

NEPHROS INC
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PROSPECTUS
Registration No. 333-217318

NEPHROS, INC.

8,441,187 Shares of Common Stock

The selling stockholders identified beginning on page 21 of this prospectus are offering on a resale basis a total of 8,441,187 shares of our common stock, of which 4,381,193 shares are issuable upon the exercise of outstanding warrants. We will not receive any proceeds from the sale of these shares by the selling stockholders.

Shares of our common stock are quoted on the OTCQB Marketplace operated by the OTC Markets Group, Inc., or OTCQB, under the ticker symbol “NEPH.” On April 2, 2018, the closing sales price for our common stock was \$0.42 per share. The shares of common stock issued upon the exercise of warrants will also be quoted on the OTCQB under the same ticker symbol. The warrants are not listed for trading on any stock exchange or market or quoted on the OTCQB.

Investing in our common stock involves substantial risks. See “Risk Factors” beginning on page 8 of this prospectus to read about important factors you should consider before purchasing our common stock.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is April 3, 2018.

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ABOUT THIS PROSPECTUS

We refer to Nephros, Inc. and its consolidated subsidiary as “Nephros”, the “Company”, “we”, “our”, and “us”. This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission, which we refer to as the SEC or the Commission, utilizing a registration process. It is important for you to read and consider all of the information contained in this prospectus and any applicable prospectus before making a decision whether to invest in the common stock. You should also read and consider the information contained in the exhibits filed with our registration statement, of which this prospectus is a part, as described in “Where You Can Find More Information” in this prospectus.

You should rely only on the information contained in this prospectus and any applicable prospectus supplement, including the information incorporated by reference. We have not authorized anyone to provide you with different information. We are not offering to sell or soliciting offers to buy, and will not sell, any securities in any jurisdiction where it is unlawful. You should assume that the information contained in this prospectus or any prospectus supplement, as well as information contained in a document that we have previously filed or in the future will file with the SEC is accurate only as of the date of this prospectus, the applicable prospectus supplement or the document containing that information, as the case may be.

PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus. Because it is a summary, it does not contain all of the information that is important to you. For a more complete understanding of our business, you should read this summary together with the more detailed information and financial statements for the years ended December 31, 2017 and 2016, and related notes appearing elsewhere in this prospectus. You should read this entire prospectus carefully, including the “Risk Factors” section beginning on page 8 and the “Special Note Regarding Forward-Looking Statements” section beginning on page 18. This prospectus contains important information that you should consider when making your investment decision.

About the Company

We are a commercial stage medical device and commercial products company that develops and sells high performance liquid purification filters and hemodiafiltration (“HDF”) systems. Our filters, which are generally classified as ultrafilters, are primarily used in hospitals for the prevention of infection from water-borne pathogens, such as

legionella and pseudomonas, and in dialysis centers for the removal of biological contaminants from water and bicarbonate concentrate. Because our ultrafilters capture contaminants as small as 0.005 microns in size, they minimize exposure to a wide variety of bacteria, viruses, fungi, parasites, and endotoxins.

Our OLpūr H2H Hemodiafiltration System, used in conjunction with a standard hemodialysis machine, is the only U.S. Food and Drug Administration (“FDA”) 510(k) cleared medical device that enables nephrologists to provide hemodiafiltration treatment to patients with end stage renal disease (“ESRD”). Additionally, we sell hemodiafilters, which serve the same purpose as dialyzers in a hemodialysis treatment, and other disposables used in the hemodiafiltration treatment process.

We were founded in 1997 by healthcare professionals affiliated with Columbia University Medical Center/New York-Presbyterian Hospital to develop and commercialize an alternative method to hemodialysis. We have extended our filtration technologies to meet the demand for liquid purification in other areas, in particular water purification.

Our Products

Presently, we produce two core product lines: water ultrafiltration products and HDF systems. Our ultrafiltration technology was originally developed as a component of the HDF system. HDF is a long-term investment that we expect to grow as we develop a second-generation system and as the U.S. dialysis market reimbursement environment migrates to full capitation. Water ultrafiltration is our primary near-term market opportunity, which we expect to continue to grow rapidly as we launch new products and further penetrate the market.

Ultrafiltration Products

Our ultrafilters are used in both medical and non-medical applications. Like competing filters, they purify by passing liquids through the pores of polysulfone hollow fiber. Our filters' pores are significantly smaller than those of competing products, resulting in highly effective elimination of water-borne pathogens, including legionella bacteria (the cause of Legionnaires disease). Additionally, the fiber structure and pore density in our hollow fiber enables significantly higher flow rates than in other polysulfone hollow fiber.

During 2016 and 2017, we developed several ultrafilter cartridge products that are designed to fit directly into existing water filtration systems, eliminating the need for plumbing modifications during installation and replacement. These "plug and play" systems are an important part of our strategy to penetrate the water filtration market.

Our sales strategy is a combination of direct selling to end customers and indirect selling through value-added resellers ("VARs"). Leveraging VARs has enabled us to expand rapidly our access to target customers in the medical market without significant sales staff expansion. In addition, while we are currently focused in medical markets, the VARs that support these customers also support a wide variety of commercial and industrial customers. We believe that our VAR relationships will facilitate growth in filter sales outside of the medical industry.

Target Markets

Our ultrafiltration products currently target the following markets:

Hospitals and Other Healthcare Facilities: Filtration of water for washing and drinking as an aid in infection control. The filters produce water that is suitable for wound cleansing, cleaning of equipment used in medical procedures, and washing of surgeons' hands.

Dialysis Centers: Filtration of water or bicarbonate concentrate used in hemodialysis.

Commercial Facilities: Filtration of water for washing and drinking, including use in ice machines and soft drink dispensers.

Military and Outdoor Recreation: Individual water purification devices used by soldiers and backpackers to produce drinking water in the field, as well as filters customized to remote water processing systems.

Hospitals and Other Healthcare Facilities. According to the American Hospital Association, approximately 5,700 hospitals, with approximately 915,000 beds, treated over 35 million patients in the United States in 2013. The U.S. Centers for Disease Control and Prevention estimates that healthcare associated infections (“HAI”) occurred in approximately 1 out of every 25 hospital patients, or about 1.4 million patients in 2013. HAIs affect patients in hospitals or other healthcare facilities, and are not present or incubating at the time of admission. They also include infections acquired by patients in the hospital or facility, but appearing after discharge, and occupational infections among staff. Many HAIs are caused by waterborne bacteria and viruses that can thrive in aging or complex plumbing systems often found in healthcare facilities.

The Affordable Care Act, passed in March 2010, puts in place comprehensive health insurance reforms that aim to lower costs and enhance quality of care. With its implementation, healthcare providers have substantial incentives to deliver better care or be forced to absorb the expenses associated with repeat medical procedures or complications like HAIs. As a consequence, hospitals and other healthcare facilities are proactively implementing strategies to reduce HAI potential. Our ultrafilters are designed to aid in infection control in the hospital and healthcare setting by treating facility water at the points of delivery, such as ice machines, sinks and showers.

In June 2017, the Center for Clinical Standards and Quality at the Centers for Medicare and Medicaid Services (“CMS”) announced the addition of requirements for facilities to develop policies and procedures that inhibit the growth and spread of legionella and other opportunistic pathogens in building water systems. Going forward, CMS surveyors will review policies, procedures, and reports documenting water management implementation results to verify that facilities are compliant with these requirements. We believe that these CMS regulations may have a positive impact on the sale of our HAI-inhibiting ultrafilters.

We currently have FDA 510(k) clearance on the following portfolio of medical device products for use in the hospital setting to aid in infection control:

The DSU H is an in-line, 0.005 micron ultrafilter that provides dual-stage protection from water borne pathogens. The DSU H is primarily used to filter potable water feeding ice machines, sinks, and medical equipment, such as endoscope washers and surgical room humidifiers. The DSU H has an up to 6 month product life when used in a hospital setting.

The SSU H is an in-line, 0.005 micron ultrafilter that provides single-stage protection from water borne pathogens. The SSU H is primarily used to filter potable water feeding sinks, showers and medical equipment. The SSU H has an up to 3 month product life when used in a hospital setting.

The S100 is a point-of-use, 0.01 micron microfilter that provides protection from water borne pathogens. The S100 is primarily used to filter potable water feeding sinks and showers. The S100 has an up to 3 month product life when used in a hospital setting.

