion factor equal to a numerator and denominator of $4.00; and the Series A-1 Warrants issued and outstanding as of December 31, 2017, were eligible to be exchanged for five Series W Warrants or four Series X-1 Warrants under the terms of the Series A-1 Warrant agreement. No Series A-1 Warrant holder had made such election through the March 15, 2018 Exchange Date. See Note 11, *Financial Instrument*s *Fair Value Measurements*, for a discussion of the March 15, 2018 Series A and Series A-1 Exchange Offer, Note 13, *Preferred Stock*, for a discussion of the Series A-1 Preferred Stock Units private placement, and the Series A-1 Convertible Preferred Stock, and Note 14, *Common Stock and Common Stock Purchase Warrants*, for a discussion of the Series A-1 Warrants.

(9)As of December 31, 2018, there were no shares of Series A Convertible Preferred Stock nor Series A Warrants issued and outstanding, as a result of the March 15, 2018 Series A and Series A-1 Exchange Offer. The 249,667 shares of Series A Convertible Preferred Stock issued and outstanding as of December 31, 2017, if-converted, would have resulted in the issue of 301,416 shares of common stock of the Company, resulting from a common stock conversion factor equal to a numerator of $6.00 and a denominator $4.97; and the Series A Warrants issued and outstanding as of December 31, 2017, were eligible to be exchanged for four Series X Warrants under the terms of the Series A Warrant agreement. No Series A Warrant holder had made such election through the March 15, 2018 Exchange Date. See Note 11, *Financial Instrument*s *Fair Value Measurements*, for a discussion of the March 15, 2018 Series A and Series A-1 Exchange Offer, Note 13, *Preferred Stock*, for a discussion of the Series A Preferred Stock Units private placement, and the Series A Convertible Preferred Stock, and Note 14, *Common Stock and Common Stock Purchase Warrants*, for a discussion of the Series A Warrants.

Note 16 — Subsequent Events

Other Matters

Except as otherwise noted herein, the Company has evaluated subsequent events through the date of filing of this Annual Report on Form 10-K and determined there to be no further events requiring adjustments to the consolidated financial statements and /or disclosures therein.

Exhibit 10.6.2

PAVmed Inc.
One Grand Central Place
Suite 4600
New York, NY 10165

December 27, 2018

To the parties listed in Paragraph 3

Re: Notice of Prepayment

Dear Sirs and Mesdames:

Reference is made to the 15% Senior Secured Note due 2019, dated as of June 30, 2017 (the "**Note**"), by and among PAVmed Inc. (the "**Company**"), the subsidiaries of the Company party thereto, and Scopia Holdings LLC (the "**Noteholder**"). Capitalized terms used but not defined herein have the meaning ascribed thereto in the Note.

1 This letter (the "**Letter Agreement**") is to confirm that it is the intention of the Company to satisfy in full all of its Obligations owing to the Noteholder outstanding under the Note on December 27, 2018 (the "**Payoff Date**"). Such Obligations shall be satisfied by (a) the Borrower making a payment of $5,000,000 (the "**Principal Payoff Amount**") to the Noteholder by wire transfer of immediately available funds, and (b) pursuant to the Noteholder's instruction to the Borrower hereby made, the Borrower issuing 600,000 privately placed unregistered shares of its Common Stock (to be legended as set forth on Annex I hereto) to the Noteholder and to its syndicatees (as listed in paragraph 3 below, the "**Syndicatees**") as consideration for all remaining accrued and unpaid interest outstanding under the Note as of the Payoff Date (the "**Interest Payoff Amount**" and, together with the Principal Payoff Amount, the "**Final Payoff Amount**").

