UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON D.C. 20549

FORM 10-K

(Mark One)
☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended: December 31, 2016

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: **001-36278**

Alliqua BioMedical, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**58-2349413**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
1010 Stony Hill Road **Yardley, PA**	**19067**
(Address of principal executive office)	(Zip Code)

Registrant's telephone number, including area code: **(215) 702-8550**

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

Title of each class	Name of each exchange on which registered
Common Stock, $0.001 par value	**The NASDAQ Stock Market LLC**

Securities registered pursuant to 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 ☑

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 ☑

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 that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, 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 that the registrant was required to submit and post such files). Yes ☑ No ☐

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 (Do not check if a smaller reporting company)	☐	Smaller reporting company	☑

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

The aggregate market value of the voting and non-voting common equity of the registrant held by non-affiliates, computed by reference to the closing sales price of such stock, as of June 30, 2016 was $27,314,605. (For purposes of determination of the aggregate market value, only directors, executive officers and 10% or greater shareholders have been deemed affiliates.)

The number of shares outstanding of the registrant's common stock, par value $0.001 per share, as of March 7, 2017 was 35,109,601 shares.

ALLIQUA BIOMEDICAL, INC.

TABLE OF CONTENTS

PART I

Unless the context otherwise indicates, the terms "we," "us" and "our" as used in this Annual Report on Form 10-K refer to Alliqua BioMedical, Inc. and its directly and indirectly owned subsidiaries on a consolidated basis.

ITEM 1. BUSINESS

Forward-Looking Statements

This Annual Report on Form 10-K contains "forward-looking statements," which include information relating to future events, future financial performance, strategies, expectations, competitive environment and regulation. Words such as "may," "should," "could," "would," "predict," "potential," "continue," "expect," "anticipate," "future," "intend," "plan," "believe," "estimate," and similar expressions, as well as statements in future tense, identify forward-looking statements. Forward-looking statements should not be read as a guarantee of future performance or results and may not be accurate indications of when such performance or results will actually be achieved. Forward-looking statements are based on information we have when those statements are made or our good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- inadequate capital;
- the uncertainty regarding the adequacy of our liquidity to pursue our complete business objectives;
- our ability to recover the carrying value of some or all of our intangible assets including goodwill;
- our ability to obtain reimbursement from third party payers for our products;
- our ability to achieve and maintain minimum sales requirements under our license agreements;
- our ability to obtain and maintain regulatory approval of our existing products and any future products we may develop;
- our ability to cure or obtain forbearance or waivers for existing covenant defaults under our outstanding indebtedness and to remain in compliance with our debt covenants;
- market acceptance of our existing and future products;
- loss or retirement of key executives;
- our plans to make significant additional outlays of working capital before we expect to generate significant revenues and the uncertainty regarding when we will begin to generate significant revenues, if we are able to do so;
- an unfavorable decision on product reimbursement;
- adverse economic conditions and/or intense competition;
- loss of a key customer or supplier;
- entry of new competitors and products;
- adverse federal, state and local government regulation;
- technological obsolescence of our products;
- technical problems with our research and products;

- risks of mergers and acquisitions including the time and cost of implementing transactions and the potential failure to achieve expected gains, revenue growth or expense savings;

- price increases for supplies and components;

- the inability to carry out research, development and commercialization plans; and

For a discussion of these and other risks that relate to our business and investing in shares of our common stock, you should carefully review the risks and uncertainties described under the heading "Part I – Item 1A. Risk Factors" and elsewhere in this Annual Report on Form 10-K. The forward-looking statements contained in this Annual Report on Form 10-K are expressly qualified in their entirety by this cautionary statement. We do not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

Our Company

We are a regenerative technologies company that commercializes differentiated regenerative medical products which assist the body in the repair or replacement of soft tissue. Through our sales and distribution network, together with our proprietary products, we believe we offer solutions that allow clinicians to utilize the latest advances in regenerative technologies to bring improved patient outcomes to their practices. Our contract manufacturing business provides custom hydrogels to the OEM market.

On October 5, 2016, we entered into a merger agreement to acquire the business of Soluble Systems, LLC ("Soluble") through a series of transactions. On February 27, 2017, we terminated this agreement, due to the inability to secure the requisite financing to meet the closing conditions of the merger agreement. The merger agreement was contingent upon us securing debt or equity financing, or a combination thereof, that results in gross proceeds of at least $45 million, inclusive of any current indebtedness of Soluble or us that is assumed, restructured or refinanced by the combined company.

Products and Services

Our commercial wound care portfolio currently consists of three product categories: wound bed preparation, human biologics and antimicrobial protection. We currently market MIST® Ultrasound Healing Therapy ("MIST Therapy"), which uses painless, noncontact low-frequency ultrasound to promote healing, Biovance® Amniotic Membrane Allograft ("Biovance") and Interfyl™ Human Connective Tissue Matrix ("Interfyl"), which are human biologic regenerative technologies, and TheraBond 3D®, which is an advanced dressing incorporating its proprietary TheraBond 3D® Antimicrobial Barrier Systems ("TheraBond") technology. We seek to broaden this product portfolio by identifying, acquiring and integrating technologies and products that enhance our product portfolio while diversifying our customer base and growing our sales footprint. In addition, we maintain our legacy contract manufacturing business, which provides custom hydrogels to the OEM market.

Wound Bed Preparation

On May 29, 2015, we completed our acquisition of Celleration, Inc. ("Celleration"), a medical device company focused on developing and commercializing the MIST Therapy therapeutic ultrasound platform for the treatment of acute and chronic wounds. MIST Therapy is a painless, noncontact, low-frequency ultrasound delivered through a saline mist medium to the wound bed. The MIST Therapy system and UltraMIST® System ("UltraMIST") consist of a portable countertop generator and handheld transducer. Attached to the transducer is a single-use disposable applicator, which includes an inlet for sterile saline. As the device is activated, the saline is introduced to the head of the transducer where it is atomized. This saline mist is the medium allowing the ultrasonic energy to be efficiently transmitted to the wounded area without direct contact of the device. The energy delivery via a fluid mist has been described as painless and often pain-relieving for the patient. The disposable applicator is designed for a single use only, to avoid any potential of contamination from patient to patient. Unlike most wound therapies that are limited to treating the wound surface, we have evidence that MIST Therapy sound wave energy promotes healing and reduces bacterial bioburden.

Human Biologics

In November 2013, we entered into a license, marketing and development agreement with Anthrogenesis Corporation d/b/a Celgene Cellular Therapeutics ("CCT"), an affiliate of Celgene Corporation, pursuant to which CCT granted us an exclusive, royalty-bearing license in its intellectual property related to certain placental based products for wound care and wound management, including those made from extracellular matrix ("ECM") derived from the human placenta, and Biovance, a decellularized and dehydrated allograft produced from human amniotic membrane for the management of non-infected partial- and full-thickness wounds. On May 5, 2015, the license agreement was further amended, pursuant to which we received the additional right to develop and market CCT's connective tissue matrix product known as Interfyl, our latest regenerative technology. In February 2016, Human Longevity Inc. ("HLI"), a genomics-based, technology-driven company, acquired the assets of CCT related to ECM, Biovance and Interfyl, among other select assets. All of CCT's rights and obligations under the license agreement were assigned to HLI in connection with this acquisition. The initial term of the license agreement ends on November 14, 2023, unless sooner terminated pursuant to the termination rights under the license agreement, and will extend for additional two-year terms unless either party gives written notice within a specified period prior to the end of a term. The license agreement is terminable on a product-by-product basis, and not with respect to the entire license agreement (i) by either HLI or us, if we fail to meet certain sales thresholds, and (ii) by either party upon written notice if outside legal counsel recommends discontinuance of commercialization of a product because of significant safety, legal, or economic risk as a result of a claim, demand or action or as a result of a change in the interpretation of law by a governmental or regulatory authority.

The license agreement permits us to commercialize Biovance in the United States. The development and application of the intellectual property covered under the license agreement is managed by a joint steering committee, composed of members of our company and HLI. We pay HLI annual license fees, designated amounts when certain milestone events occur and royalties on all sales of licensed products, with such amounts being variable and contingent on various factors. On September 30, 2014, the license agreement was amended to give us the exclusive right to market Biovance for podiatric and orthopedic applications.

In connection with the Biovance products, on November 14, 2013, we also entered into a supply agreement with CCT, as subsequently amended on each of April 10, 2014 and September 30, 2014, pursuant to which CCT agreed to supply us with our entire requirement of Biovance for distribution and sale in the United States. On April 10, 2014, we and CCT entered into a supply agreement for ECM, on substantially the same terms as the supply agreement for Biovance. On April 23, 2014, we initiated our sales and marketing efforts for Biovance at the Spring 2014 Symposium on Advanced Wound Care and had our first commercial sale on May 1, 2014. In February 2016, HLI assumed all of CCT's rights and obligations under the supply agreement in connection with the acquisition and the assignment of the license agreement.

Biovance and Interfyl are derived from the placenta of healthy, full-term pregnancies. Human tissues contain collagen, fibronectin, and other proteins and biochemicals that support healing. These important components are maintained in their native architecture throughout HLI's processing. However, essentially no cells are contained in the finished products (Biovance and Interfyl are decellularized), which is different from other placenta-based products, and this decellularization together with the gentle minimal manipulation of the tissues contribute to minimization of irritation and inflammation related to immune responses that can interfere with healing. When the scaffold or extracellular matrix of Biovance and Interfyl is placed in a wound or an area with damaged or deficient soft tissue, it can serve as a platform that allows the body's own cells to migrate into the matrix and attach. Once attached, the cells release growth factors to signal other activities to progress healing.

Biovance is intended for use as a biological membrane covering, that provides extracellular matrix while supporting the repair of damaged tissue. As a barrier membrane, Biovance is intended to protect the underlying tissue and preserve tissue plane boundaries with minimized adhesion or fibrotic scarring. Indications include, but are not limited to, surgical covering, wrap or barrier, application to partial- and full-thickness, acute and chronic wounds (such as, traumatic and complex wounds, burns, surgical and Mohs surgery sites; and diabetic, venous, arterial, pressure and other ulcers), including wounds with exposed tendon, muscle, bone or other vital structures.

We believe Interfyl treats deep wounds or soft tissue voids for which a sheet format such as Biovance is not as well suited. Interfyl is regulated as a 361 human tissue product, indicated for the replacement or supplementation of damaged or inadequate integumental soft tissue. There are podiatric and orthopedic applications, as well as wound management opportunities for homologous use of Interfyl. In connection with the Interfyl products, on April 15, 2016, we entered into a supply agreement with HLI, pursuant to which HLI agreed to supply us with our entire requirements of Interfyl for distribution and sale in the United States. In September 2016, we announced the commercial introduction of Interfyl in the United States and had our first commercial sale. We offer Interfyl in both particulate and flowable forms. In these forms, Interfyl can be used to fill voids and correct defects in soft tissue, providing mechanical and structural support to facilitate the tissue repair process or replace missing or inadequate soft tissue.

Interfyl is intended for use as the replacement or supplementation of damaged or inadequate integumental tissue. Indications include, but are not limited to, treatment of soft tissue voids, correction of soft tissue defects, soft tissue augmentation during repair of dehisced or complicated surgical closures and repair of small surgical defects resulting from either medical or surgical conditions including those with exposed vital structures (bone, tendon, ligament, or nerve). Interfyl is also intended for use as the replacement or supplementation of damaged or inadequate integumental tissue. Indications include, but are not limited to: augmentation of deficient/inadequate soft tissue and treatment of deep dermal wounds; surgical wounds; soft tissue voids as a result of tunneling wounds, fistula tracts, or dermal undermining– including those with exposed vital structures (bone, tendon, ligament, or nerve).

Any further development and commercialization of ECM is not planned by us at this time.