The HydraGuard™ and HydraGuard™ - Flush are 0.005 micron cartridge ultrafilters that provide single-stage protection from water borne pathogens. The HydraGuard™ ultrafilters are primarily used to filter potable water feeding ice machines and medical equipment, such as endoscope washers and surgical room humidifiers. The HydraGuard™ has an up to 6 month product life and the HydraGuard™ - Flush has an up to 12 month product life when used in a hospital setting.

We received FDA 510(k) clearance to market the HydraGuard™ in December 2016 and began shipping it in July 2017. We began shipping the HydraGuard™ - Flush in September 2017. The DSU, SSU, and S100 products were 510(k)-cleared in prior years.

The complete hospital infection control product line, including in-line, point-of-use, and cartridge filters, can be viewed on our website at <http://www.nephros.com/infection-control/>. We are not including the information on our website as a part of, nor incorporating it by reference, into this Annual Report on Form 10-K.

Dialysis Centers - Water/Bicarbonate. To perform hemodialysis, all dialysis clinics have dedicated water purification systems to produce water and bicarbonate concentrate, two essential ingredients for making dialysate, the liquid that removes waste material from the blood. According to the American Journal of Kidney Diseases, there are approximately 6,300 dialysis clinics in the United States servicing approximately 430,000 patients annually. We estimate that there are over 100,000 hemodialysis machines in operation in the United States.

Medicare is the main payer for dialysis treatment in the United States. To be eligible for Medicare reimbursement, dialysis centers must meet the minimum standards for water and bicarbonate concentrate quality set by the Association for the Advancement of Medical Instrumentation (“AAMI”), the American National Standards Institute (“ANSI”) and the International Standards Organization (“ISO”). We anticipate that the stricter standards approved by these organizations in 2009 will be adopted by Medicare in the near future.

We currently have FDA 510(k) clearance on the following portfolio of medical device products for use in the dialysis setting to aid in bacteria, virus, and endotoxin retention:

The DSU D, SSU D and SSUmini are in-line, 0.005 micron ultrafilters that provide protection from bacteria, viruses, and endotoxins. All of these products have an up to 12 month product life in the dialysis setting, and are used to filter water following treatment with a reverse osmosis (“RO”) system, and to filter bicarbonate concentrate. These ultrafilters are primarily used in the water lines and bicarbonate concentrate lines leading into dialysis machines, and as a polish filter for portable RO machines.

The EndoPur is a 0.005 micron cartridge ultrafilter that provides single-stage protection from bacteria, viruses, and endotoxins. The EndoPur has an up to 12 month product life in the dialysis setting, and is used to filter water following treatment with an RO system. More specifically, the EndoPur is used primarily to filter water in large RO systems designed to provide ultrapure water to an entire dialysis clinic. The EndoPur is available in 10”, 20”, and 30” configurations.

The EndoPur is a cartridge-based, “plug and play” market entry that requires no plumbing at installation or replacement. In March 2017, we received FDA 510(k) clearance to market the EndoPur filter. We began shipping the EndoPur 10” filter in July 2017 and the 20” and 30” versions in September 2017.

Commercial and Industrial Facilities. We currently market the following portfolio of proprietary products for use in the commercial, industrial, and food service settings:

The NanoGuard D is an in-line, 0.005 micron ultrafilter that provides dual-stage retention of any organic or inorganic particle larger than 15,000 Daltons. The NanoGuard D is primarily used to filter potable water feeding ice machines, sinks and equipment that requires or benefits from ultrafiltered water, and filters up to 10,000 gallons of potable water, depending upon the particle load.

The NanoGuard S is an in-line, 0.005 micron ultrafilter that provides single-stage retention of any organic or inorganic particle larger than 15,000 Daltons. The NanoGuard S is primarily used to filter potable water feeding ice machines, sinks, showers and equipment that requires or benefits from ultrafiltered water, and filters up to 3,000 gallons of potable water, depending upon the particle load.

The NanoGuard E is a 0.005 micron ultrafilter cartridge that plugs into an Everpure® filter manifold and provides single-stage retention of any organic or inorganic particle larger than 15,000 Daltons. The NanoGuard E is primarily used to filter potable water feeding ice machines, beverage dispensers, and other equipment that requires or benefits from ultrafiltered water, and filters up to 10,000 gallons of potable water, depending upon the particle load.

The NanoGuard C is a 0.005 micron cartridge ultrafilter that fits with most 10", 20", 30" and 40" cartridge housings and provides single-stage retention of any organic or inorganic particle larger than 15,000 Daltons. The NanoGuard C is primarily used to filter potable water feeding ice machines and equipment that requires or benefits from ultrafiltered water, and filters up to 10,000 gallons of potable water per 10" of length, depending upon the particle load.

The NanoGuard F is a 0.005 micron flushable cartridge ultrafilter, available in 10" or 20" sizes and provides single-stage retention of any organic or inorganic particle larger than 15,000 Daltons. The NanoGuard F is primarily used to filter potable water feeding ice machines, sinks and equipment that requires or benefits from ultrafiltered water. The NanoGuard F has an up to 12 month product life and can filter up to 2.5 gallons per minute per 10" length, depending upon the particle load.

In April 2017, we announced a partnership with WorldWater & Solar Technology to provide ultrafiltration capabilities to their drinking water systems. This partnership centers on our NanoGuard F product line. This partnership is in the early stages of market roll-out.

In the fourth quarter of 2017, we released a lead filtration system that addresses both soluble and particulate lead in potable water, with the ability to treat up to 9,000 gallons of water between filter change-outs. This system is in the early stages of market roll-out.

Military and Outdoor Recreation. We developed our individual water treatment device (“IWTD”) in both in-line and point-of-use configurations. Our IWTD allows a soldier in the field to derive drinking water from any freshwater source. This enables the soldier to remain hydrated, to help maintain mission effectiveness and unit readiness, and to extend mission reach. Our IWTD has been validated by the military to meet the NSF Protocol P248 standard. It has also been approved by the U.S. Army Public Health Command and the U.S. Army Test and Evaluation Command for deployment.

In May 2015, we entered into a Sublicense Agreement with CamelBak Products, LLC (“CamelBak”). Under this Sublicense Agreement, we granted CamelBak an exclusive, non-transferable, worldwide (with the exception of Italy) sublicense and license, in each case solely to market, sell, distribute, import and export the IWTD. In exchange for the rights granted to CamelBak, CamelBak agreed, through December 31, 2022, to pay us a percentage of the gross profit on any sales made to a branch of the U.S. military, subject to certain exceptions, and to pay us a fixed per-unit fee for any other sales made. CamelBak is also required to meet or exceed certain minimum annual fees payable to us, and, if such fees are not met or exceeded, we may convert the exclusive sublicense to a non-exclusive sublicense with respect to non-U.S. military sales. During the years ended December 31, 2017 and December 31, 2016, Camelbak met its minimum fee payments, and we recognized royalty revenue of \$25,000 and \$10,000, respectively, related to this Sublicense Agreement.

HDF Systems

The current standard of care in the United States for patients with chronic renal failure is hemodialysis (“HD”), a process in which toxins are cleared via diffusion. Patients typically receive HD treatments at least 3 times weekly for 3-4 hours per treatment. HD is most effective in removing smaller, easily diffusible toxins. For patients with acute renal failure, the current standard of care in the United States is hemofiltration (“HF”), a process where toxins are cleared via convection. HF offers a much better removal of larger sized toxins when compared to HD. However, HF treatment is more challenging for patients, as it is performed on a daily basis, and typically takes 12-24 hours per treatment.

Hemodiafiltration (“HDF”) is an alternative dialysis modality that combines the benefits of HD and HF into a single therapy by clearing toxins using both diffusion and convection. Though not widely used in the United States, HDF is prevalent in Europe and is performed for a growing number of patients. Clinical experience and literature show the following clinical and patient benefits of HDF:

Enhanced clearance of middle and large molecular weight toxins.

Improved survival - up to a 35% reduction in mortality risk

Reduction in the occurrence of dialysis-related amyloidosis

Reduction in inflammation

Reduction in medication such as EPO and phosphate binders

Improved patient quality of life

Reduction in number of hospitalizations and overall length of stay

However, like HD, HDF can be resource-intensive and can require a significant amount of time to deliver one course of treatment.