2 In connection with the repayment, the Noteholder hereby acknowledges and agrees that, effective upon its receipt of each of (a) an original or facsimile transmission of this Letter Agreement, duly countersigned by Company; (b) the Principal Payoff Amount in immediately available funds by 5:00 p.m. (New York time) on the Payoff Date; and (c) a copy of the irrevocable instructions to its transfer agent (the "**Irrevocable Instructions**") to issue certificates for an aggregate 600,000 shares of Common Stock of the Company (the "**Interest Payoff Amount Shares**") registered in the names of the Syndicatees (to be delivered to their addresses as set forth in the separate letter from the Noteholder and the Syndicatees previously delivered to the Company), in satisfaction of the Interest Payoff Amount, then, automatically upon such event:

(i) The Noteholder and each Syndicatee shall automatically be deemed to hereby have irrevocably waived any right to receive any further amounts with respect to any portion of the Obligations;

(ii) All of the outstanding debts, liabilities, and obligations owing by the Company to the Noteholder or any Syndicatee under the Note, the Note and Securities Purchase Agreement, the Note and Guaranty Security Agreement, the Patent Security Agreement and the Guaranty (collectively, the "**Note Agreements**"), shall be satisfied in full and the Company and each Guarantor shall be released from all liability therefor; provided that if all or any portion of the Final Payoff Amount shall be recovered from, or repaid by, such Noteholder or Syndicatee, in whole or in part, in any bankruptcy, insolvency or similar proceeding instituted by or against the Company, then the liability of the Company shall be automatically reinstated to the extent of the amount so recovered from or repaid by such Noteholder or Syndicatee;

(iii) The Note Agreements shall automatically terminate effective as of such date and all obligations of the Company, each Guarantor and any other obligor under the Note Agreements shall terminate (other than any such obligations under any provision in any Note Agreement which by its terms survives the termination of such Note Agreement);

(iv) All liens, security interests, mortgages, and other encumbrances (collectively, the "**Security Interests**") of any kind, nature, or description, whenever and however arising in favor of the Noteholder under the Note Agreements on any of the assets and property, real or personal, tangible or intangible, of the Company and the Guarantors (collectively, the "**Security Interests**") shall thereupon be released and terminated; and

(v) The Noteholder shall (A) promptly deliver to Company any Notes, marked "Paid in Full" or "Cancelled", together with all certificated Collateral that the Company has delivered to the Noteholder and all other instruments and other property of Company that are in the Noteholder's possession, and (B) execute and deliver to the Company such releases, reconveyances, and other appropriate documentation reasonably requested by the Company to effectuate the agreement in paragraph (iii) above with respect to the Security Interests. Noteholder hereby authorizes Company to prepare and file any UCC termination statements and to file any other documentation executed by Noteholder under the preceding clause (B), in each case as necessary to effectuate the termination of any Security Interests. Noteholder also hereby confirms that it has not taken any action to foreclose on or dispose of any of the Collateral, or to create any liens upon any of the Collateral that are not provided to be released by this Letter Agreement.

3 By their execution at the end hereof, the Noteholder hereby makes to the Company, and the Syndicatees hereby make to the Noteholder and the Company, the representations and warranties that are set forth in Annex II hereto. The Noteholder hereby transfers and assigns its right to the Interest Payoff Amount Shares to its Syndicatees. The allocation of such assigned Interest Payoff Amount Shares is as set forth below:

Name	Number of shares
MATTHEW SIROVICH	272,400
THE BOOMER FUND, L.P.	60,000
JEREMY MINDICH	120,000
DAVID BROSER	120,000
RICHARD & CAROL HOCHMAN	9,000
2003 HOCHMAN FAMILY LLC	6,000
HOCHMAN FAMILY PARTNERSHIP	6,000
CAROL HOCHMAN	3,000
NATHANIEL HOCHMAN	1,800
JASON HOCHMAN	1,800
	600,000

4 The Syndicatees hereby acknowledge their shares will bear the legend as set forth on Annex I.

5 The Principal Payoff Amount shall be made by wire transfer in immediately available funds to the account of the Noteholder previously provided by it to the Company. Payments received after 5:00 p.m. (New York time) shall be deemed to be received on the following business day.

6 The Interest Payoff Amount shall be made by delivery to the Noteholder and each Syndicatee of a copy of the Irrevocable Instructions.

7 The parties acknowledge that, in connection herewith, the Company will issue and sell certain securities (the "**Ayrton Securities**") to Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B, and in connection therewith, the Company is obligated to file with the SEC an initial registration statement (the "**Registration Statement**") covering the resale of certain of the Ayrton Securities. The Company shall cause the Registration Statement to cover the resale of the Interest Payoff Amount Shares to the same extent the Ayrton Securities are so covered. After the effectiveness of the Registration Statement, the Company shall notify the Noteholder and Syndicatees if, and as to such periods, as the Registration Statement may not be used for resales.