Antimicrobial Protection

In May 2014, we acquired Choice Therapeutics, Inc. ("Choice"), a provider of innovative wound care products using proprietary TheraBond 3D® Antimicrobial Barrier Systems. The TheraBond product line includes contact dressings, island dressings and wraps. Based on a proprietary and patented manufacturing process, silver is bonded to the entire surface of the nylon fibers of the TheraBond dressing. When the TheraBond products are placed on the wound, bioactive ionic silver is released at a controlled rate. Used largely in burn care, we believe TheraBond promotes an optimal wound healing environment by creating an antimicrobial barrier that helps protect against infection. With its one-piece construction and unique struts between the contact and outer layers, TheraBond enables efficient transfer of fluid and exudate (excess wound fluid) away from the wound and into an absorptive outer dressing, while providing rapid, sustained antimicrobial protection.

Contract Manufacturing

In connection with our legacy contract manufacturing business; we develop, manufacture and market high water content, electron beam cross-linked, aqueous polymer hydrogels, or gels, used for wound care, medical diagnostics, transdermal drug delivery and cosmetics. We specialize in custom gels by capitalizing on proprietary manufacturing technologies. Our products are manufactured using proprietary and non-proprietary mixing, coating and cross-linking technologies. Together, these technologies enable us to produce gels that can satisfy rigid tolerance specifications with respect to a wide range of physical characteristics (e.g., thickness, water content, adherence, absorption, moisture vapor transmission rate (a measure of the passage of water vapor through a substance) and release rate) while maintaining product integrity. Additionally, we have the manufacturing ability to offer broad choices in selection of liners onto which the gels are coated. Consequently, our customers are able to determine tolerances in moisture vapor transmission rate and active ingredient release rates while personalizing color and texture.

Planned Products and Services

We intend to continue to expand our existing product offerings through the licensing of products and acquisitions. We believe that our management team will be able to successfully integrate and leverage acquired products so we will have a more comprehensive suite of wound care products. We believe acquiring a product with established sales channels would also help us market our existing products. In evaluating potential acquisition targets, we are looking for technology platforms which enhance our current products, have revenue associated with the technology where possible, and have a strong value proposition in today's health care climate, among other factors.

In addition to expanding our product offerings through licenses and acquisitions, we also intend to modify our existing products through the expansion of customer options (e.g. additional offerings in different sizes and shapes) and potentially expand into new indications for use of our existing regenerative technologies. As our products, with the exception of the ECM suite, are already cleared or do not require clearance by the U.S. Food and Drug Administration ("FDA"), we believe these types of modifications can be made with minor regulatory delay. We believe that these improvements and additional options will enhance our reputation and potentially attract new customers.

Asset Sale

On June 30, 2016, we entered into a purchase agreement with BSN medical, Inc. ("BSN"), pursuant to which we sold to BSN all of our rights under our former distribution agreement with former Sorbion GmbH & Co KG ("Sorbion"), dated as of September 20, 2013, as subsequently amended and assigned to BSN, including but not limited to all distribution rights, exclusivity rights, intellectual property rights and marketing rights to the sorbion product line and our remaining unsold inventory of sorbion products purchased under the distribution agreement. Subject to the terms and conditions of the purchase agreement, in exchange for the sale of such rights to the sorbion products and unsold products, BSN paid us an aggregate consideration of $4.1 million. Effective upon the closing of the sale, the distribution agreement was terminated. In addition, we received $100,000 in connection with a transaction services agreement with BSN. As a result of the foregoing, we no longer distribute Sorbion wound dressings and exudate management products.

Growth Strategy

We intend to grow our business by pursuing the following strategies:

- *Strategic Acquisitions.* We intend to broaden our product portfolio by identifying, acquiring and integrating technologies and products that enhance our product portfolio while diversifying our customer base and growing our sales footprint. In May 2015, we acquired Celleration and added the MIST Therapy to our product portfolio.

- *Expand our Sales Capabilities*. We intend to increase our sales resources through the greater engagement of independent contractors, as well as other distribution partners. We believe this increase in sales capabilities will increase awareness of our products and help generate increased sales.

- *Focused Sales Efforts*. We expect to focus an increased portion of our sales representatives in the hospital surgical area. We also plan on focusing sales efforts for our MIST Therapy products in the areas such as deep tissue injuries and venous leg ulcers.

- *Grow our Business through New Product Introductions.* We intend to grow our business by expanding our existing product offerings. We may have the opportunity to obtain commercial rights for potential new products from third parties. In addition, we may also have the opportunity to modify our existing products through life cycle management and through other verticals.

- *Expand into Surgical Specialties*. We intend to seek potential partners to expand the use of our products into other surgical specialties.

- *Increased reimbursement coverage*. We intend to continue to increase government and commercial insurance reimbursement coverage for our products.

Industry and Markets

According to medical market research firm BioMedGPS, LLC SmartTRAK™ data, the U.S. market for wound care management products, which had revenues of approximately $5.9 billion in 2015, is expected to grow to $7.4 billion by 2019, which is a compound annual growth rate of 5% for 2015 to 2019. Growth in the U.S. wound care market will likely come from new therapies that result in decreasing healing times and subsequent cost savings and a growing focus on special populations such as diabetics and the obese.

We intend to target four specific market segments within the wound care industry:

- **Diabetic Ulcers**. According to the National Diabetes Clearinghouse ("National Diabetes Fact Sheet, 2014" available at www.cdc.gov), there are over 29 million diabetics in the U.S., or more than 9.3% of the U.S. population. Almost 11.2 million people over the age of 65 are diabetic, which equates to almost 26% of all people in this age group. Furthermore, more than 60% of nontraumatic lower-limb amputations occur in people with diabetes. A study published by Wild, et. al. (*Diabetes Care*, May 2004) estimates that the worldwide number of diabetics is projected to be 366 million people by the year 2030. Boulton, et. al. ("Neuropathic Diabetic Foot Ulcers," *New England Journal of Medicine*, July 2004) reported that diabetic foot ulcers (DFUs) develop in approximately 15% of patients with diabetes and precede 84% of all diabetes-related lower leg amputations. We believe that our wound care products can aid in the healing of these diabetic foot ulcers, thereby lessening the need for amputation.

- **Pressure Ulcers**. Dorner, et. al. ("The Role of Nutrition in Pressure Ulcer Prevention and Treatment," *The National Pressure Ulcer Advisory Panel*, 2009) stated that according to The Joint Commission, more than 2.5 million patients in U.S. acute-care facilities suffer from pressure ulcers. Dorner, et. al. also stated that the prevalence of pressure ulcers in the U.S. is widespread in all settings, with estimates of 10% to 18% in acute care and 2.3% to 28% in long-term care. The study further noted that these pressure ulcers can reduce overall quality of life and may also contribute to premature mortality in some patients, therefore any intervention that may help to prevent or treat them once they occur is important to reduce the cost of pressure ulcer care and improve the quality of life for affected individuals. Park-Lee, et. al. ("Pressure Ulcers Among Nursing Home Residents: United States, 2004," *The National Center for Health Statistics Data Brief*, No. 14, February 2009) reported that 35% of nursing home residents with stage 2 or higher pressure ulcers received special wound care by specially trained professionals. We believe that our wound care products can aid in the treatment of pressure sores and ulcers, thereby increasing quality of life and decreasing the amount of time spent in wound care facilities.

- **Venous Stasis Ulcers**. These wounds are believed to occur due to improper functioning of venous valves, usually of the legs. According to the University of Washington Medical Center (available at www.uwmedicine.org/health-library/Pages/venous-stasis-ulcers.aspx), the main risk of venous stasis ulcers is the spread of infection from a persistent wound. Failure to address the condition appropriately could ultimately result in limb loss. As these ulcers are typically small, they are often undertreated, which leads to larger ulcers which require more complex treatments. Brem, et. al. ("Protocol for the Successful Treatment of Venous Ulcers," *American Journal of Surgery*, July 2004) reported in one study that up to 48% of venous ulcers had recurred by the fifth year after healing. These often chronic ulcers affect up to 2.5 million U.S. citizens annually. We believe that our wound care products can aid in the treatment of venous stasis ulcers and increase the quality of life for those affected.

- **Post-Surgical and Burn Dressings**. The study entitled "Number, Rate, and Standard Error of All Listed Surgical and Non-surgical Procedures for Discharges from Short-stay Hospitals, by Selected Procedure Categories: United States, 2009" (Centers for Disease Control and Prevention) reported that in 2009, an estimated 29 million surgical procedures were performed in the U.S. The New York Times (Sack, "Hospital Infection Problem Persists," *The New York Times*, April 13, 2010) cited a report from the Agency for Healthcare Research and Quality in 2010 that the problem of hospital-acquired infections ("HAIs") contributes to an estimated 100,000 deaths annually and concluded that the problem merited "urgent attention". According to the American Burn Association ("Burn Incidence and Treatment in the United States: 2015 Fact Sheet," available at www.ameriburn.org/resources_factsheet.php), an estimated 486,000 people with burn injuries receive medical treatment on an annual basis. If the burn is second degree or worse, medical attention may be required to reduce the risk of infection. We believe that our wound care products can aid in the prevention of HAIs.

Sales and Marketing

We continue to focus on sales and marketing efforts in the United States. As of December 31, 2016, we had 40 employees dedicated to sales, all of whom have experience in the wound care industry. Additionally, we have developed an independent network of agents to sell our wound care products through our extensive channel reach through a network of distributors. In addition, we have assembled a Medical/Surgical Advisory Board to help us target improvements and new applications for our products and assist in our marketing efforts. We also market our advanced wound care products at conferences, trade shows and other educational events.

Customers

One customer accounted for approximately 7% and 10% of our revenue for the years ended December 31, 2016 and 2015, respectively. This customer is a medical device manufacturer and a consumer of our contract manufacturing products. The decrease in this concentration is due to an increase in product revenue from our regenerative technologies, which is consistent with our strategy.

Competition

Leading competitors in the tissue-based wound care area that will compete with our biologic products, Biovance and Interfyl include companies such MiMedx Group, Inc., Osiris Therapeutics, Inc., Organogenesis Inc., Integra LifeSciences Corporation, as well as a significant number of smaller companies.

We believe that MIST Therapy has no direct competition in the advanced wound care market. As a result, we believe that MIST Therapy may compete favorably on the basis of broad application. Notwithstanding the lack of direct competition, we expect many physicians and allied professionals to continue to employ other treatment approaches and technologies to treat chronic and hard-to-heal wounds.

There are several established silver-based wound dressings and other products which are already in the marketplace that compete with TheraBond. These include Acticoat (sold by Smith & Nephew), Aquacel Ag (sold by ConvaTec), and Silvercel (sold by Acelity). We believe that our low cost of sales will enable us to capture market share from our competitors.

Our ability to establish sales in a market with many larger manufacturers may be difficult. We continue to recruit veterans of the medical device industry to leverage our product offerings into the most beneficial distribution channels. Our competitors may still have greater resources to support their products and may not allow us to take any market share from them.

Sources and Availability of Raw Materials; Principal Suppliers

In general, raw materials essential to our businesses are readily available from multiple sources. For reasons of quality assurance, availability, or cost effectiveness, certain components and raw materials are available only from a sole supplier. Our policy is to maintain sufficient inventory of components so that our production will not be significantly disrupted even if a particular component or material is not available for a period of time.

We purchase MIST Therapy applicators and the saline bottles included with each applicator from single sources. We purchase the MIST systems from one supplier. We and our suppliers purchase many of the components and raw materials in manufacturing the MIST products from numerous suppliers in various countries. We have been able to obtain adequate supplies of such raw materials and components and work closely with suppliers to try to ensure continuity of supply while maintaining high quality and reliability.

Under our supply agreement with HLI, we receive the finished goods of Biovance and Interfyl from HLI.