We originally developed a medical device that enabled a standard HD machine to perform HDF. We refer to our approach as an on-line mid-dilution hemodiafiltration (“mid-dilution HDF”) system. Our original solution included a OLpūr H2H Hemodiafiltration Module (“H2H Module”), a OLpūr MD 220 Hemodiafilter (“HDF Filter”) and a H2H Substitution Filter (“Dialysate Filter”).

Our H2H Module attaches to a standard HD machine to perform on-line HDF therapy. The HD machine controls and monitors the basic treatment functions, as it would normally when providing HD therapy. The H2H Module is a free-standing, movable device that is placed next to either side of an HD machine. The H2H Module connects to the clinic's water supply, drain, and electricity.

The H2H Module utilizes the HDF Filter, and is very similar to a typical hollow fiber dialyzer assembled with a single hollow fiber bundle made with a high-flux (or high-permeability) membrane. The fiber bundle is separated into two discrete, but serially connected, blood paths. Dialysate flows in one direction that is counter-current to blood flow in Stage 1 and co-current to blood flow in Stage 2.

In addition to the HDF Filter, the H2H Module also utilizes a Dialysate Filter during patient treatment. The Dialysate Filter is a hollow fiber, ultrafilter device that consists of two sequential (redundant) ultrafiltration stages in a single housing. During on-line HDF with the H2H Module, fresh dialysate is redirected by the H2H Module's hydraulic (substitution) pump and passed through this dual-stage ultrafilter before being infused as substitution fluid into the extracorporeal circuit. Providing ultrapure dialysate is crucial for the success of on-line HDF treatment.

Our original HDF system conformed with current ANSI/AAMI/ISO standards and was cleared by the FDA for the treatment of patients with chronic renal failure in 2012. To date, our HDF System is the only HDF system cleared by the FDA.

Over the last four years, DaVita Healthcare Partners, the Renal Research Institute (a research division of Fresenius Medical Care), and Vanderbilt University conducted post-market evaluations of our hemodiafiltration system in their clinics. We gathered direct feedback from these evaluations to develop a better understanding of how our system best fits into the current clinical and economic ESRD treatment paradigm. The ultimate goal of the evaluations was to better understand the potential for HDF, in the U.S. clinical setting, to (a) improve the quality of life for the patient, (b) reduce overall expenditure compared to other dialysis modalities, (c) minimize the impact on nurse work flow at the clinic, and (d) demonstrate the pharmacoeconomic benefit of the HDF technology to the U.S. healthcare system, as has been done in Europe with other HDF systems. The last evaluation was concluded at Vanderbilt in the first quarter of 2018. When practical, we will work with Vanderbilt to publish observational findings.

Leveraging the learnings from our evaluations, we have initiated the development of the 2nd generation HDF system. We believe that the 2nd generation system, as currently designed, incorporates new features that could enable us to better manufacture at scale, to reduce the per treatment cost of performing HDF, and to better align with current work flow practices, versus our 1st generation HDF system. We filed a provisional patent on our new system design in June 2017. We intend to fund the 2nd generation HDF system as cash flow is available.

Corporate Information

We were incorporated under the laws of the State of Delaware in April 1997. Our principal executive offices are located at 380 Lackawanna Place, South Orange, NJ 07079, and our telephone number is (201) 343-5202. We also have an office in Dublin, Ireland. For more information about Nephros, please visit our website at www.nephros.com.

Going Concern

The accompanying consolidated financial statements have been prepared assuming that we will continue as a going concern. However, there can be no assurance that we will be able to do so. Our recurring losses and difficulty in generating sufficient cash flow to meet our obligations and sustain our operations raise substantial doubt about our ability to continue as a going concern within one year after the date of issuance of these consolidated financial statements. Our consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Our current plans intended to mitigate the conditions noted above anticipate continued revenue growth, increasing gross profit, and improving cash flows from operations for the period of twelve months following the date of issuance

of these consolidated financial statements. In addition, we have approximately \$2,194,000 of cash and \$289,000 available under our secured revolving credit facility as of December 31, 2017 to meet our obligations and sustain our operations.

There can be no assurance, however, that these plans will be achieved and reflected in our actual performance, nor that our future cash flows will be sufficient to meet our obligations and commitments. We have incurred significant losses from operations in each quarter since inception. If we are unable to generate sufficient cash flow from operations in the future to meet our operating requirements and other commitments, we will be required to adopt alternatives, such as seeking to raise debt or equity capital, curtailing our planned activities, reducing operating expenses or ceasing operations. There can be no assurance that any such actions could be effected on a timely basis or on satisfactory terms or at all, or that these actions would enable us to continue to satisfy our capital requirements.

Where You Can Find More Information

We make available free of charge on our website (<http://www.nephros.com>) our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports, as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. We provide electronic or paper copies of filings free of charge upon request. The public may read and copy any materials filed with the SEC at the SEC's Public Reference Room at 100 F Street N.E. Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1800-SEC-0330. The SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding issuers that file with the SEC at <http://www.sec.gov>.

The Offering

The following summary describes the principal terms of the offering, but is not intended to be complete.

Securities Offered	8,441,187 shares of common stock, including 4,381,193 shares of common stock issuable upon exercise of certain outstanding warrants.
Use of Proceeds	We will receive none of the proceeds from the sale of the shares by the selling stockholders, except for the warrant exercise price upon exercise of the warrants, which we expect to use to further develop our products and for general working capital purposes.
Risk Factors	The acquisition of our common stock involves substantial risks. See “Risk Factors” beginning on page 8 of this prospectus.
OTCQB Symbol	NEPH

RISK FACTORS

An investment in our securities involves a high degree of risk. You should consider carefully the following information about these risks, together with the other information contained in this prospectus, before you decide whether to buy our securities. The occurrence of any of the following risks could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Our Company

Our recurring losses and difficulty in generating sufficient cash flow to meet our obligations and sustain our operations raise substantial doubt about our ability to continue as a going concern.

The accompanying consolidated financial statements have been prepared assuming that we will continue as a going concern. However, there can be no assurance that we will be able to do so. Our recurring losses and difficulty in generating sufficient cash flow to meet our obligations and sustain our operations raise substantial doubt about our ability to continue as a going concern within one year after the date of issuance of our most recent consolidated financial statements. Our consolidated financial statements included in this prospectus do not include any adjustments that might result from the outcome of this uncertainty.

We have a history of operating losses and a significant accumulated deficit, and we may not achieve or maintain profitability in the future.

As of December 31, 2017, we had an accumulated deficit of approximately \$121,106,000 as a result of historical operating losses. While we believe that the revenues following the launch of our new products will help us achieve profitability, there can be no guarantee of this. We may continue to incur additional losses in the future depending on the timing and marketplace acceptance of our products and as a result of operating expenses being higher than our gross margin from product sales. We began sales of our first product in March 2004, and we may never realize sufficient revenues from the sale of our products or be profitable. Each of the following factors, among others, may influence the timing and extent of our profitability, if any:

the market acceptance of our technologies and products in each of our target markets;

our ability to effectively and efficiently manufacture, market and distribute our products;

our ability to sell our products at competitive prices which exceed our per unit costs; and

our ability to continue to develop products and maintain a competitive advantage in our industry.

If we violate any provisions of the FDCA or any other statutes or regulations, then we could be subject to enforcement actions by the FDA or other governmental agencies.

We face a significant compliance burden under the U.S. Food, Drug and Cosmetic Act, or the FDCA, and other applicable statutes and regulations which govern the testing, labeling, storage, record keeping, distribution, sale, marketing, advertising and promotion of our medically approved products.

If we violate the FDCA or other regulatory requirements (either with respect to our POU or DSU ultrafilters or otherwise) at any time during or after the product development and/or approval process, we could be subject to enforcement actions by the FDA or other agencies, including:

finest;

injunctions;

civil penalties;

recalls or seizures of products;

total or partial suspension of the production of our products;

withdrawal of any existing approvals or pre-market clearances of our products;

refusal to approve or clear new applications or notices relating to our products;

recommendations that we not be allowed to enter into government contracts; and

criminal prosecution.

Any of the above could have a material adverse effect on our business, financial condition and results of operations.