8 Each party covenants and agrees to promptly execute and deliver any additional documents and instruments and perform any additional acts that any party determines may be reasonably necessary or desirable to effectuate the transactions contemplated hereby.

9 By executing this Letter Agreement, the Company hereby indicates its agreement to all of the foregoing. This letter agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so delivered shall be deemed an original, but all of which counterparts shall constitute but one and the same instrument. Delivery of an executed counterpart of a signature page to this letter agreement by facsimile transmission shall be effective as delivery of a manually executed counterpart thereof. This letter agreement shall be governed by and construed in accordance with the internal laws of the State of New York without application of principles of conflicts of law.

Very truly yours,

PAVMED INC.

By: */s/ Lishan Aklog*
Name: Lishan Aklog, M.D.
Title: Chief Executive Officer

Accepted and Agreed to:

SCOPIA HOLDINGS LLC

By: */s/ Aaron Morse*
Name: Aaron Morse
Title: Authorized Signatory

SYNDICATEES:

By: */s/ Matthew Sirovich*
Name: Matthew Sirovich

By: */s/ Jeremy Mindich*
Name: Jeremy Mindich

By: */s/ David Broser*
Name: David Broser

By: */s/ Richard Hochman*
Richard & Carol Hochman
Name: Richard Hochman

By: */s/ Carol Hochman*
Richard & Carol Hochman
Name: Carol Hochman

By: */s/ Carol Hochman*
Name: Carol Hochman

By: */s/ Nathaniel Hochman*
Name: Nathaniel Hochman

By: */s/ Jason Hochman*
Name: Jason Hochman

THE BOOMER FUND, L.P.

By: */s/ Matthew Sirovich*
Name: Matthew Sirovich
Title: General Partner

2003 HOCHMAN FAMILY LLC

By: */s/ Richard H. Hochman*
Name: Richard H. Hochman
Title: Member

HOCHMAN FAMILY PARTNERSHIP

By: */s/ Richard H. Hochman*
Name: Richard H. Hochman
Title: G.P.

ANNEX I
Legend

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL TO THE HOLDER (IF REQUESTED BY THE COMPANY), IN A FORM REASONABLY ACCEPTABLE TO THE COMPANY, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR (II) UNLESS SOLD OR ELIGIBLE TO BE SOLD PURSUANT TO RULE 144 UNDER SAID ACT.

ANNEX II

Representations and Warranties of the Noteholder and the Syndicatees

(a) Organization; Authority. The Noteholder and each Syndicatee is either an individual or an entity duly incorporated or formed, validly existing and in good standing under the laws of the jurisdiction of its incorporation or formation with full right, corporate, partnership, limited liability company or similar power and authority to enter into and to consummate the transactions contemplated by this Letter Agreement and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Letter Agreement and performance by the Noteholder and each Syndicatee of the transactions contemplated by this Letter Agreement has been duly authorized by all necessary corporate, partnership, limited liability company or similar action, as applicable, on the part of the Noteholder and each Syndicatee. This Letter Agreement has been duly executed by the Noteholder and each Syndicatee, and when delivered by the Noteholder and each Syndicatee in accordance with the terms hereof, will constitute the valid and legally binding obligation of the Noteholder and each Syndicatee, enforceable against it in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

(b) Own Account. The Noteholder and each Syndicatee understands that the Interest Payoff Amount Shares are "restricted securities" and have not been registered under the Securities Act of 1933 (the "**Securities Act**") or any applicable state securities law and is acquiring the Interest Payoff Amount Shares as principal for its own account and not with a view to or for distributing or reselling such Interest Payoff Amount Shares or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Interest Payoff Amount Shares in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Interest Payoff Amount Shares in violation of the Securities Act or any applicable state securities law. The Noteholder and each Syndicatee is acquiring the Interest Payoff Amount Shares hereunder in the ordinary course of its business.