Noble Biomaterials, Inc. is the principal manufacturer utilized in production of our TheraBond dressings. Noble Biomaterials, Inc. utilizes a proprietary and patented manufacturing process. Although we have not experienced significant production delays attributable to supply changes, we believe that developing alternative sources of supply used to make TheraBond would be difficult over a short period of time.

Because we have no direct control over these suppliers, interruptions or delays in the products and services provided by these parties may be difficult to remedy in a timely fashion. In addition, if such suppliers are unable or unwilling to deliver the necessary products or raw materials, we may be unable to redesign or adapt our technology to work without such raw materials or products or find alternative suppliers or manufacturers. In such events, we could experience interruptions, delays, increased costs or quality control problems, or be unable to sell the applicable products, all of which could have a significant adverse impact on our revenue.

Other than as discussed above, we believe that, due to the size and scale of production of our suppliers, there should be adequate supply of raw materials from our manufacturers.

Patents, Proprietary Rights and Trademarks

We own or license trademarks covering our company and our products. Our policy is to file patent applications to protect technology, inventions and improvements that are important to the development of our business. We also rely upon trade secrets and continuing technological innovations to develop and maintain our competitive position.

As of December 31, 2016, we have beneficial ownership of 15 issued U.S. utility patents, 2 issued U.S. design patents, 17 foreign patents, and several pending U.S. and foreign patent applications covering aspects of our MIST Therapy platform. Specifically, the MIST Therapy patent rights cover both medical and device aspects of wound care using non-contact ultrasound, as well as other clinical ultrasound applications.

In November 2013, we entered into a license, marketing and development agreement with CCT, as subsequently amended on each of September 30, 2014 and May 6, 2015, pursuant to which we hold an exclusive, royalty-bearing license in CCT's intellectual property related to certain placental based products, including DRS(ECM), Interfyl and Biovance, to develop and commercialize these products in the United States. In February 2016, HLI assumed all of CCT's rights and obligations under the license agreement in connection with HLI's acquisition of the assets of CCT related to DRS and Biovance, among other select assets. The development and application of the intellectual property covered under the license agreement is managed by a joint steering committee, composed of members of us and HLI. Following the commencement of commercial sales of each licensed product, the license agreement requires us to pay HLI certain annual license fees, royalty payments based on a percentage of net sales, as well as financial and performance milestone payments, subject to the terms and conditions set forth in the license agreement. The initial term of the license agreement expires on November 14, 2023, unless sooner terminated pursuant to the termination rights under the license agreement, and will automatically renew for additional two-year periods unless either party gives written notice within a specified period prior to the end of a term. The license agreement may be terminated (i) by HLI if we or any of our affiliates challenges the validity, enforceability or scope of certain enumerated HLI patents anywhere in the world; (ii) by either party if there is a final decree that a licensed product infringed on the intellectual property of a third party and the parties cannot cure such third party infringement; (iii) by either party for breach and failure to cure such breach of the license agreement; or (iv) by either party if the other party is the subject of insolvency proceedings, either voluntary or involuntary. In addition, the license agreement is terminable on a product-by-product basis, and not with respect to the entire license agreement: (i) by HLI, if we fail to meet certain minimum sales thresholds for the second year of commercial sales, and by either HLI or us if we fail to meet certain minimum sales thresholds for the third or any subsequent year of commercial sales and (ii) by either party upon written notice if outside legal counsel recommends discontinuance of commercialization of a product because of an actual, threatened, or perceived significant safety, legal, or economic risk as a result of a claim, demand or action or as a result of a change in the interpretation of law by a governmental or regulatory authority. Each year of commercial sales are referred to in the license agreement as "launch years" and the calendar period constituting each launch year for each licensed product is determined in accordance with the terms of the license agreement. See "Item 1A. Risk Factors - If we fail to meet certain minimum sales thresholds for products licensed pursuant to our agreement with HLI, we could lose our right to license such products."

Government Regulation

Product Regulation. Under the Federal Food, Drug and Cosmetic Act, medical devices are classified by the FDA into one of three classes —Class I, Class II or Class III—depending on the degree of risk associated with each medical device and the extent of control needed to ensure safety and effectiveness. While some applications of hydrogels fall under the jurisdiction of the FDA, hydrogels are generally classified as Class I exempt devices and the majority of the hydrogel products that we manufacture are thereby exempt from the FDA filing of any regulatory submissions and/or pre-market notification requirements. To the extent that any FDA regulatory submissions are required, we will be required to file these submissions and maintain all appropriate documentation. With respect to registering the manufacturing facility with the FDA under the Code of Federal Regulations, 21 CFR 820.1, Scope: Part A, it is stated that the regulation does not apply to manufacturers of component parts of finished devices. Currently, hydrogels are sold as component parts to various medical device/cosmetic manufacturers.

We believe that a number of products that our partners are developing will be classified in the U.S. as either Class I or Class II medical devices or Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/Ps). Class I medical devices are subject to the FDA's general controls, which include compliance with the applicable portions of the FDA's Quality System Regulation, facility registration and product listing, reporting of adverse medical events, and appropriate, truthful and non-misleading labeling, advertising, and promotional materials. Class II devices are subject to the FDA's general controls and may also be subject to other special controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. Most Class II devices require pre-market clearance by the FDA through the 510(k) pre-market notification process. When a 510(k) is required, the manufacturer must submit to the FDA a pre-market notification demonstrating that the device is "substantially equivalent" to either a device that was legally marketed prior to May 28, 1976, the date upon which the Medical Device Amendments of 1976 were enacted, or to another commercially available, similar device which was subsequently cleared through the 510(k) process. By regulation, the FDA is required to clear a 510(k) within 90 days of submission of the application. As a practical matter, clearance often takes longer. HCT/Ps that are regulated under 21 Code of Federal Regulations Part 1271 and Section 361 of the Public Health Service Act ("361 HCT/Ps") and do not require FDA approval or clearance prior to marketing. We are required to follow Current Good Tissue Practices (CGTP) including registration as a storage/distribution facility as well as track the tissue products from receipt to final disposition.

Biovance and Interfyl are products derived from human tissue. The FDA has specific regulations governing HCT/Ps. An HCT/P is a product containing or consisting of human cells or tissue intended for transplantation into humans. HCT/Ps that meet the criteria for regulation solely under Section 361 of the Public Health Service Act and 21 CFR 1271 (361 HCT/Ps) are not subject to pre-market clearance or approval requirements, but are subject to post-market regulatory requirements. To be a 361 HCT/P, a product must meet all four of the following criteria:

- It must be minimally manipulated;
- It must be intended for homologous use;
- It must not be combined with another article; and
- It must not have a systemic effect and not be dependent upon the metabolic activity of living cells for its primary function.

We and HLI believe that, within their intended uses, Biovance and Interfyl qualify as 361 HCT/Ps. The FDA is in the process of clarifying definitions of homologous use and minimal manipulation in their Guidance for Industry publications.

The FDA has broad post-market regulatory and enforcement powers with respect to medical devices, similar to those for pharmaceutical products. Failure to comply with the applicable U.S. medical device regulatory requirements could result in, among other things, warning letters, fines, injunctions, consent decrees, civil penalties, repairs, replacements, refunds, recalls or seizures of products, total or partial suspension of production, the FDA's refusal to grant future pre-market clearances or approvals, withdrawals or suspensions of current product applications, and criminal prosecution. Similarly, the FDA may audit any manufacturer of medical devices or facilities with a registered 361 HCT/P.

If there are any modifications to a cleared medical device such as our UltraMIST Class II device identified in 510(k) K140782, including changes in indication, manufacturing process or labeling or a change in a manufacturing facility, an applicant must notify the FDA, and in many cases, clearance for such changes must be submitted to the FDA. Additionally, the FDA regulates post-approval promotional labeling and advertising activities to assure that such activities are being conducted in conformity with statutory and regulatory requirements. These regulations include standards or restrictions for direct-to-consumer advertising, industry-sponsored scientific and educational activities, promotional activities and off-label promotion. Likewise, labeling and advertising of HCT/Ps may be monitored for indication language to be consistent with homologous use. While physicians may prescribe for off-label uses, manufacturers may only promote for the approved indications and in accordance with the provisions of the approved label (or homologous use). The FDA has very broad enforcement authority under the Federal Food, Drug and Cosmetic Act, and failure to abide by these regulations can result in enforcement action, including the issuance of untitled or warning letters directing entities to correct deviations from FDA regulations and civil and criminal investigations and prosecutions. These activities could have a material adverse effect on our business, results of operations, financial condition and cash flows.

Quality Assurance Requirements. The FDA enforces regulations to ensure that the methods used in, and the facilities and controls used for, the manufacture, processing, packing and holding of drugs, medical devices and/or HCT/Ps conform with current good manufacturing (CGMP) and/or CGTP. The CGMP regulations the FDA enforces are comprehensive and cover all aspects of manufacturing operations, from receipt of raw materials to finished product distribution, insofar as they bear upon whether drugs meet all the identity, strength, quality and purity characteristics required of them. The CGMP regulations for devices, called the Quality System Regulation, are also comprehensive and cover all aspects of device manufacture, from pre-production design validation to installation and servicing, insofar as they bear upon the safe and effective use of the device and whether the device otherwise meets the requirements of the Federal Food, Drug and Cosmetic Act. CGTPs are narrower in scope than CGMPs. CGTP requires a quality program to prevent, detect, and correct deficiencies that could increase communicable disease risk. To assure compliance requires a continuous commitment of time, money and effort in all operational areas.

The FDA also conducts periodic inspections of drug, device and registered HCT/P facilities to assess their current CGMP/CGTP status. If the FDA were to find serious non-compliant manufacturing or processing practices during such an inspection, it could take regulatory actions that could adversely affect our business, results of operations, financial condition and cash flows. With respect to domestic establishments, the FDA could initiate product seizures or in some instances require product recalls and seek to enjoin a product's manufacture and distribution. In certain circumstances, violations could support civil penalties and criminal prosecutions. In addition, if the FDA concludes that a company is not in compliance with CGMP requirements, sanctions may be imposed that include preventing that company from receiving the necessary licenses to export its products and classifying that company as an "unacceptable supplier", thereby disqualifying that company from selling products to federal agencies.

We conduct audits of our outside manufacturers and believe that we and our suppliers and outside manufacturers are currently in compliance with CGMP/CGTP requirements. We are currently registered as a device manufacturer and human tissue distributor with the FDA and we intend to register as a drug facility with the FDA when we are required to do so.

Third-Party Reimbursement

In the United States as well as in foreign countries, sales of our products depend, in significant part, on the availability of reimbursement from third-party payers. In the U.S., third-party payers consist of government programs such as Medicare, private health insurance plans, managed care organizations and other similar programs. For any product, three factors are critical to reimbursement:

- coding, which ensures uniform description of procedures, diagnoses and medical products;
- coverage, which is the payer's policy describing the clinical circumstances under which it will pay for a given treatment; and
- payment process and fee schedules.

We believe the availability, as of January 2014, of a Category I CPT code for MIST Therapy has encouraged and will continue to encourage, broader coverage and subsequent use of its MIST Therapy System in the United States. Previously, MIST Therapy was billed under a temporary Category III CPT code, which some payers generally refuse to cover. Each government and private payer, however, makes its own coverage decision.

Access to MIST Therapy is available to Medicare beneficiaries in all 50 states. Although private payers will often pay for MIST Therapy when medically necessary and pre-approved, we have not focused on securing private payer coverage decisions for MIST Therapy.

For Medicare-covered patients who are commonly treated in a hospital outpatient department, the payment system is called the Outpatient Prospective Payment System. The facility payment for MIST Therapy is billed under the CPT Code and then categorized for payment under a single Ambulatory payment ("APC"). Each hospital has a specific APC payment based on the hospital's wage index for their geographic location.