We cannot assure you that our products will be safe or that there will not be product-related deaths, serious injuries or product malfunctions. Further, we are required under applicable law to report any circumstances relating to our medically approved products that could result in deaths or serious injuries. These circumstances could trigger recalls, class action lawsuits and other events that could cause us to incur expenses and may also limit our ability to generate revenues from such products.

We cannot assure you that our products will prove to be safe or that there will not be product-related deaths or serious injuries or product malfunctions, which could trigger recalls, class action lawsuits and other events that could cause us to incur significant expenses, limit our ability to market our products and generate revenues from such products or cause us reputational harm. Under the FDCA, we are required to submit medical device reports (“MDRs”) to the FDA to report device-related deaths, serious injuries and malfunctions of medically approved products that could result in death or serious injury if they were to recur. Depending on their significance, MDRs could trigger events that could cause us to incur expenses and may also limit our ability to generate revenues from such products, such as the following:

information contained in the MDRs could trigger FDA regulatory actions such as inspections, recalls and patient/physician notifications;

because the reports are publicly available, MDRs could become the basis for private lawsuits, including class actions; and

if we fail to submit a required MDR to the FDA, the FDA could take enforcement action against us.

If any of these events occur, then we could incur significant expenses and it could become more difficult for us to market and sell our products and to generate revenues from sales. Other countries may impose analogous reporting requirements that could cause us to incur expenses and may also limit our ability to generate revenues from sales of our products.

Product liability associated with the production, marketing and sale of our products, and/or the expense of defending against claims of product liability, could materially deplete our assets and generate negative publicity which could impair our reputation.

The production, marketing and sale of kidney dialysis and water-filtration products have inherent risks of liability in the event of product failure or claim of harm caused by product operation. Voluntary recalls could subject us to claims or proceedings by consumers, the FDA or other regulatory authorities which may adversely impact our sales and revenues. Furthermore, even meritless claims of product liability may be costly to defend against. Although we have acquired product liability insurance for our products, we may not be able to maintain or obtain this insurance on acceptable terms or at all. Because we may not be able to obtain insurance that provides us with adequate protection against all potential product liability claims, a successful claim in excess of our insurance coverage could materially deplete our assets. Moreover, even if we are able to obtain adequate insurance, any claim against us could generate negative publicity, which could impair our reputation and adversely affect the demand for our products, our ability to generate sales and our profitability.

Some of the agreements that we may enter into with manufacturers of our products and components of our products may require us:

to obtain product liability insurance; or

to indemnify manufacturers against liabilities resulting from the sale of our products.

For example, the agreement with our contract manufacturer (“CM”) requires that we obtain and maintain certain minimum product liability insurance coverage and that we indemnify our CM against certain liabilities arising out of our products that they manufacture, provided they do not arise out of our CM’s breach of the agreement, negligence or willful misconduct. If we are not able to obtain and maintain adequate product liability insurance, then we could be in breach of these agreements, which could materially adversely affect our ability to produce our products and generate revenues. Even if we are able to obtain and maintain product liability insurance, if a successful claim in excess of our insurance coverage is made, then we may have to indemnify some or all of our manufacturers for their losses, which could materially deplete our assets.

We face significant challenges in obtaining market acceptance of our products, which could adversely affect our potential sales and revenues.

We do not yet have an established market or customer base for our products. Acceptance of our products in the marketplace by both potential users, including chronic renal failure patients, and potential purchasers, including nephrologists, dialysis clinics and other health care providers, is uncertain, and our failure to achieve sufficient market acceptance will significantly limit our ability to generate revenue and be profitable. Market acceptance will require substantial marketing efforts and the expenditure of significant funds by us to inform dialysis patients and nephrologists, dialysis clinics and other health care providers of the benefits of using our products. We may encounter significant clinical and market resistance to our products and our products may never achieve market acceptance. We may not be able to build key relationships with physicians, clinical groups and government agencies, pursue or increase sales opportunities in Europe or elsewhere, or be the first to introduce hemodiafiltration therapy in the United States. Product orders may be cancelled, patients or customers currently using our products may cease to do so and patients or customers expected to begin using our products may not. Factors that may affect our ability to achieve acceptance of our chronic renal failure therapy products in the marketplace include whether:

such products will be safe for use;

such products will be effective;

such products will be cost-effective;

we will be able to demonstrate product safety, efficacy and cost-effectiveness;

there are unexpected side effects, complications or other safety issues associated with such products; and

government or third party reimbursement for the cost of such products is available at reasonable rates, if at all.

Acceptance of our water filtration products in the marketplace is also uncertain, and our failure to achieve sufficient market acceptance and sell such products at competitive prices will limit our ability to generate revenue and be profitable. Our water filtration products and technologies may not achieve expected reliability, performance and endurance standards. Our water filtration products and technology may not achieve market acceptance, including among hospitals, or may not be deemed suitable for other commercial, military, industrial or retail applications.

Many of the same factors that may affect our ability to achieve acceptance of our chronic renal failure therapy products in the marketplace will also apply to our water filtration products, except for those related to side effects, clinical trials and third party reimbursement.

If we are not able to successfully scale-up production of our products, then our sales and revenues will suffer.

In order to commercialize our products, we need to be able to produce them in a cost-effective way on a large scale to meet commercial demand, while maintaining extremely high standards for quality and reliability. The extent to which we fail to successfully commercialize our products will limit our ability to be profitable.

We expect to rely on a limited number of independent manufacturers to produce our products. Our manufacturers' systems and procedures may not be adequate to support our operations and may not be able to achieve the rapid execution necessary to exploit the market for our products. Our manufacturers could experience manufacturing and control problems as they begin to scale-up our future manufacturing operations, if any, and we may not be able to scale-up manufacturing in a timely manner or at a commercially reasonable cost to enable production in sufficient quantities. If we experience any of these problems with respect to our manufacturers' initial or future scale-ups of manufacturing operations, then we may not be able to have our products manufactured and delivered in a timely manner. Our products are new and evolving, and our manufacturers may encounter unforeseen difficulties in manufacturing them in commercial quantities or at all.

If we cannot develop adequate distribution, customer service and technical support networks, then we may not be able to market and distribute our products effectively and/or customers may decide not to order our products. In either case, our sales and revenues will suffer.

Our strategy requires us to distribute our products and provide a significant amount of customer service and maintenance and other technical service. To provide these services, we have begun, and will need to continue, to develop a network of distribution and a staff of employees and independent contractors in each of the areas in which we intend to operate. We cannot assure that we will be able to organize and manage this network on a cost-effective basis. If we cannot effectively organize and manage this network, then it may be difficult for us to distribute our products and to provide competitive service and support to our customers, in which case customers may be unable, or decide not, to order our products and our sales and revenues will suffer.

We have limited experience selling our products to healthcare facilities, and we might be unsuccessful in increasing our sales.

Our business strategy depends in part on our ability to sell our products to hospitals and other healthcare facilities that include dialysis clinics. We have limited experience with respect to sales and marketing. If we are unsuccessful at manufacturing, marketing and selling our products, our operations and potential revenues will be materially adversely affected.

We cannot sell our products, including certain modifications thereto, until we obtain the requisite regulatory approvals and clearances in the countries in which we intend to sell our products. If we fail to receive, or experience a significant delay in receiving, such approvals and clearances, then we may not be able to get our products to market and enhance our revenues.

Our business strategy depends in part on our ability to get our products into the market as quickly as possible. We have obtained a Conformité Européene (“CE”) mark, which demonstrates compliance with the relevant European Union requirements and is a regulatory prerequisite for selling our products in the European Union and certain other countries that recognize CE marking (collectively, “European Community”), for our OLpūr MD 220 Hemodiafilter and our DSU. We have not yet obtained the CE mark for any of our other products. On April 30, 2012, we announced that we received clearance from the FDA to market our OLpūr MD220 Hemodiafilter and OLpūr H2H Module for use with a hemodialysis machine that provides ultrapure dialysate in accordance with current ANSI/AAMI/ISO standards, for the treatment of chronic renal failure patients. We have not begun to broadly market these products and are actively seeking a commercialization partner in the United States.