(c) Noteholder and Syndicatee Status. At the time the Noteholder was offered the Interest Payoff Amount Shares, it was, and as of the date hereof it is, an "accredited investor" as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act, and at the time the Syndicatee was offered the Interest Payoff Amount Shares by assignment from the Noteholder, the Syndicatee was, and at the date hereof is, an "accredited investor" as defined in Rule 501(a) of the Securities Act.

(d) Experience of the Noteholder and each Syndicatee. The Noteholder and each Syndicatee, either alone or together with its respective representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Interest Payoff Amount Shares, and has so evaluated the merits and risks of such investment. The Noteholder and each Syndicatee is able to bear the economic risk of an investment in the Interest Payoff Amount Shares and, at the present time, is able to afford a complete loss of such investment.

(e) General Solicitation. The Noteholder and each Syndicatee is not, to the Noteholder and each Syndicatee's knowledge, acquiring the Interest Payoff Amount Shares as a result of any advertisement, article, notice or other communication regarding the Interest Payoff Amount Shares published in any newspaper, magazine or similar media or broadcast over television or radio or presented at any seminar or any other general solicitation or general advertisement. The Noteholder and each Syndicatee acknowledges and agrees that it had a pre-existing relationship with the Company prior to the date hereof.

(f) Access to Information. The Noteholder and each Syndicatee acknowledges that it has had the opportunity to review this Letter Agreement (including all annexes thereto) and the SEC Reports (as defined in the Note Agreements) and has been afforded (i) the opportunity to ask such questions as it has deemed necessary of, and to receive answers from, representatives of the Company concerning the terms and conditions of the offering of the Interest Payoff Amount Shares and the merits and risks of investing in the Interest Payoff Amount Shares; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment.

(g) Certain Transactions; Confidentiality. Other than to other parties to this Letter Agreement or to the Noteholder's and each Syndicatee's representatives, including, without limitation, its officers, directors, partners, legal and other advisors, employees, agents and affiliates, the Noteholder and each Syndicatee has maintained the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction). The Noteholder and each Syndicatee acknowledges that, as a result of certain confidential information disclosed to it, the Noteholder and each Syndicatee may be subject to restrictions on its ability to trade in the Company's securities prior to public announcement of such information.

Exhibit 21

List of Subsidiaries of the Registrant

Subsidiary Legal Entity Name	State of Incorporation
Lucid Diagnostics Inc. - *Majority-Owned*	Delaware
PAVmed SPARCC Inc.	Delaware

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated April 1, 2019, with respect to the consolidated financial statements in the Annual Report of PAVmed Inc. on Form 10-K for the year ended December 31, 2018. We consent to the incorporation by reference of said report in Registration Statements of PAVmed Inc. on Form S-1 - File No. 333-222581, File No. 333-214288, File No. 333-216963, File No. 333-222234 - and Form S-3 - File No. 333-220549, File No. 333-221406, File No. 333-229372, and File No. 333-227718. Our report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern.

/s/ CITRIN COOPERMAN & COMPANY, LLP

New York, New York
April 1, 2019

Exhibit 31.1

CERTIFICATION BY PRINCIPAL EXECUTIVE OFFICER

I, Lishan Aklog, M.D., certify that:

1. I have reviewed this annual report on Form 10-K of PAVmed Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 1, 2019

By: */s/ Lishan Aklog, M.D.*
Lishan Aklog, M.D.
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION BY PRINCIPAL FINANCIAL OFFICER

I, Dennis M. McGrath, certify that:

1. I have reviewed this annual report on Form 10-K of PAVmed Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 1, 2019

By: */s/ Dennis M. McGrath*

Dennis M. McGrath
President & Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K of PAVmed Inc. (the "Company") for the year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Lishan Aklog, M.D., Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 1, 2019

By: */s/ Lishan Aklog, M.D.*
Lishan Aklog, M.D.
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-Q of PAVmed Inc. (the "Company") for the year ended December 31, 2018 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Dennis M. McGrath, EVP & Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: April 1, 2019

By: */s/ Dennis M. McGrath*
Dennis M. McGrath
President & Chief Financial Officer
(Principal Financial and Accounting Officer)