If MIST Therapy is delivered by a physician, non-physician practitioner, or physical therapist, a professional payment may be based on the Medicare Physician Fee Schedule ("MPFS"). The MPFS includes both a facility, and, for treatment delivered in a physician's office a non-facility rate. The actual amount will vary by location per the geographic practice cost index adjustment to the national rate. Therapy services are typically paid under the non-facility MPFS payment rate pursuant to Medicare guidelines.

Biovance is currently marketed in hospitals where Diagnosis Related Group Procedures are performed, in the Veteran's Affairs health system, and in hospital outpatient departments as well as Physician offices or other outpatient care centers. Providers of outpatient services will be reimbursed for Biovance by Medicare where there is a local coverage determination by the prevailing Medicare Administrative Contractor ("MAC"). On October 31, 2014, Biovance was assigned a new and unique, Level II Healthcare Common Procedure Coding System product reimbursement Q code (Q4154) by Centers for Medicare and Medicaid Services ("CMS"). The new reimbursement code took effect on January 1, 2015. We currently have reimbursement coverage for Biovance from seven of the eight MACs, representing 93% of Medicare covered lives, as well as 50.4% of BlueCross BlueShield covered lives in the U.S.

We have the Healthcare Common Procedural Coding System, or HCPCS, codes, from the Pricing, Data, Analysis, and Coding contractor for CMS, for use when billing for our wound care dressings. HCPCS was established in 1978 to provide a standardized coding system for describing the specific items and services provided in the delivery of health care. HCPCS codes are used by Medicare and monitored by the CMS. They are based on the Current Procedural Technology codes developed by the American Medical Association. We believe that these codes will facilitate reimbursement for the use of our dressings in Medicare patients with applicable wounds.

Environmental Regulation. We are subject to various laws and governmental regulations concerning environmental matters and employee safety and health in the U.S. and other countries. We have made, and continue to make, significant investments to comply with these laws and regulations. We cannot predict the future capital expenditures or operating costs required to comply with environmental laws and regulations. We believe that we are currently compliant with applicable environmental, health and safety requirements in all material respects. However, we cannot assure you that current or future regulatory, governmental, or private action will not have a material adverse effect on our performance, results or financial condition.

In the future, if a loss contingency related to environmental matters, employee safety, health or conditional asset retirement obligations is recognized, we would record a liability for the obligation and it may result in a material impact on net income for the annual or interim period during which the liability is recorded. The investigation and remediation of environmental obligations generally occur over an extended period of time, and therefore we do not know if these events would have a material adverse effect on our financial condition, liquidity, or cash flow, nor can we assure you that such liabilities would not have a material adverse effect on our performance, results or financial condition.

Federal and State Anti-kickback, Self-referral, False Claims and Similar Laws. Our relationships with physicians, hospitals and the marketers of our products are subject to scrutiny under various federal anti-kickback, self-referral, false claims and similar laws, often referred to collectively as healthcare fraud and abuse laws. Healthcare fraud and abuse laws are complex, and even minor, inadvertent violations can give rise to claims that the relevant law has been violated. Certain states have similar fraud and abuse laws, imposing substantial penalties for violations. Any government investigation or a finding of a violation of these laws would likely result in a material adverse effect on the market price of our common stock, as well as our business, financial condition and results of operations. We believe that we are currently compliant with applicable anti-kickback, self-referral, false claims in all material respects.

Research and Development Costs

For the year ended December 31, 2016 and 2015, we incurred research and development costs of approximately $859,000 and $715,000, respectively, related to a randomized controlled trial for our Biovance product in chronic diabetic foot ulcers. We have experienced slower than expected patient enrollment and projected costs to complete the trial are significantly higher than we previously expected. In addition, we believe there is no longer a business need for this trial due to the amount of patient data currently available, our success in getting government and commercial insurance coverage for Biovance, and our recent increase in Biovance sales. Due to these factors, we have decided to terminate patient enrollment for the Biovance trial. We expect our research and product development costs related to this trial to continue through the completion of study close-down during the first half of 2017.

We bear our own research and development costs and do not directly pass along our research and development costs to our customers.

We intend to commit capital resources to research and development only as our cash resources allow. We have incurred all costs associated with the launch of our proprietary products and will only require research and development expenses for product enhancements and modifications and to obtain additional reimbursement coverage, which we do not expect to be significant.

Employees

As of December 31, 2016, we had 81 full-time employees. Of these employees, 60 are involved with finance, sales, marketing, and administration and 21 are involved with manufacturing, clinical and regulatory matters. Our employees are not represented by a labor union or other collective bargaining groups, and we consider relations with our employees to be good. We currently plan to retain and utilize the services of outside consultants for additional research, testing, regulatory, legal compliance and other services on an as needed basis.

ITEM 1A. RISK FACTORS

There are numerous and varied risks, known and unknown, that may prevent us from achieving our goals. You should carefully consider the risks described below and the other information included in this Annual Report on Form 10-K, including the consolidated financial statements and related notes. If any of the following risks, or any other risks not described below, actually occur, it is likely that our business, financial condition, and/or operating results could be materially adversely affected. The risks and uncertainties described below include forward-looking statements and our actual results may differ from those discussed in these forward-looking statements.

The report of our independent auditors contains an explanatory paragraph as to our ability to continue as a going concern, which could prevent us from obtaining new financing on reasonable terms or at all.

Because we have had recurring losses, negative cash flows from operating activities, limited cash on hand in light of expected expenditures and are in default of our Credit Agreement, the report of Marcum LLP, our independent auditors, with respect to our financial statements at December 31, 2016 and for the year ended December 31, 2016 contains an explanatory paragraph as to our potential inability to continue as a going concern. This opinion indicates that substantial doubt exists regarding our ability to remain in business. Such an opinion may adversely affect our ability to obtain new financing on reasonable terms or at all.

We have experienced significant losses and expect losses to continue for the foreseeable future.

We have incurred annual net losses of $28.2 million and $26.0 million, respectively, during the years ended December 31, 2016 and 2015. As of December 31, 2016, we had an accumulated deficit of $124.3 million. We expect to incur additional operating losses for the foreseeable future. Although we expect sales to continue to increase in 2017 and beyond from our existing product offerings, there can be no assurance our sales will increase or that we will ever be profitable in the future.

We will require additional capital in order to execute the longer term aspects of our business plan.

The implementation of our growth strategy will continue to result in an increase in our fixed cost structure. Due to the time delay between outlays for working capital expenditures, such as costs to acquire rights to additional products, the hiring and training of sales agents and personnel, marketing costs, the purchasing of inventory, the billing and collection of revenue, debt service costs, and diligence costs related to merger and acquisition activities, we expect to have a net cash outflow from operating activities as a result of these expenditures. Future results of operations involve significant risks and uncertainties. Factors that could affect our future operating results and cause actual results to vary materially from expectations include, but are not limited to, potential demand for our products, risks from competitors, regulatory approval of our new products, technological change, and dependence on key personnel. In addition, a portion of the contingent consideration payable to Celleration shareholders in connection with our acquisition of Celleration is payable in cash in 2017.

In order to complete our future growth strategy, additional equity and/or debt financing will be required. If we are unable to raise additional capital or if we encounter circumstances that place unforeseen constraints on capital resources, we will be required to take even stronger measures to conserve liquidity, which may include, but are not limited to, eliminating all non-essential positions and ceasing all marketing efforts. We would have to curtail business development activities and suspend the pursuit of our business plan. There can be no assurance that we will be successful in improving revenues, reducing expenses and/or securing additional capital in sufficient amounts and on favorable terms.

We have a substantial amount of indebtedness under our $13.8 million principal term loan and are in default under the Credit Agreement, which may adversely affect our cash flow and our ability to operate our business.

In order to finance our acquisition of Celleration, on May 29, 2015, we and each of our subsidiaries entered into a credit agreement and guaranty (the "Credit Agreement") with Perceptive Credit Opportunities Fund, L.P. ("Perceptive"), which provided for a senior, secured term loan with a current principal amount of approximately $13.8 million. The full unpaid principal amount of the term loan will mature on May 29, 2019. Prior to maturity, on the last business day of each calendar month following May 29, 2017, we will be required to make monthly principal payments of $225,000, with any remaining unpaid balance of the term loan being payable in cash on the maturity date. The repayment of the term loan and our obligations under the Credit Agreement are secured by a first priority lien on all of our existing and after acquired tangible and intangible assets, including intellectual property. The Credit Agreement also contains certain restrictions that prohibit us and our subsidiaries from engaging in certain transactions and activities, including but not limited to the following:

- entering into, creating, incurring or assuming any indebtedness of any kind, subject to limited exceptions;
- creating or incurring new liens, subject to certain exceptions;
- entering into new acquisitions or investments in other entities, subject to certain exceptions;
- winding up, liquidating or dissolving;
- merging or consolidating with another person or disposing of assets, subject to certain exceptions;
- entering into inbound or outbound licenses, subject to certain exceptions;
- changing the nature of our core business;
- paying cash dividends; and
- repaying, repurchasing or otherwise acquiring shares of our common stock or other equity securities.

Our ability to meet our expenses, debt obligations and other financial covenants under the Credit Agreement will depend on our future performance, which will be affected by financial, business, economic, regulatory and other factors. We will be unable to control many of these factors. We cannot be certain that our earnings will be sufficient to allow us to pay the principal and interest on our debt and meet any other obligations. We do not have enough money to service our debt, we are required, but may be unable to refinance or restructure all or part of our existing debt, sell assets, borrow money or raise equity on terms acceptable to us, if at all, and the lender could foreclose on its security interest and liquidate some or all of our assets, which would harm our business, financial condition and results of operations.

The Credit Agreement also requires us to meet certain financial covenants. Our ability to meet these financial covenants may be affected by events beyond our control. If, as or when required, we are unable to repay, refinance or restructure our indebtedness under, or amend the covenants contained in, the Credit Agreement, the lender could institute foreclosure proceedings against our assets, which would harm our business, financial condition and results of operations. We are currently in default under the Credit Agreement.

In addition, as a result of our increased level of indebtedness, demands on our cash resources will continue to increase in the future and could, among other things:

- require us to dedicate a large portion of our cash flow from operations to the servicing and repayment of our debt, thereby reducing funds available for working capital, capital expenditures, research and development expenditures and other general corporate requirements;
- limit our ability to obtain additional financing to fund future working capital, capital expenditures, research and development expenditures and other general corporate requirements;
- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- restrict our ability to make strategic acquisitions or dispositions or to exploit business opportunities;
- place us at a competitive disadvantage compared to our competitors that have less debt;

- adversely affect our credit rating, with the result that the cost of servicing our indebtedness might increase and our ability to obtain surety bonds could be impaired;

- adversely affect the market price of our common stock; and

- limit our ability to apply proceeds from an offering or asset sale to purposes other than the servicing and repayment of debt.

We are currently in default under the Credit Agreement, which allows the lender to exercise certain rights and remedies, including, without limitation, declaring the entire outstanding indebtedness under the Credit Agreement of approximately $13.8 million immediately due and payable, imposing a default rate of interest and/or foreclosing on some or substantially all of our assets.

We are currently in default of the Credit Agreement, as a result of our failure to achieve gross revenue of $22,250,000 for the twelve-month period ended September 30, 2016 and $24,600,000 for the twelve-month period ended December 31, 2016. Under an agreement dated January 26, 2017, as amended on March 7, 2017, the lender agreed to forbear from exercising any rights and remedies related to the default until the earlier of April 30, 2017 or the date when the lender becomes aware of any other default. The remedies available for the lender include, among others, the ability to accelerate and immediately demand payment of the outstanding debt of approximately $13.8 million under the Credit Agreement, to impose a default rate of interest, to foreclose on some or all of our assets, and/or to take possession of or sell some or all of our assets. Were the lender to demand payment of the outstanding debt after expiration of the forbearance period, we would currently have insufficient funds to satisfy that obligation, and the lender's exercise of its other remedies would have a material adverse effect on our operations and financial condition.