There is no assurance that any existing products that have not yet been approved, or any new products developed by us in the future, will be approved for marketing. The clearance and/or approval processes can be lengthy and uncertain and each requires substantial commitments of our financial resources and our management’s time and effort. We may not be able to obtain further CE marking or regulatory approval for any of our existing or new products in a timely manner or at all. Even if we do obtain regulatory approval, approval may be only for limited uses with specific classes of patients, processes or other devices. Our failure to obtain, or delays in obtaining, the necessary regulatory clearance and/or approvals would prevent us from selling our affected products in the applicable regions. If we cannot sell some of our products in such regions, or if we are delayed in selling while waiting for the necessary clearance and/or approvals, our ability to generate revenues from these products will be limited.

Over time, we intend to market our products globally. Requirements pertaining to the sale of our products vary widely from country to country. It may be very expensive and difficult for us to meet the requirements for the sale of our products in many countries. As a result, we may not be able to obtain the required approvals in a timely manner, if at all. If we cannot sell our products in a particular region, then the size of our potential market could be reduced, which would limit our potential sales and revenues.

Clinical studies that may be required for our products are costly and time-consuming, and their outcome is uncertain.

Before obtaining regulatory approvals for the commercial sale of any of our products, other than those for which we have already received marketing approval in the United States and elsewhere, we must demonstrate through clinical studies that our products are safe and effective.

For products other than those for which we have already received marketing approval, if we do not prove in clinical trials that our products are safe and effective, we will not obtain marketing approvals from the applicable regulatory authorities. In particular, one or more of our products may not exhibit the expected medical benefits, may cause harmful side effects, may not be effective in treating dialysis patients or may have other unexpected characteristics that preclude regulatory approval for any or all indications of use or limit commercial use if approved. The length of time necessary to complete clinical trials varies significantly and is difficult to predict. Factors that can cause delay or termination of our clinical trials include:

slower than expected patient enrollment due to the nature of the protocol, the proximity of subjects to clinical sites, the eligibility criteria for the study, competition with clinical trials for similar devices or other factors;

lower than expected retention rates of subjects in a clinical trial;

inadequately trained or insufficient personnel at the study site to assist in overseeing and monitoring clinical trials;

delays in approvals from a study site's review board, or other required approvals;

longer treatment time required to demonstrate effectiveness;

lack of sufficient supplies of the product;

adverse medical events or side effects in treated subjects; and

lack of effectiveness of the product being tested.

Even if we obtain positive results from clinical studies for our products, we may not achieve the same success in future studies of such products. Data obtained from clinical studies are susceptible to varying interpretations that could delay, limit or prevent regulatory approval. In addition, we may encounter delays or rejections based upon changes in regulatory policy for device approval during the period of product development and regulatory review of each submitted new device application. Moreover, regulatory approval may entail limitations on the indicated uses of the device. Failure to obtain requisite governmental approvals or failure to obtain approvals of the scope requested will delay or preclude our licensees or marketing partners from marketing our products or limit the commercial use of such products and will have a material adverse effect on our business, financial condition and results of operations.

In addition, some or all of the clinical trials we undertake may not demonstrate sufficient safety and efficacy to obtain the requisite regulatory approvals, which could prevent or delay the creation of marketable products. Our product development costs will increase if we have delays in testing or approvals, if we need to perform more, larger or different clinical trials than planned or if our trials are not successful. Delays in our clinical trials may harm our financial results and the commercial prospects for our products. Additionally, we may be unable to complete our clinical trials if we are unable to obtain additional capital.

We may be required to design and conduct additional clinical trials.

We may be required to design and conduct additional clinical trials to further demonstrate the safety and efficacy of our products, which may result in significant expense and delay. Regulatory agencies may require new or additional clinical trials because of inconclusive results from current or earlier clinical trials, a possible failure to conduct clinical trials in complete adherence to certain regulatory standards, the identification of new clinical trial endpoints, or the need for additional data regarding the safety or efficacy of our products. It is possible that regulatory authorities may not ultimately approve our products for commercial sale in any jurisdiction, even if we believe future clinical results are positive.

Significant additional governmental regulation could subject us to unanticipated delays which would adversely affect our sales and revenues.

Our business strategy depends in part on our ability to get our products into the market as quickly as possible. Additional laws and regulations, or changes to existing laws and regulations that are applicable to our business may be enacted or promulgated, and the interpretation, application or enforcement of the existing laws and regulations may change. We cannot predict the nature of any future laws, regulations, interpretations, applications or enforcements or the specific effects any of these might have on our business. Any future laws, regulations, interpretations, applications or enforcements could delay or prevent regulatory approval or clearance of our products and our ability to market our products. Moreover, changes that result in our failure to comply with the requirements of applicable laws and regulations could result in the types of enforcement actions by the FDA and/or other agencies as described above, all of which could impair our ability to have manufactured and to sell the affected products.

The recently passed Tax Cuts and Jobs Act of 2017 may have a material impact on our financial condition and results of operations.

The Tax Cuts and Jobs Act of 2017 (the “Tax Act”) was signed into law on December 22, 2017. The Tax Act made numerous changes to U.S. federal corporate tax law and is expected to reduce our effective tax rate for fiscal year 2018 and future periods. Effective January 1, 2018, the Tax Act lowers the U.S. corporate tax rate from 35% to 21% and prompts various other changes to U.S. federal corporate tax law. We are currently assessing the impact the Tax Act will have on our deferred tax assets or other areas with our professional advisors and until our analysis is complete, the full impact the Tax Act will have on us in future periods is uncertain and may adversely affect our financial condition and results of operations.

Protecting our intellectual property in our technology through patents may be costly and ineffective. If we are not able to adequately secure or enforce protection of our intellectual property, then we may not be able to compete effectively and we may not be profitable.

Our future success depends in part on our ability to protect the intellectual property for our technology through patents. We will only be able to protect our products and methods from unauthorized use by third parties to the extent that our products and methods are covered by valid and enforceable patents or are effectively maintained as trade secrets. Our 12 granted U.S. patents will expire at various times from 2018 to 2027, assuming they are properly maintained.

The protection provided by our patents, and patent applications if issued, may not be broad enough to prevent competitors from introducing similar products into the market. Our patents, if challenged or if we attempt to enforce them, may not necessarily be upheld by the courts of any jurisdiction. Numerous publications may have been disclosed by, and numerous patents may have been issued to, our competitors and others relating to methods and devices for dialysis of which we are not aware and additional patents relating to methods and devices for dialysis may be issued to our competitors and others in the future. If any of those publications or patents conflict with our patent rights, or cover our products, then any or all of our patent applications could be rejected and any or all of our granted patents could be invalidated, either of which could materially adversely affect our competitive position.

Litigation and other proceedings relating to patent matters, whether initiated by us or a third party, can be expensive and time-consuming, regardless of whether the outcome is favorable to us, and may require the diversion of substantial financial, managerial and other resources. An adverse outcome could subject us to significant liabilities to third parties or require us to cease any related development, product sales or commercialization activities. In addition, if patents that contain dominating or conflicting claims have been or are subsequently issued to others and the claims of these patents are ultimately determined to be valid, then we may be required to obtain licenses under patents of others in order to develop, manufacture, use, import and/or sell our products. We may not be able to obtain licenses under any of these patents on terms acceptable to us, if at all. If we do not obtain these licenses, we could encounter delays in, or be prevented entirely from using, importing, developing, manufacturing, offering or selling any products or practicing any methods, or delivering any services requiring such licenses.

If we file patent applications or obtain patents in foreign countries, we will be subject to laws and procedures that differ from those in the United States. Such differences could create additional uncertainty about the level and extent of our patent protection. Moreover, patent protection in foreign countries may be different from patent protection under U.S. laws and may not be as favorable to us. Many non-U.S. jurisdictions, for example, prohibit patent claims covering methods of medical treatment of humans, although this prohibition may not include devices used for such treatment.

If we are not able to secure and enforce protection of our trade secrets through enforcement of our confidentiality and non-competition agreements, then our competitors may gain access to our trade secrets, we may not be able to compete effectively and we may not be profitable. Such protection may be costly and ineffective.

We attempt to protect our trade secrets, including the processes, concepts, ideas and documentation associated with our technologies, through the use of confidentiality agreements and non-competition agreements with our current employees and with other parties to whom we have divulged such trade secrets. If these employees or other parties breach our confidentiality agreements and non-competition agreements, or if these agreements are not sufficient to protect our technology or are found to be unenforceable, then our competitors could acquire and use information that we consider to be our trade secrets and we may not be able to compete effectively. Policing unauthorized use of our trade secrets is difficult and expensive, particularly because of the global nature of our operations. The laws of other countries may not adequately protect our trade secrets.

If we are not able to maintain sufficient quality controls, then the approval or clearance of our products by the European Union, the FDA or other relevant authorities could be withdrawn, delayed or denied and our sales and revenues will suffer.

Approval or clearance of our products could be withdrawn, delayed or denied by the European Union, the FDA and the relevant authorities of other countries if our manufacturing facilities do not comply with their respective manufacturing requirements. The European Union imposes requirements on quality control systems of manufacturers, which are inspected and certified on a periodic basis and may be subject to additional unannounced inspections. Failure by our manufacturers to comply with these requirements could prevent us from marketing our products in the European Community. The FDA also imposes requirements through quality system requirements regulations, which include requirements for good manufacturing practices. Failure by our manufacturers to comply with these requirements could prevent us from obtaining FDA approval of our products and from marketing such products in the United States. Although the manufacturing facilities and processes that we use to manufacture our OLPur MD HDF filter series have been inspected and certified by a worldwide testing and certification agency (also referred to as a notified body) that performs conformity assessments to European Union requirements for medical devices, they have not been inspected by the FDA. A “notified body” is a group accredited and monitored by governmental agencies that inspects manufacturing facilities and quality control systems at regular intervals and is authorized to carry out unannounced inspections. We cannot be sure that any of the facilities or processes we use will comply or continue to comply with their respective requirements on a timely basis or at all, which could delay or prevent our obtaining the

approvals we need to market our products in the European Community and the United States.

To market our products in the European Community, the United States and other countries, where approved, manufacturers of such products must continue to comply or ensure compliance with the relevant manufacturing requirements. Although we cannot control the manufacturers of our products, we may need to expend time, resources and effort in product manufacturing and quality control to assist with their continued compliance with these requirements. If violations of applicable requirements are noted during periodic inspections of the manufacturing facilities of our manufacturers, then we may not be able to continue to market the products manufactured in such facilities and our revenues may be materially adversely affected.

We may face significant risks associated with international operations, which could have a material adverse effect on our business, financial condition and results of operations.

We expect to manufacture and to market our products globally. Our international operations are subject to a number of risks, including the following:

fluctuations in exchange rates of the United States dollar could adversely affect our results of operations;

we may face difficulties in enforcing and collecting accounts receivable under some countries' legal systems;

local regulations may restrict our ability to sell our products, have our products manufactured or conduct other operations;

political instability could disrupt our operations;

some governments and customers may have longer payment cycles, with resulting adverse effects on our cash flow; and

some countries could impose additional taxes or restrict the import of our products.

Any one or more of these factors could increase our costs, reduce our revenues, or disrupt our operations, which could have a material adverse effect on our business, financial condition and results of operations.

If we are unable to maintain effective internal control over financial reporting, our ability to produce accurate financial statements on a timely basis could be impaired and the market price of our securities may be negatively affected.

Section 404 of the Sarbanes-Oxley Act of 2002 requires us to maintain internal control over financial reporting and to report any material weaknesses in such internal control. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected and corrected on a timely basis. We also are required to furnish a report by management on the effectiveness of our internal control over financial reporting. We perform system and process evaluation and testing of our internal controls over financial reporting to allow management to prepare and furnish such a report.

Risks Related to Our Common Stock and Warrants

There currently is a limited trading market for our common stock and stockholders may have difficulty in selling our common stock.

We do not currently meet all of the requirements for initial listing of our common stock on a registered stock exchange. Our common stock is quoted on the OTCQB. Trading in our common stock on the OTCQB has been very limited. As a result, an investor may find it difficult to dispose of or to obtain accurate quotations as to the market value of our common stock, and our common stock may be less attractive for margin loans, for investment by financial institutions, as consideration in future capital raising transactions or other purposes. There is no guarantee that we will ever become listed on the Nasdaq Capital Market, or any other exchange, or that a liquid trading market for our common stock will develop. If an active public market for our common stock does not develop, stockholders may not be able to re-sell the common stock that they own and affect the value of their common stock.

Our common stock could be further diluted as a result of the issuance of additional shares of common stock, warrants or options.

In the past we have issued common stock and warrants in order to raise money. We have also issued stock options and restricted stock as compensation for services and incentive compensation for our employees, directors and consultants. We have shares of common stock reserved for issuance upon the exercise of certain of these securities and may increase the shares reserved for these purposes in the future. Our issuance of additional common stock, convertible securities, options and warrants could affect the rights of our stockholders, could reduce the market price of our common stock or could result in adjustments to exercise prices of outstanding warrants (resulting in these securities becoming exercisable for, as the case may be, a greater number of shares of our common stock), or could obligate us to issue additional shares of common stock.

Market sales of large amounts of our common stock, or the potential for those sales even if they do not actually occur, may have the effect of depressing the market price of our common stock, the supply of common stock available for resale could be increased which could stimulate trading activity and cause the market price of our common stock to drop, even if our business is doing well. Furthermore, the issuance of any additional shares of our common stock or securities convertible into our common stock could be substantially dilutive to holders of our common stock if they do not invest in future offerings.

The prices at which shares of the common stock trade have been and will likely continue to be volatile.

During the two years ended December 31, 2017, our common stock has traded at prices ranging from a high of \$0.60 to a low of \$0.18 per share. Due to the lack of an active trading market for our common stock, you should expect the prices at which our common stock might trade to continue to be highly volatile. The expected volatile price of our stock will make it difficult to predict the value of your investment, to sell your shares at a profit at any given time, or to plan purchases and sales in advance. A variety of other factors might also affect the market price of our common stock. These include, but are not limited to:

achievement or rejection of regulatory approvals by our competitors or us;

publicity regarding actual or potential clinical or regulatory results relating to products under development by our competitors or us;

delays or failures in initiating, completing or analyzing clinical trials or the unsatisfactory design or results of these trials;

announcements of technological innovations or new commercial products by our competitors or us;

developments concerning proprietary rights, including patents;

regulatory developments in the United States and foreign countries;

economic or other crises and other external factors;

period-to-period fluctuations in our results of operations;

threatened or actual litigation;

changes in financial estimates by securities analysts; and

sales of our common stock.

We are not able to control many of these factors, and we believe that period-to-period comparisons of our financial results will not necessarily be indicative of our future performance.

In addition, the stock market in general, and the market for medical technology companies in particular, has experienced extreme price and volume fluctuations in recent years that might have been unrelated or disproportionate to the operating performance of individual companies. These broad market and industry factors might seriously harm the market price of our common stock, regardless of our operating performance. Securities class action litigation has

often been instituted against companies following periods of volatility in the overall market and in the market price of a company's securities. This litigation, if instituted against us, could result in very substantial costs, divert our management's attention and resources and harm our business, operating results and financial condition.

We have never paid dividends and do not intend to pay cash dividends.

We have never paid dividends on our common stock and currently do not anticipate paying cash dividends on our common stock for the foreseeable future. Consequently, any returns on an investment in our common stock in the foreseeable future will have to come from an increase in the value of the stock itself. As noted above, the lack of an active trading market for our common stock will make it difficult to value and sell our common stock. While our dividend policy will be based on the operating results and capital needs of our business, it is anticipated that all earnings, if any, will be retained to finance our future operations.

Because we are subject to the "penny stock" rules, you may have difficulty in selling our common stock.

Our common stock is subject to regulations of the SEC relating to the market for penny stocks. Penny stock, as defined by the Penny Stock Reform Act, is any equity security not traded on a national securities exchange that has a market price of less than \$5.00 per share. The penny stock regulations generally require that a disclosure schedule explaining the penny stock market and the risks associated therewith be delivered to purchasers of penny stocks and impose various sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors. The broker-dealer must make a suitability determination for each purchaser and receive the purchaser's written agreement prior to the sale. In addition, the broker-dealer must make certain mandated disclosures, including the actual sale or purchase price and actual bid offer quotations, as well as the compensation to be received by the broker-dealer and certain associated persons. The regulations applicable to penny stocks may severely affect the market liquidity for your common stock and could limit your ability to sell your securities in the secondary market.

Several provisions of the Delaware General Corporation Law, our fourth amended and restated certificate of incorporation, as amended, and our second amended and restated bylaws could discourage, delay or prevent a merger or acquisition, which could adversely affect the market price of our common stock.