We are exploring initiatives to address solutions to our credit issues, which include a restructuring of the Credit Agreement with our lender and the evaluation and pursuit of various sources of financing including a refinancing. However, no assurance can be given that we can restructure our Credit Agreement or that additional financing will be available on commercially reasonable terms or at all.

Occurrence of an event of default under the Credit Agreement could result in a material adverse effect on our business, operating results and financial condition, or the loss of our assets as the lender holds a first priority security interest in all of our assets and the assets of our subsidiaries.

Events of default under the Credit Agreement include, but are not limited to, the following:

- failure to pay principal, interest or other amounts, if any, when due;

- any form of bankruptcy or insolvency proceeding instituted by or against us or any of our subsidiaries that is not dismissed in 60 days;

- a default occurring under any debenture, mortgage, credit agreement, indenture or other instrument representing or securing indebtedness in an amount exceeding $250,000;

- we or any of our subsidiaries is party to a change of control;

- the FDA or other governmental authority (i) issues a letter or other communication asserting any of our products lacks a required product authorization, including in respect of CE marks or 510(k)s or 361HCT/P qualification, or (ii) initiates enforcement action or warning against us, any of our products or manufacturing facilities resulting in the discontinuance of marketing, withdrawal of any material products, or delay in the manufacture of any material products, each lasting for more than 90 days;

- a recall of any product that has generated or is expected to generate at least $1.0 million in revenue in the aggregate over any consecutive twelve (12) month period;

- we or any of our subsidiaries enters into a settlement agreement with the FDA or any other governmental authority that results in aggregate liability as to any single or related series of transactions, incidents or conditions, in excess of $500,000;

- we are in default under our license agreement with HLI or the license agreement is terminated, amended, waived or otherwise modified in a manner materially adverse to the lender's interests; and

- failure to observe or perform any other covenant contained in the Credit Agreement.

Upon occurrence of an event of default under the Credit Agreement, payment of the entire principal amount could be accelerated and become immediately due and payable. The cash that we may be required to pay would most likely come out of our working capital, which may be insufficient to repay the obligation or leave us with insufficient cash to finance our operations. In such event, we may lose some or all of our assets as the lender could foreclose on its security interests and liquidate some or all of these assets, which would harm our business, financial condition and results of operations. We may also be required to file for bankruptcy, sell assets, or cease operations, any of which would put our company, our investors and the value of our common stock, at significant risk.

The pledge of these assets and other restrictions may limit our flexibility in raising capital for other purposes. Because substantially all of our assets are pledged under the Credit Agreement, our ability to incur additional secured indebtedness or to sell or dispose of assets to raise capital may be impaired, which could have an adverse effect on our financial flexibility.

Our goodwill and long-lived assets are subject to potential further impairment, and if those become further impaired, it could materially further the reduction in the value of our assets and increase our net loss for the year in which the write-off occurs.

Our intangible and fixed assets have finite useful lives and are amortized or depreciated over their useful lives on either a straight-line basis or over the expected period of benefit or as revenues are earned from the sales of the related products. The underlying assumptions regarding the estimated useful lives of these intangible assets are reviewed annually and more often if an event or circumstance occurs making it likely that the carrying value of the assets may not be recoverable and are adjusted through accelerated amortization if necessary. Whenever events or changes in circumstances indicate that the carrying value of the assets is not recoverable we test intangible assets for impairment based on estimates of future cash flows. If an intangible asset is considered to be impaired, the amount of the impairment will equal the excess of the carrying value over the fair value of the asset.

As of December 31, 2016, we had $12.0 million in goodwill related to acquisitions, which represents the purchase price we paid in excess of the fair value of the net tangible assets and identifiable intangible assets we acquired. We assess the recoverability of goodwill annually, at the beginning of the fourth quarter of each fiscal year, and between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Under Financial Accounting Standards Board ("FASB") guidance for goodwill and other intangible assets, a reporting unit is defined as an operating segment or one level below the operating segment, called a component. However, two or more components of an operating segment will be aggregated and deemed a single reporting unit if the components have similar economic characteristics. We adopted authoritative accounting guidance that allows us to first assess qualitative factors to determine whether it is necessary to perform the more detailed two-step quantitative goodwill impairment test. We perform the quantitative test if the qualitative assessment determined it is more likely than not that a reporting unit's fair value is less than its carrying amount. We may elect to bypass the qualitative assessment and proceed directly to the quantitative test for any reporting unit. When performing the quantitative test, an impairment loss is recognized if the carrying amount of the reporting unit's net assets exceeds the estimated fair value of the reporting unit and the carrying amount of reporting unit goodwill is determined to exceed the implied fair value of that goodwill. The estimated fair value of a reporting unit is calculated using a discounted cash flow model. During the year ended December 31, 2016, we recorded an impairment charge of approximately $1.7 million related to our MIST tradename and approximately $9.2 million related to our goodwill.

If actual results differ from the assumptions and estimates used in the goodwill and intangible asset calculations, we could incur further impairment or amortization charges. Any finding that the value of our goodwill and long-lived assets has been further impaired would require us to write off the impaired portion, which could materially reduce the value of our assets and reduce our net income or increase our net loss for the year in which the write off occurs and increase our accumulated deficit, which could contribute to difficulty in raising additional funds.

If we fail to meet certain minimum sales thresholds for products licensed pursuant to our agreement with HLI, we could lose our right to license such products.

Our license agreement with HLI is terminable on a product-by-product basis if we fail to meet certain minimum sales thresholds in the second year or any subsequent year of commercial sales of each licensed product. Each year of commercial sales are referred to in the license agreement as "launch years" and the calendar period constituting each launch year for each licensed product is determined in accordance with the terms of the license agreement. To maintain our license for Biovance, we must meet a minimum gross sales amount for Biovance in the second year and third year of commercial sales. If we fail to meet the minimum threshold in the second year of commercial sales of product, we would be able to cure such failure by making a cure payment specified in the license agreement to HLI; provided, however, we do not have the option to make a cure payment, should we fail to meet the minimum threshold for such product in the third year of commercial sales and HLI may terminate the license agreement with respect to such product. If we do not meet the minimum sales threshold, HLI may terminate the license with respect to Biovance or Interfyl, as the case may be. Even though we are implementing sales and marketing strategies to meet this minimum gross sales amount, no assurance can be given that we will be able to meet the minimum sales threshold for Biovance in the second or third year of commercial sales as required by the license agreement. If we were to lose or otherwise become unable to maintain our right to license Biovance, Interfyl or other products from HLI, it could have a material adverse effect on our business, financial condition and results of operations. In addition, any termination of our right to license Biovance, Interfyl or other products under the license agreement with HLI could trigger an event of default under the Credit Agreement that we entered into to finance the cash portion of the purchase price for the Celleration acquisition.

Decisions in reimbursement levels by governmental or other third-party payers for procedures using our products may have an adverse impact on acceptance of our products.

We believe that our products will be purchased principally by hospitals or physicians, which typically bill various third-party payers, such as state and federal healthcare programs (e.g., Medicare and Medicaid), private insurance plans and managed care plans, for the products and services provided to their patients. The ability of our customers to obtain appropriate reimbursement for products and services from third-party payers is critical to the success of our business because reimbursement status affects which products customers purchase and the prices they are willing to pay. In addition, our ability to obtain reimbursement approval in foreign jurisdictions will affect our ability to expand our product offerings internationally.

Third-party payers have adopted, and are continuing to adopt, a number of policies intended to curb rising healthcare costs. These policies include:

- imposition of conditions of payment by foreign, state and federal healthcare programs as well as private insurance plans;
- rules related to how products and services may be marketed; and
- reduction in reimbursement amounts applicable to specific products and services.

Adverse decisions relating to coverage or reimbursement of our products would have an adverse impact on the acceptance of our products and the prices that our customers are willing to pay for them.

We are unable to predict whether foreign, federal, state or local healthcare reform legislation or regulation affecting our business may be proposed or enacted in the future, or what effect any such legislation or regulation would have on our business. Changes in healthcare systems in the United States or internationally in a manner that significantly reduces reimbursement for procedures using our products or denies coverage for these procedures would also have an adverse impact on the acceptance of our products and the prices which our customers are willing to pay for them.

We depend on our executive officers and key personnel.

We believe that our success will depend, in part, upon our ability to retain our executive officers, including David Johnson, our Chief Executive Officer, Brian M. Posner, our Chief Financial Officer, Nino Pionati our Chief Strategy and Marketing Officer and Bradford C. Barton, our Chief Operating Officer, and other key personnel, and attract additional skilled personnel, which may require substantial additional funds. There can be no assurance that we will be able to find and attract additional qualified employees or retain any such executive officers and other key personnel. Our inability to hire qualified personnel, the loss of services of our executive officers or key personnel, or the loss of services of executive officers or key personnel who may be hired in the future may have a material and adverse effect on our business.

Our strategic business plan may not produce the intended growth in revenue and operating income.

Our strategies include making significant investments in sales and marketing programs to achieve revenue growth and margin improvement targets. If we do not achieve the expected benefit from these investments or otherwise fail to execute on our strategic initiatives, we may not achieve the growth improvement we are targeting and our results of operations may be adversely affected.

Our acquisition strategy may not produce the intended growth in revenue and operating income.

As part of our strategy for growth, we may make acquisitions and enter into strategic alliances such as joint ventures and joint development agreements. However, we may not be able to identify suitable acquisition candidates, complete acquisitions or integrate acquisitions successfully, and our strategic alliances may not prove to be successful. Such acquisitions could reduce shareholders' ownership, require us to incur debt, expose us to liabilities and result in amortization expenses related to intangible assets with definite lives. In addition, acquisitions involve other risks, including diversion of management resources otherwise available for ongoing development of our business and risks associated with entering new markets with which we have limited experience or where distribution alliances with experienced distributors are not available. Our future profitability may depend in part upon our ability to further develop our resources to adapt to these new products or business areas and to identify and enter into satisfactory distribution networks. Moreover, we may fail to realize the anticipated benefit of any acquisition as rapidly as expected or at all, or the acquired business may not perform in accordance with our expectations. We may also incur significant expenditures in anticipation of an acquisition that is never realized. There can be no assurance that difficulties encountered in connection with acquisitions will not have a material adverse effect on our business, financial condition and results of operations.

Our future success depends upon market acceptance of our existing and future products.

We believe that our success will depend in part upon the acceptance of our existing and future products by the medical community, hospitals and physicians and other health care providers, third-party payers, and end-users. Such acceptance may depend upon the extent to which the medical community and end-users perceive our products as safer, more effective or cost-competitive than other similar products. Ultimately, for our new products to gain general market acceptance, it may also be necessary for us to develop marketing partners for the distribution of our products. There can be no assurance that our new products will achieve significant market acceptance on a timely basis, or at all. Failure of some or all of our future products to achieve significant market acceptance could have a material adverse effect on our business, financial condition, and results of operations.

We operate in a highly competitive industry and face competition from large, well-established medical device manufacturers as well as new market entrants.

Competition from other medical device companies and from research and academic institutions is intense, expected to increase, subject to rapid change and significantly affected by new product introductions and other market activities of industry participants. In addition to competing with universities and other research institutions in the development of products, technologies and processes. We compete with other companies in acquiring rights to products or technologies from those institutions. A number of factors may limit the market acceptance of our products, including the timing of regulatory approvals and market entry relative to competitive products, the availability of alternative products, and the price of our products relative to alternative products, the availability of third party reimbursement and the extent of marketing efforts by third party distributors or agents that we retain. There can be no assurance that our products will receive market acceptance in a commercially viable period of time, if at all. Furthermore, there can be no assurance that we can develop products that are more effective or achieve greater market acceptance than competitive products, or that our competitors will not succeed in developing or acquiring products and technologies that are more effective than those being developed by us, that would render our products and technologies less competitive or obsolete.

Our competitors enjoy several competitive advantages over it, including some or all of the following:

- large and established distribution networks in the United States and/or in international markets;
- greater financial, managerial and other resources for products research and development, sales and marketing efforts and protecting and enforcing intellectual property rights;
- significantly greater name recognition;
- more expansive portfolios of intellectual property rights;
- established relations with physicians, hospitals, other healthcare providers and third party payers;
- products which have been approved by regulatory authorities for use in the United States and/or Europe and which are supported by long-term clinical data; and
- greater experience in obtaining and maintaining regulatory approvals and/or clearances from the FDA and other regulatory agencies.

Our competitors' products will compete directly with our products. In addition, our competitors as well as new market entrants may develop or acquire new treatments, products or procedures that will compete directly or indirectly with our products. The presence of this competition in our market may lead to pricing pressure which would make it more difficult to sell our products at a price that will make us profitable or prevent us from selling our products at all. Our failure to compete effectively would have a material and adverse effect on our business, results of operations and financial condition.

Changes to the FDA approval process or ongoing regulatory requirements could make it more difficult for us to obtain FDA approval of our products or comply with ongoing requirements.

Based on scientific developments, post-market experience, or other legislative or regulatory changes, the current FDA standards of review for approving new medical device products are sometimes more stringent than those that were applied in the past. For example, with passage of the Food and Drug Administration Safety and Innovation Act in 2012 (FDASIA), the FDA was required to revisit some of our policies regarding 510(k) devices which resulted in the FDA drafting new guidance for the 510(k) process. The FDA continues to revisit and clarify our guidance regarding 510(k) devices, and such revisions could impact the process for clearing medical devices, determining which devices are eligible for 510(k) clearance, the ability to rescind previously granted 510(k) clearances and additional requirements that may significantly impact the process.

We cannot determine what effect changes in regulations or legal interpretations by the FDA or the courts, when and if promulgated or issued, may have on our business in the future. Changes could, among other things, require different labeling, monitoring of patients, interaction with physicians, education programs for patients or physicians, curtailment of necessary supplies, or limitations on product distribution. These changes, or others required by the FDA could have an adverse effect on the sales of these products. The evolving and complex nature of regulatory science and regulatory requirements, the broad authority and discretion of the FDA and the generally high level of regulatory oversight results in a continuing possibility that from time to time, we will be adversely affected by regulatory actions despite ongoing efforts and commitment to achieve and maintain full compliance with all regulatory requirements.

Should the FDA determine that Biovance or Interfyl does not meet regulatory requirements that permit qualifying human cell and/or tissue based products ("HCT/Ps") to be processed, stored, labeled and distributed without pre-marketing approval, our supplier may be required by the FDA to stop processing and we may be required to stop distributing Biovance or Interfyl, or to narrow the indications for which Biovance or Interfyl is marketed, which, in turn, could also result in a default under our planned credit facility.

Each of Biovance and Interfyl is a product derived from human tissue. The FDA has specific regulations governing HCT/Ps. An HCT/P is a product containing or consisting of human cells or tissue intended for transplantation into humans. HCT/Ps that meet the criteria for regulation solely under Section 361 of the Public Health Service Act and 21 CFR 1271 (361 HCT/Ps) are not subject to pre-market clearance or approval requirements, but are subject to post-market regulatory requirements. To be a 361 HCT/P, a product must meet all four of the following criteria:

- it must be minimally manipulated;
- it must be intended for homologous use only;
- it must not be combined with another article; and
- it must not have a systemic effect and not be dependent upon the metabolic activity of living cells for our primary function.

We and HLI believe that each of Biovance and Interfyl qualifies as a 361 HCT/P. The FDA is in the process of clarifying definitions of homologous use and minimal manipulation in its Guidance for Industry publications. Should a significant change occur with these updated final documents expected in 2017, and the FDA disagrees with our belief, changes its policy with respect to 361 HCT/P qualifications, or determines that our marketing claims exceed what would be permitted for a 361 product, and either Biovance or Interfyl is determined to not qualify as a section 361 HCT/P product, we may have to revise our labeling and other written or oral statements of use or obtain approval or clearance from the FDA before we can continue to market the product in the United States. Furthermore, a communication from the FDA asserting that either Biovance or Interfyl does not qualify as a 361 HCT/P product could also trigger an event of default under our Credit Agreement.

Modifications to our current products may require new marketing clearances or approvals or require us to cease marketing or recall the modified products until such clearances or approvals are obtained.

Any modification to an FDA-cleared product that could significantly affect our safety or effectiveness, or that would constitute a major change or modification in our intended use, requires a new FDA 510(k) clearance or, possibly, a premarket approval. The FDA requires every manufacturer to make its own determination as to whether a modification requires a new 510(k) clearance or premarket approval, but the FDA may review and disagree with any decision reached by the manufacturer. In the future, we may make additional modifications to our products after they have received FDA clearance or approval and, in appropriate circumstances, determine that new clearance or approval is unnecessary. Regulatory authorities may disagree with our past or future decisions not to seek new clearance or approval and may require us to obtain clearance or approval for modifications to our products. If that were to occur for a previously cleared or approved product, we may be required to cease marketing or recall the modified device until we obtain the necessary clearance or approval. Under these circumstances, we may also be subject to significant regulatory fines or other penalties. If any of the foregoing were to occur, our financial condition and results of operations could be negatively impacted.

We and our manufacturers will be required to comply with current good manufacturing practices ("cGMPs") and current good tissue practices ("cGTPs") and could be subject to suspensions or product withdrawals if found non-compliant.

The FDA regulates the facilities, processes and procedures used to manufacture and market medical products in the United States. Manufacturing facilities must be registered with the FDA and all products made in such facilities must be manufactured in accordance with cGMP, regulations enforced by the FDA. Compliance with cGMP regulations requires the dedication of substantial resources and requires significant expenditures. The FDA periodically inspects our manufacturing facilities and those of our subcontractors and procedures to assure compliance. The FDA may cause a suspension or withdrawal of product approvals if regulatory standards are not maintained. In the event an approved manufacturing facility for a particular drug or medical device is required by the FDA to curtail or cease operations, or otherwise becomes inoperable, or a third-party contract manufacturing facility faces manufacturing problems, obtaining the required FDA authorization to manufacture at the same or a different manufacturing site could result in production delays, which could adversely affect our business, results of operations, financial condition and cash flow.

We will be subject to ongoing federal and state regulations, and if we fail to comply, our business could be seriously harmed.

Following initial regulatory approval of any products that we may develop, we will be subject to continuing regulatory review, including review of adverse (drug or device) experiences or reactions and clinical results that are reported after our products become commercially available. This would include results from any post-marketing tests or continued actions required by a condition of approval. The manufacturing facilities we may use to make any of our products may become subject to periodic review and inspection by the FDA. If a previously unknown problem or problems with a product or a manufacturing and laboratory facility used by us is discovered, the FDA may impose restrictions on that product or on the manufacturing facility, including requiring us to withdraw the product from the market. Any changes to an approved product, including the way it is manufactured or promoted, often requires FDA approval before the product, as modified, can be marketed. In addition, for products we develop in the future, we and our contract manufacturers may be subject to ongoing FDA requirements for submission of safety and other post-market information. If we or any of our contract manufacturers fail to comply with applicable regulatory requirements, a regulatory agency may:

- issue warning letters;
- impose civil or criminal penalties;
- suspend or withdraw our regulatory approval;
- suspend or terminate any of our ongoing clinical trials;
- refuse to approve pending applications or supplements to approved applications filed by us;
- impose restrictions on our operations;
- close the facilities of our contract manufacturers; and/or
- seize or detain products or require a product recall.

Additionally, regulatory review covers a company's activities in the promotion of our medical products, with significant potential penalties and restrictions for promotion of drugs, devices or tissues for an unapproved use. Sales and marketing programs, such as illegal promotions to health care professionals, are under scrutiny for compliance with various mandated requirements. We are also required to submit information on open and completed clinical trials to public registries and databases. Failure to comply with these requirements could expose us to negative publicity, fines and penalties that could harm our business.

If we violate regulatory requirements at any stage, whether before or after marketing approval is obtained, we may be fined, be forced to remove a product from the market or experience other adverse consequences, including delay, which would materially harm our financial results. Additionally, we may not be able to obtain the labeling claims necessary or desirable for product promotion.

We and our sales personnel, whether employed by us or by others, must comply with various federal and state anti-kickback, self-referral, false claims and similar laws, any breach of which could cause a material adverse effect on our business, financial condition and results of operations.

Our relationships with physicians, hospitals and the marketers of our products are subject to scrutiny under various federal anti-kickback, self-referral, false claims and similar laws, often referred to collectively as healthcare fraud and abuse laws. Healthcare fraud and abuse laws are complex, and even minor, inadvertent violations can give rise to liability, or claims of alleged violations. Possible sanctions for violation of these fraud and abuse laws include monetary fines; civil and criminal penalties; exclusion from federal and state healthcare programs, including Medicare, Medicaid, Veterans Administration health programs, workers' compensation programs and TRICARE, the healthcare system administered by or on behalf of the U.S. Department of Defense for uniformed services beneficiaries, including active duty and their dependents, retirees and their dependents; and forfeiture of amounts collected in violation of such prohibitions. Many states have similar, or sometimes broader, fraud and abuse laws that also authorize substantial civil and criminal penalties for violations. Any government investigation or a finding of a violation of these laws would likely result in a material adverse effect on the market price of our common stock, as well as our business, financial condition and results of operations.

The federal Anti-Kickback Statute prohibits any knowing and willful offer, payment, solicitation or receipt of any form of remuneration in return for the referral of an individual or the ordering or recommending of the use of a product or service for which payment may be made by any federal healthcare program, including Medicare.

The scope and enforcement of the healthcare fraud and abuse laws is uncertain and subject to rapid change. There can be no assurance that federal or state regulatory or enforcement agencies will not investigate our current or future activities under these laws. Any investigation or challenge could have a material adverse effect on our business, financial condition and results of operations. Any state or federal investigation, regardless of the outcome, could be costly and time-consuming. Additionally, we cannot predict the impact of any changes in these laws, whether these changes are retroactive or will have effect on a going-forward basis only.

If we engage additional physicians on a consulting basis, the agreements with these physicians will be structured to comply with all applicable laws, including the federal ban on physician self-referrals (commonly known as the "Stark Law"), the federal Anti-Kickback Statute, and state anti-self-referral and anti-kickback laws. Even so, it is possible that regulatory or enforcement agencies or courts may in the future view these agreements as prohibited arrangements that must be restructured or for which we would be subject to other significant civil or criminal penalties. Because our strategy includes the involvement of physicians who consult with us on the design of our products, we could be materially impacted if regulatory or enforcement agencies or courts interpret our financial relationships with our physician advisors who refer or order our products to be in violation of one or more health care fraud and abuse laws. Such government action could harm our reputation and the reputations of our physician advisors. In addition, the cost of noncompliance with these laws could be substantial because we could be subject to monetary fines and civil or criminal penalties, and we could also be excluded from state and federal healthcare programs, including Medicare and Medicaid, for non-compliance.

If we are unable to protect our intellectual property rights adequately, we may not be able to compete effectively.

Our success depends in part on our ability to protect the proprietary rights to the technologies used in our products. We rely on patent protection, as well as a combination of trademark laws and confidentiality, noncompetition and other contractual arrangements to protect our proprietary technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep a competitive advantage. 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 it attempts to enforce them, may not necessarily be upheld by the courts. In addition, patent protection in foreign countries may be different from patent protection under U.S. laws and may not be favorable to us. Efforts to enforce any of our proprietary rights could be time-consuming and expensive, which could adversely affect our business and prospects and divert management's attention.