Several provisions of the Delaware General Corporation Law, our fourth amended and restated certificate of incorporation, as amended, and our second amended and restated bylaws could discourage, delay or prevent a merger or acquisition that stockholders may consider favorable, and the market price of our common stock could be reduced as a result. These provisions include:

authorizing our board of directors to issue “blank check” preferred stock without stockholder approval;

providing for a classified board of directors with staggered, three-year terms;

prohibiting us from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder unless certain provisions are met;

prohibiting cumulative voting in the election of directors;

limiting the persons who may call special meetings of stockholders; and

establishing advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings.

As a smaller reporting company with little or no name recognition and with several risks and uncertainties that could impair our business operations, we are not likely to generate widespread interest in our common stock. Without widespread interest in our common stock, our common stock price may be highly volatile and an investment in our common stock could decline in value.

Unlike many companies with publicly traded securities, we have little or no name recognition in the investment community. We are a relatively new company and very few investors are familiar with either our company or our products. We do not have an active trading market in our common stock, and one might never develop, or if it does develop, might not continue.

Additionally, the market price of our common stock may fluctuate significantly in response to many factors, many of which are beyond our control. Risks and uncertainties, including those described elsewhere in this “Risk Factors” section could impair our business operations or otherwise cause our operating results or prospects to be below expectations of investors and market analysts, which could adversely affect the market price of our common stock. As

a result, investors in our common stock may not be able to resell their shares at or above their purchase price and could lose all of their investment.

Securities class action litigation is often brought against public companies following periods of volatility in the market price of such company's securities. We may become subject to this type of litigation in the future. Litigation of this type could be extremely expensive and divert management's attention and resources from running our company.

Our directors, executive officers and Lambda Investors LLC ("Lambda") control a significant portion of our stock and, if they choose to vote together, could have sufficient voting power to control the vote on substantially all corporate matters.

As of March 19, 2018, Lambda, our largest stockholder, beneficially owned approximately 55% of our outstanding common stock. As a result of this ownership, Lambda has the ability to exert significant influence over our policies and affairs, including the election of directors. Lambda, whether acting alone or acting with other stockholders, could have the power to elect all of our directors and to control the vote on substantially all other corporate matters without the approval of other stockholders. Furthermore, such concentration of voting power could enable Lambda, whether acting alone or acting with other stockholders, to delay or prevent another party from taking control of our company even where such change of control transaction might be desirable to other stockholders. The interests of Lambda in any matter put before the stockholders may differ from those of any other stockholder.

Future sales of our common stock could cause the market price of our common stock to decline.

The market price of our common stock could decline due to sales of a large number of shares in the market, including sales of shares by Lambda or any other large stockholder, or the perception that such sales could occur. These sales could also make it more difficult or impossible for us to sell equity securities in the future at a time and price that we deem appropriate to raise funds through future offerings of common stock. Future sales of our common stock by stockholders could depress the market price of our common stock.

Shares eligible for future sale may adversely affect the market.

From time to time, certain of our stockholders may be eligible to sell all or some of their shares of common stock by means of ordinary brokerage transactions in the open market pursuant to Rule 144 promulgated under the Securities Act, subject to certain limitations. In general, pursuant to Rule 144, non-affiliate stockholders may sell freely after holding their shares for six months and affiliates may sell freely after holding their shares for one year, in each case, subject to current public information, notice and other requirements. Any substantial sales of our common stock pursuant to Rule 144 may have a material adverse effect on the market price of our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this prospectus constitute “forward-looking statements”. Such statements include statements regarding the efficacy and intended use of our technologies under development, the timelines and strategy for bringing such products to market, the availability of funding sources for continued development of such products, and our ability to continue as a going concern and other statements that are not historical facts, including statements which may be preceded by the words “intends,” “may,” “will,” “plans,” “expects,” “anticipates,” “projects,” “predicts,” “estimates,” “believes,” “hopes,” “potential” or similar words. Forward-looking statements are not guarantees of future performance, are based on certain assumptions and are subject to various known and unknown risks and uncertainties, many of which are beyond our control. Actual results may differ materially from the expectations contained in the forward-looking statements. Factors that may cause such differences include, but are not limited to, the risks that:

we may not be able to continue as a going concern;

we face significant challenges in obtaining market acceptance of our products, which could adversely affect our potential sales and revenues;

product-related deaths or serious injuries or product malfunctions could trigger recalls, class action lawsuits and other events that could cause us to incur expenses and may also limit our ability to generate revenues from such products;

we face potential liability associated with the production, marketing and sale of our products and the expense of defending against claims of product liability could materially deplete our assets and generate negative publicity which could impair our reputation;

to the extent our products or marketing materials are found to violate any provisions of the FDCA or any other statutes or regulations then we could be subject to enforcement actions by the FDA or other governmental agencies;

we may not be able to obtain funding if and when needed or on terms favorable to us in order to continue operations;

we may not have sufficient capital to successfully implement our business plan;

we may not be able to effectively market our products;

we may not be able to sell our water filtration products or chronic renal failure therapy products at competitive prices or profitably;

we may encounter problems with our suppliers, manufacturers and distributors;

we may encounter unanticipated internal control deficiencies or weaknesses or ineffective disclosure controls and procedures;

we may not obtain appropriate or necessary regulatory approvals to achieve our business plan;

products that appeared promising to us in research or clinical trials may not demonstrate anticipated efficacy, safety or cost savings in subsequent pre-clinical or clinical trials;

we may not be able to secure or enforce adequate legal protection, including patent protection, for our products; and

we may not be able to achieve sales growth in key geographic markets.

More detailed information about us and the risk factors that may affect the realization of forward-looking statements, including the forward-looking statements in this prospectus and in our Annual Report on Form 10-K for the year ended December 31, 2017, is set forth in our filings with the SEC, including our other periodic reports filed with the SEC. We urge investors and security holders to read those documents free of charge at the SEC's web site at www.sec.gov. We do not undertake to publicly update or revise our forward-looking statements as a result of new information, future events or otherwise, except as required by law.

DESCRIPTION OF 2017 PRIVATE PLACEMENT

The following description is qualified in its entirety by the terms and conditions of the Securities Purchase Agreement, which is incorporated by reference into the registration statement of which this prospectus forms a part, and the 2017 Warrants, the form of which is incorporated by reference into the registration statement of which this prospectus forms a part. The following description may not contain all the information with respect to the Securities Purchase Agreement and the 2017 Warrants that is important to you. We encourage you to read each of the Securities Purchase Agreement and the form of 2017 Warrant in its entirety.

On March 17, 2017, we entered into a securities purchase agreement, referred to as the Securities Purchase Agreement, with various accredited investors pursuant to which we agreed to sell in a private placement, referred to as the 2017 Private Placement, a total of 4,059,994 units of our securities, each unit consisting of one share of our common stock and a five-year warrant to purchase one share of our common stock, referred to as the 2017 Warrants. The closing of the 2017 Private Placement occurred on March 22, 2017. The purchase price for each unit was \$0.30. The 2017 Warrants are exercisable at a price of \$0.30 per warrant share. The sale of the shares and 2017 Warrants resulted in aggregate gross proceeds of approximately \$1,218,000, before deducting expenses.

The 2017 Warrants

The 2017 Warrants have a five-year term and are exercisable at a price of \$0.30 per share, subject to adjustment for stock splits, combinations and recapitalization events. The 2017 Warrants may be exercised for cash, provided that if, following the six-month anniversary of the issuance date of the 2017 Warrants, during the term of the 2017 Warrants there is not an effective registration statement under the Securities Act covering the resale of the shares issuable upon exercise of the 2017 Warrants, then the 2017 Warrants may be exercised on a cashless (net exercise) basis.

If we effect any merger or consolidation, or any sale of all or substantially all of our assets or the majority of our shares are acquired by a third party, or any tender offer or exchange offer is completed, or we effect any reclassification or compulsory share exchange, the holder of the 2017 Warrant will have the right to receive on the exercise of the 2017 Warrant the kind and amount of securities, cash or other property which the holder would have owned or have been entitled to receive immediately after such reorganization, reclassification, consolidation, merger or reorganization had the 2017 Warrant been exercised immediately prior to the effective date of such transaction. Our consummation of any such transaction in which we are not the surviving entity will be contingent upon the assumption of the 2017 Warrants by the surviving party to such transaction.