We are dependent on proprietary know-how.

We rely on trade secret protection to protect our interests in proprietary know-how and for processes for which patents are difficult to obtain or enforce. We may not be able to protect our trade secrets adequately. In addition, we rely on non-disclosure and confidentiality agreements with employees, consultants and other parties to protect, in part, trade secrets and other proprietary technology. These agreements may be breached and we may not have adequate remedies for any breach. Moreover, others may independently develop equivalent proprietary information, and third parties may otherwise gain access to our trade secrets and proprietary knowledge. Any disclosure of confidential data into the public domain or to third parties could allow competitors to learn our trade secrets and use the information in competition against us.

Despite our efforts to protect our proprietary rights, there is no assurance that such protections will preclude our competitors from developing and/or marketing similar products. While we are not aware of any third party intellectual property that would materially affect our business, our failure or inability to obtain patents and protect our proprietary information could result in our business being adversely affected.

If we are not able to establish and maintain successful arrangements with third parties or successfully build our own sales and marketing infrastructure, we may not be able to commercialize our products, which would adversely affect our business and financial condition.

To commercialize our products, we must continue to develop our own sales, marketing and distribution capabilities, which will be expensive and time consuming, or make arrangements with third parties to perform these services for us. The third parties may not be capable of successfully selling any of our products. We will have to commit significant resources to developing a marketing and sales force and supporting distribution capabilities. If we decide to enter into arrangements with third parties for performance of these services, we may find that they are not available on terms acceptable to us, or at all.

We may face intellectual property infringement claims that could be time-consuming, costly to defend and could result in our loss of significant rights and, in the case of patent infringement claims, the assessment of treble damages.

On occasion, we may receive notices of claims of our infringement, misappropriation or misuse of other parties' proprietary rights. We may have disputes regarding intellectual property rights with the parties that have licensed those rights to us. We may also initiate claims to defend our intellectual property. Intellectual property litigation, regardless of its outcome, is expensive and time-consuming, could divert management's attention from our business and have a material negative effect on our business, operating results or financial condition. In addition, the outcome of such litigation may be unpredictable. If there is a successful claim of infringement against us, we may be required to pay substantial damages—including treble damages if we were to be found to have willfully infringed a third party's patent—to the party claiming infringement, and to develop non-infringing technology, stop selling our products or using technology that contains the allegedly infringing intellectual property or enter into royalty or license agreements that may not be available on acceptable or commercially practical terms, if at all. Our failure to develop non-infringing technologies or license the proprietary rights on a timely basis could harm our business. In addition, modifying our products to exclude infringing technologies could require us to seek re-approval or clearance from various regulatory bodies for our products, which would be costly and time consuming. Also, we may be unaware of pending patent applications that relate to our technology. Parties making infringement claims on future issued patents may be able to obtain an injunction that would prevent us from selling our products or using technology that contains the allegedly infringing intellectual property, which could harm our business.

Our products risk exposure to product liability claims

We are and, if successful in developing, testing and commercializing our products, will increasingly be, exposed to potential product liability risks, which are inherent in the testing, manufacturing and marketing of such products. It is likely we will be contractually obligated, under any distribution agreements that we enter into with respect to products our manufactures, to indemnify the individuals and/or entities that distribute our products against claims relating to the manufacture and sale of products distributed by such distribution partners. This indemnification liability, as well as direct liability to consumers for any defects in the products sold, could expose us to substantial risks and losses. While we have obtained product liability insurance, there can be no assurance that we will be able to maintain such insurance on acceptable terms or that such insurance will provide adequate coverage against potential liabilities. As we begin to sell and distribute our new line of proprietary products, we intend to increase the amount of our product liability insurance. A successful product liability claim or series of claims brought against us could result in judgments, fines, damages and liabilities that could have a material adverse effect on our business, financial condition and results of operations. We may incur significant expense investigating and defending these claims, even if they do not result in liability. Moreover, even if no judgments, fines, damages or liabilities are imposed on us, our reputation could suffer, which could have a material adverse effect on our business, financial condition and results of operations.

Healthcare policy changes, including reforms to the U.S. healthcare system, may have a material adverse effect on us.

Healthcare costs have risen significantly over the past decade. There have been, and continue to be, proposals by legislators, regulators, and third-party payers to keep these costs down. The efforts of governments and third-party payors to contain or reduce the cost of healthcare and legislative and regulatory proposals to broaden the availability of healthcare will likely affect the business and financial condition of biomedical companies. A number of legislative and regulatory changes in the healthcare system in the United States and other major healthcare markets have occurred in recent years, and interpretation and application of such changes continue to evolve. These developments have included healthcare reform legislation enacted by certain states and implementation of the Patient Protection and Affordable Care Act (the "Affordable Care Act") in 2010 which resulted in significant changes to the health care industry. These developments could, directly or indirectly, impose limitations on the prices we will be able to charge for our products, or the amounts of reimbursement available for our products from governmental agencies or third-party payers. These limitations could have a material adverse effect on our financial position and results of operations.

The Affordable Care Act includes significant provisions that encourage state and federal law enforcement agencies to increase activities related to preventing, detecting and prosecuting those who commit health care fraud and abuse. The Affordable Care Act continues to be implemented through regulation and government activity but is subject to possible, amendment, additional implementing regulations and interpretive guidelines. The manner in which the Affordable Care Act continues to evolve could materially affect the extent to which and the amount at which medical devices and products are reimbursed by government programs such as Medicare, Medicaid and TRICARE. We cannot predict all impacts the Affordable Care Act may have on our products, but it may result in our products being chosen less frequently or the pricing being substantially lowered. Or, the new legislation could have a positive impact on our future net sales due to increasing the number of persons with healthcare coverage in the United States.

Other healthcare reform proposals have emerged at the federal and state levels. We cannot predict the exact effect newly enacted laws or any future legislation or regulation will have on us. However, the implementation of new legislation and regulation may lower reimbursements for our products, reduce medical procedure volumes and adversely affect our business, possibly materially.

It may be difficult to replace some of our suppliers.

In general, raw materials essential to our business are readily available from multiple sources. However, for reasons of quality assurance, availability, or cost effectiveness, certain components and raw materials are available only from a sole supplier. Noble Biomaterials, Inc. is the principal manufacturer utilized in production of our TheraBond dressings. Noble Biomaterials, Inc. utilizes a proprietary and patented manufacturing process.

We believe that, due to the size and scale of production of our suppliers, there should be adequate supply of these raw materials from these manufacturers. In addition, our policy is to maintain sufficient inventory of components so that our production will not be significantly disrupted even if a particular component or material is not available for a period of time. However, there is no guarantee that our inventory will be sufficient to carry us through any disruption in supply. Because we have no direct control over our third-party suppliers, interruptions or delays in the products and services provided by these third parties may be difficult to remedy in a timely fashion. In addition, if such suppliers are unable or unwilling to deliver the necessary raw materials or products, we may be unable to redesign or adapt our technology to work without such raw materials or products or find alternative suppliers or manufacturers. In such events, we could experience interruptions, delays, increased costs or quality control problems.

Under our supply agreements with HLI, we receive finished goods from HLI. Because we have no direct control over HLI's suppliers, interruptions or delays in the products and services provided by these parties may be difficult to remedy in a timely fashion. In addition, if such suppliers are unable or unwilling to deliver the necessary products, we would be unable to sell any products that we expect from HLI, and, therefore, could experience a significant adverse impact on our revenue.

We purchase the MIST Therapy system from a single source and UltraMIST from a single source. Reliance on outside suppliers makes us vulnerable to a number of risks that could impact our ability to manufacture the MIST Therapy system and UltraMIST and/or disposable applicators, resulting in harm to our business, including:

- inability to obtain an adequate supply in a timely manner or on commercially reasonable terms;
- uncorrected defects that impact the performance, efficacy and safety of our products;
- difficulty identifying and qualifying alternative suppliers for components in a timely manner;
- production delays related to the evaluation and testing of products from alternative suppliers and corresponding regulatory qualifications;
- delays in delivery by our suppliers due to changes in demand from us or other customers; and
- delays in delivery or production stoppage by our supplier due to a shortage of one or more of the components comprising our product.

If the supply of the MIST Therapy system or UltraMIST or the disposable applicators or saline bottles is interrupted or significantly delayed and we are unable to acquire product from alternate sources in a timely manner and at a commercially reasonable price, our ability to meet our customers' demand would be impaired and our business could be harmed. Identifying and qualifying additional or replacement suppliers for the MIST Therapy system and/or UltraMIST or disposable applicators may not be accomplished quickly or at all and could involve significant additional costs. Interruption of supply from our suppliers or failure to obtain additional suppliers would limit our ability to distribute our products and could therefore have an adverse effect on our business.

Contractual and other disagreements with or involving our licensors, distribution partners and other commercial partners could harm our business, make us liable to them or result in litigation costs or other expenses.

Our agreements with licensors, distribution partners and other commercial partners require us to comply with performance conditions that are subject to interpretation and could result in disagreements. At any given time, we may be in disputes with one or more licensors, distribution partners or other commercial partners. Any such dispute could be very expensive for us, even if the outcome is ultimately in our favor. We cannot predict the outcome of any arbitration or litigation, the effect of any negative judgment against us or the amount of any settlement that we may enter into with such licensors, distribution partners or any other third-party. A contractual dispute may result in a licensor or other commercial partners seeking to terminate our agreements, which could harm our business, even if such termination would be wrongful.

We are dependent upon third-party local distributors to market and distribute our products in key markets.

We rely on third-party distributors for marketing and distribution of our products in certain markets, both domestically and internationally. Our success in generating sales in markets where we have engaged local distributors depends in part on the efforts of others whom we do not employ. Many of these distributors have only limited personnel, which could impair their ability to successfully market, sell and service our products. Because of limited resources or for other reasons, they may not comply with applicable local regulations or respond promptly to adverse event reporting requirements under FDA regulations. As a result of such failures to comply with regulatory requirements, we may experience significant loss of revenue, increased costs and damage to our reputation, and our business, financial condition and results of operations could be materially adversely affected. In addition, if a distributor is terminated by us or goes out of business, it may take us a period of time to locate an alternative distributor, to transfer or obtain appropriate regulatory approvals and to train our personnel to market our products, and our ability to sell and service our products in the region formerly serviced by such terminated distributor could be materially adversely affected. Any of these factors could materially adversely affect our revenue from international markets, increase our costs in those markets or damage our reputation.

Security breaches and other disruptions could compromise our information and expose it to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we use networks to collect and store sensitive data, including intellectual property, proprietary business information and that of our customers, suppliers and business partners, personally identifiable information of our customers and employees, and data relating to patients who use our products. The secure processing, maintenance and transmission of this information is critical to our operations. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, and regulatory penalties, disrupt our operations and the services we provide to customers, damage our reputation, and cause a loss of confidence in our products and services, which could adversely affect our operating margins, revenues and competitive position.

Risks Relating to Our Common Stock

Our stock price has been and may continue to be volatile, which could result in substantial losses for investors.

The market price of our common stock has been and is likely to continue to be highly volatile and could fluctuate widely in response to various factors, many of which are beyond our control, including the following:

- technological innovations or new products and services by or our competitors;
- additions or departures of key personnel;
- sales of our common stock, particularly under any registration statement for the purposes of selling any other securities, including management shares;
- our ability to execute our business plan;
- operating results that fall below expectations;
- loss of any strategic relationship;

- industry developments;
- economic, political and other external factors; and
- period-to-period fluctuations in our financial results.

In addition, the securities markets have from time to time experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. These market fluctuations may also significantly affect the market price of our common stock.