Registration Rights Agreement

In connection with the entry into the Securities Purchase Agreement, and as contemplated thereby, on March 17, 2017, we also entered into a registration rights agreement, referred to as the Registration Rights Agreement, with the purchasers. Pursuant to the terms of the Registration Rights Agreement, we agreed to file, on or before April 16, 2017, a registration statement under the Securities Act covering the resale of the shares of common stock issued in the 2017 Private Placement and the shares of common stock issuable upon exercise of the 2017 Warrants. We also agreed to cause such Registration Statement to be declared effective by the Commission as soon as practicable thereafter, but not later than 60 days following the date of the Registration Rights Agreement or, if the Registration Statement is subject to review by the Commission staff, not later than 120 days following the date of such agreement. In the event we did not file the registration statement by April 16, 2017 or we do not obtain its effectiveness by either May 16, 2017, if the registration statement is not reviewed by the Commission staff, or July 15, 2017, if the registration statement is reviewed by the Commission staff, we are required to pay liquidated damages to the purchasers in an amount equal to 1.0% of the aggregate purchase price paid by such purchaser for its shares and 2017 Warrants purchased in the 2017 Private Placement per month until the registration statement is filed or declared effective, as applicable.

The registration statement of which this prospectus forms a part covers the resale of the shares of common stock issued in the 2017 Private Placement, including the shares issued upon the exercise of the 2017 Warrants. We are required to maintain the effectiveness of the registration statement until all of the shares covered hereby are sold or may be sold pursuant to Rule 144 under the Securities Act without volume or manner-of-sale restrictions and without the requirement that we be in compliance with the current public information requirements of Rule 144.

Placement Agent Compensation

In connection with the 2017 Private Placement, we paid to Maxim Group LLC, which served as our sole placement agent in connection with the offer and sale of the shares of common stock issued in the 2017 Private Placement and the 2017 Warrants, a cash fee equal to 7.5% of the gross proceeds from such sale. In addition, we issued to Maxim a warrant to purchase 81,199 shares of common stock. The form of the warrant issued to Maxim is substantially the same as the 2017 Warrants, except that the exercise price applicable to the warrant issued to Maxim will be \$0.33 per share.

DESCRIPTION OF 2016 PRIVATE PLACEMENT

The following description is qualified in its entirety by the terms and conditions of the Note and Warrant Purchase Agreement, which is incorporated by reference into the registration statement of which this prospectus forms a part, and the 2016 Warrants, the form of which is incorporated by reference into the registration statement of which this prospectus forms a part. The following description may not contain all the information with respect to the Note and Warrant Purchase Agreement and the 2016 Warrants that is important to you. We encourage you to read each of the Note and Warrant Purchase Agreement and the form of 2016 Warrant in its entirety.

On June 3, 2016, we entered into a note and warrant purchase agreement, referred to as the Note and Warrant Purchase Agreement, with various accredited investors pursuant to which we agreed to sell in a private placement, referred to as the 2016 Private Placement, an aggregate principal amount of \$807,000 of our 11% Unsecured Promissory Notes, referred to as the Notes, and five-year warrants to purchase an aggregate of 1,614,000 shares of our common stock at an exercise price of \$0.30 per share, referred to as the 2016 Warrants. On June 9, 2016, we conducted a second closing under the Note and Warrant Purchase Agreement with additional purchasers pursuant to which we issued an additional \$380,000 principal amount of Notes and 2016 Warrants to purchase 720,000 shares of our common stock. Between the June 3 and June 9, 2016 closings, we issued Notes having an aggregate principal amount of \$1,187,000 and 2016 Warrants to purchase an aggregate of 2,374,000 shares of common stock.

The 2016 Warrants

The 2016 Warrants have a five-year term and are exercisable at a price of \$0.30 per share, subject to adjustment for stock splits, combinations and recapitalization events. The 2016 Warrants are required to be exercised for cash, provided that if, the shares issuable upon exercise of the 2016 Warrant are not freely resalable without restriction under the Securities Act, then the 2016 Warrants may be exercised on a cashless (net exercise) basis.

If we effect any merger or consolidation, or any sale of all or substantially all of our assets or the majority of our shares are acquired by a third party, or any tender offer or exchange offer is completed, or we effect any reclassification or compulsory share exchange, the holder of the 2016 Warrant will have the right to receive on the exercise of the 2016 Warrant the kind and amount of securities, cash or other property which the holder would have owned or have been entitled to receive immediately after such reorganization, reclassification, consolidation, merger or reorganization had the 2016 Warrant been exercised immediately prior to the effective date of such transaction. Our consummation of any such transaction in which we are not the surviving entity will be contingent upon the assumption of the 2016 Warrants by the surviving party to such transaction.

The Notes

The outstanding principal under the Notes bears interest at the rate of 11 percent per annum. During the term of the Notes, interest is payable in cash semi-annually in arrears. The entire outstanding principal and accrued interest is due in full on the third anniversary of the issuance of the Notes. We may prepay the Notes prior to the maturity date at any time without penalty or premium. Upon an “Event of Default” under the Notes, the holders may declare the entire outstanding principal and accrued interest due and immediately payable. As defined under the Notes, an Event of Default includes our failure to pay any principal, interest or other amount owing under the Notes when due, the commencement of a bankruptcy or similar insolvency proceeding and the sale of the Company.

Registration Rights

Pursuant to the terms of the Note and Warrant Purchase Agreement, we granted the purchasers “piggy-back” registration rights, meaning that we are required to offer to the purchasers the right to include the shares issuable to such purchasers upon exercise of the 2016 Warrants in the next registration statement that we file under the Securities Act, subject to certain customary exceptions described in the Note and Warrant Purchase Agreement. Certain purchasers have elected to exercise such piggy-back rights in connection with the registration statement of which this prospectus forms a part.

USE OF PROCEEDS

We will receive none of the proceeds from the sale of the shares by the selling stockholders, except for the warrant exercise price upon exercise of the 2017 Warrants and the 2016 Warrants, which would be used to further develop our products and for general working capital purposes.

SELLING STOCKHOLDERS

This prospectus covers the resale by the selling stockholders identified below of 8,441,187 shares of our common stock, of which 4,381,193 shares are issuable upon the exercise of certain outstanding warrants. This includes both the 2017 Warrants and certain 2016 Warrants, which are included in this prospectus pursuant to piggyback registration rights granted to such holders.

The following table sets forth the number of shares of our common stock beneficially owned by the selling stockholders as of March 19, 2018, and after giving effect to this offering, except as otherwise referenced below.

Selling Stockholder	Shares beneficially owned before offering (1)	Number of outstanding shares offered by selling stockholder	Number of shares offered by selling stockholder upon exercise of warrants	Beneficial ownership after offering (1) Number of shares	Percent
Andrew Astor (2)	645,021	166,666	166,666	311,689	*
Anderson Evans (3)	102,832	41,666	41,666	19,500	*
James M. Evans (4)	50,978	-	40,000	10,978	*
Scarlett Evans (5)	105,332	41,666	41,666	22,000	*
Todd Haskins (6)	138,346	66,666	66,666	5,014	*
FirstFire Global Opportunities Fund LLC (7)	333,332	166,666	166,666	-	*
Hudson Bay Master Fund Ltd (8)	666,666	333,333	333,333	-	*
Intracoastal Capital, LLC (9)	666,666	333,333	333,333	-	*
Iroquois Capital Investment Group LLC (10)	333,334	166,667	166,667	-	*
Iroquois Master Fund Ltd. (10)	666,666	333,333	333,333	-	*
Karen Weil Revocable Trust u/a dtd 7/2/10 (11)	270,000	60,000	60,000	150,000	*
Kash Flow 18 LLC (12)	1,166,666	333,333	333,333	500,000	*
Ivan Kaufman	100,000	-	100,000	-	*

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L1 Capital Global Opportunities Master Fund (13)	333,334	166,667	166,667	-	*
Lincoln Park Capital Fund, LLC (14)	1,988,154	800,000	800,000	388,154	*
Lisa Kaufman	100,000	-	100,000	-	*
Maxim Partners LLC (15)	81,199	-	81,199	-	*
Richard Molinsky (16)	222,637	83,333	83,333	55,971	*
PCG Holdings, Inc. (17)	333,332	166,666			