Our common stock could be delisted from The Nasdaq Capital Market if we fail to regain compliance with the minimum bid price requirement of $1.00 per share for continued listing within the time period required by the Nasdaq Listing Rules.

On October 12, 2016, we received written notice from the Listing Qualifications Department of Nasdaq indicating that, based upon the closing bid price of our common stock for the last 30 consecutive business days, we did not meet the minimum bid price of $1.00 per share required for continued listing on The Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2). In accordance with Nasdaq Listing Rule 5810(c)(3)(A), we have 180 calendar days, or until April 10, 2017, to cure the deficiency and regain compliance with the minimum bid price requirement. In order to cure the deficiency, the closing bid price of our common stock would have to be $1.00 or higher for a minimum of ten consecutive business days during the initial 180-day compliance period.

If we do not regain compliance by April 10, 2017, an additional 180 days may be granted to regain compliance if we (i) meet the continued listing requirement for market value of publicly held shares and all other initial listing standards for The Nasdaq Capital Market (except for the bid price requirement) and (ii) provide written notice to Nasdaq of our intention to cure the deficiency during the second 180-day compliance period, by effecting a reverse stock split, if necessary. If we meet these requirements, Nasdaq will inform us that we have been granted an additional 180 calendar days. However, if it appears to Nasdaq that we will not be able to cure the deficiency, or if we are otherwise not eligible, Nasdaq will provide notice that our common stock will be subject to delisting. At that time, we may appeal Nasdaq's delisting determination to a hearings panel. There can be no assurance that we will be able to regain compliance with the minimum bid price requirement or will otherwise be in compliance with other Nasdaq listing criteria.

If our common stock is delisted from The Nasdaq Capital Market, our ability to raise capital in the future may be limited. Delisting could also result in less liquidity for our stockholders and a lower stock price. Such a delisting would likely have a negative effect on the price of our common stock and would impair the ability to readily sell or purchase our common stock. Although we expect to take actions to restore our compliance with Nasdaq's listing requirements, we can provide no assurance that any action taken by us would be successful, or that any such action would stabilize the market price or improve the liquidity of our common stock.

Our stock price, and the stock price of many other life science companies, have suffered significant declines over the past 12 months.

Market prices for securities of life sciences companies, particularly companies like ours with limited product revenues, have been highly volatile and have suffered sharp losses over the past 12 months. As a result of these declines, it has become much harder for life sciences companies, like us, to raise money, as needed, in the capital markets. As such, should we desire to sell equity in the future to raise capital, such capital may not be available on favorable terms, or at all. In addition, any such capital raises could be highly dilutive to current stockholders. Depressed valuations of our stock will also make it harder for us to consummate strategic transactions or acquisitions, which have historically been a significant part of our growth strategy, absent significant dilution to our current investors.

We do not expect to pay dividends in the future. As a result, any return on investment may be limited to the value of our common stock.

We do not anticipate paying any dividends in the foreseeable future. Our Credit Agreement prohibits us from paying cash dividends or distributions on our capital stock. Even if we are permitted to pay cash dividends in the future, we currently intend to retain any future earnings for funding growth. As a result, an investor should not rely on an investment in our securities if such investor requires dividend income. Capital appreciation, if any, of our shares may be the only source of gain on our securities for the foreseeable future. Moreover, an investor may not be able to re-sell such investor's shares at or above the price paid for them.

We are subject to financial reporting and other requirements that place significant demands on our resources.

We are subject to reporting and other obligations under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including the requirements of Section 404 of the Sarbanes-Oxley Act of 2002. Section 404 requires us to conduct an annual management assessment of the effectiveness of our internal controls over financial reporting. Provided our market capitalization, as defined, exceeds a certain threshold requires our independent registered public accounting firm to test our internal control over financial reporting and report on the effectiveness of such controls. These reporting and other obligations place significant demands on our management, administrative, operational, internal audit and accounting resources. Any failure to maintain effective internal controls could have a material adverse effect on our business, operating results and stock price. Moreover, effective internal control is necessary for us to provide reliable financial reports and prevent fraud. If we cannot provide reliable financial reports or prevent fraud, we may not be able to manage our business as effectively as we would if an effective control environment existed, and our business and reputation with investors may be harmed.

There are inherent limitations in all control systems, and misstatements due to error or fraud may occur and not be detected.

The ongoing internal control provisions of Section 404 of the Sarbanes-Oxley Act of 2002 require us to identify material weaknesses in internal control over financial reporting, which is a process to provide reasonable assurance regarding the reliability of financial reporting for external purposes in accordance with accounting principles generally accepted in the United States. Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our internal controls and disclosure controls will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. In addition, the design of a control system must reflect the fact that there are resource constraints and the benefit of controls must be relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, in our company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple errors or mistakes. Further, controls can be circumvented by individual acts of some persons, by collusion of two or more persons, or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving our stated goals under all potential future conditions. Over time, a control may be inadequate because of changes in conditions, such as growth of the company or increased transaction volume, or the degree of compliance with the policies or procedures may deteriorate. Because of inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

In addition, discovery and disclosure of a material weakness, by definition, could have a material adverse impact on our financial statements. Such an occurrence could discourage certain customers or suppliers from doing business with us, cause downgrades in our future debt ratings leading to higher borrowing costs and affect how our stock trades. This could, in turn, negatively affect our ability to access public debt or equity markets for capital.

Our board of directors can authorize the issuance of preferred stock, which could diminish the rights of holders of our common stock, and make a change of control of it more difficult even if it might benefit our stockholders.

Our board of directors is authorized to issue shares of preferred stock in one or more series and to fix the voting powers, preferences and other rights and limitations of the preferred stock. Accordingly, we may issue shares of preferred stock with a preference over our common stock with respect to dividends or distributions on liquidation or dissolution, or that may otherwise adversely affect the voting or other rights of the holders of common stock. Issuances of preferred stock, depending upon the rights, preferences and designations of the preferred stock, may have the effect of delaying, deterring or preventing a change of control, even if that change of control might benefit our stockholders.

Offers or availability for sale of a substantial number of shares of our common stock may cause the price of our common stock to decline.

Sales of a significant number of shares of our common stock in the public market could harm the market price of our common stock and make it more difficult for us to raise funds through future offerings of common stock. As additional shares of our common stock become available for resale in the public market, the supply of our common stock will increase, which could decrease the price of our common stock.

In addition, if our stockholders sell substantial amounts of our common stock in the public market, upon the expiration of any statutory holding period under Rule 144, upon the expiration of lock-up periods applicable to outstanding shares, or upon the exercise of outstanding options or warrants, it could create a circumstance commonly referred to as an "overhang," in anticipation of which the market price of our common stock could fall. The existence of an overhang, whether or not sales have occurred or are occurring, could also make it more difficult for us to raise additional financing through the sale of equity or equity-related securities in the future at a time and price that we deem reasonable or appropriate.

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 it or our business. Although we currently have research coverage by securities and industry analysts, you should not invest in our common stock in anticipation that we will increase such coverage. If one or more of the analysts who covers us at any given time downgrades our stock or publishes inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of these analyst's ceases coverage of us or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price and trading volume to decline.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

As of December 31, 2016, we operated three offices, with our corporate headquarters located in Yardley, Pennsylvania, where we lease approximately 9,000 square feet of office space. We maintain a combined corporate office and warehouse facility in Eden Prairie, Minnesota, where we lease approximately 9,000 square feet of space, as well as a manufacturing facility in Langhorne, Pennsylvania, where we lease approximately 16,500 square feet of office and manufacturing space. We believe that all our facilities are well maintained and are suitable and adequate for our current needs.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we may become involved in lawsuits, investigations and claims that arise in the ordinary course of business. As of the date of this filing, we are not party to any material litigation nor are we aware of any such threatened or pending legal proceedings that we believe could have a material adverse effect on our business, financial condition or operating results.

There are no material proceedings in which any of our directors, officers or affiliates or any registered or beneficial shareholder of more than 5% of our common stock is an adverse party or has a material interest adverse to our interest.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market for Common Stock

Our common stock is quoted on the NASDAQ Capital Market under the symbol "ALQA".

The following table sets forth, for the periods indicated, the high and low sales prices of our common stock as reported on the NASDAQ Capital Market.

	2016		2015	
	High	Low	High	Low
Fourth Quarter	$ 0.95	$ 0.57	$ 3.88	$ 1.86
Third Quarter	$ 1.30	$ 0.73	$ 5.66	$ 3.11
Second Quarter	$ 1.48	$ 0.70	$ 5.65	$ 4.18
First Quarter	$ 2.30	$ 0.76	$ 6.55	$ 4.77

Holders of Record

As of March 7, 2017, there were approximately 286 holders of record of our common stock.

Dividends

We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future, but intend to retain our capital resources for reinvestment in our business. In addition, our Credit Agreement prohibits us from paying cash dividends or distributions on our capital stock.

Issuer Purchases of Equity Securities

We did not repurchase any of our equity securities during the fourth quarter of the fiscal year ended December 31, 2016.

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 financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included in this report. This discussion and analysis contains forward-looking statements based on our current expectations, assumptions, estimates and projections. These forward-looking statements involve risks and uncertainties. Our actual results could differ materially from those indicated in these forward-looking statements as a result of certain factors, as more fully discussed in Item 1 of this report, entitled "Business," under "Forward-Looking Statements" and Item 1A of this report, entitled "Risk Factors."

Overview

We are a regenerative technologies company that commercializes differentiated regenerative medical products which assist the body in the repair or replacement of soft tissue. Through our sales and distribution network, together with our proprietary products, we believe we offer solutions that allow clinicians to utilize the latest advances in regenerative technologies to bring improved patient outcomes to their practices. Our contract manufacturing business provides custom hydrogels to the OEM market.

On October 5, 2016, we entered into a merger agreement to acquire the business of Soluble Systems, LLC ("Soluble") through a series of transactions. On February 27, 2017, we terminated this agreement, due to the inability to secure the requisite financing to meet the closing conditions of the merger agreement. The merger agreement was contingent upon us securing debt or equity financing, or a combination thereof, that results in gross proceeds of at least $45 million, inclusive of any current indebtedness of Soluble or us that is assumed, restructured or refinanced by the combined company.

Recent Events

Private Placement

On February 27, 2017, we closed a private placement of 5,540,000 shares of common stock at a purchase price of $0.50 per share, pursuant to a securities purchase agreement with certain accredited investors. We received aggregate gross proceeds of $2,770,000.

Senior Secured Term Loan Facility

As of December 31, 2016, we were in default, and we are currently in default of a covenant pertaining to trailing twelve-month revenue under our Credit Agreement as a result of our failure to achieve $22,250,000 and $24,600,000 of gross revenue for the twelve-month periods ended September 30, 2016 and December 31, 2016, respectively. As of December 31, 2016, we had an outstanding principal amount of approximately $13.8 million under our Credit Agreement. Under an agreement dated January 26, 2017, as amended on March 7, 2017, the lender agreed to forbear from exercising any rights and remedies related to the default until the earlier of April 30, 2017 or the date when the lender becomes aware of any other default. The lender has the rights to pursue any rights and remedies available to it, including, but not limited to, declaring all or any portion of the outstanding principal amount to be immediately due and payable, imposing a default rate of interest as specified in the credit agreement, or pursing the lender's rights and remedies as a secured party under the UCC as a secured lender. In addition, the lender has a lien on substantially all of our assets and, as a result of the default, may seek to foreclose on some or substantially all of our assets after the expiration of the forbearance. We are in negotiations with other financing parties to refinance this debt. However, no assurance can be given that we will be able to obtain additional debt to refinance our existing obligations on commercially reasonable terms or at all.

Contract Manufacturing Business

During the year ended December 31, 2016, one customer accounted for 72% of our contract manufacturing revenue but only 8% of our total net revenue. Subsequent to December 31, 2016, we were notified by the customer of their intent not to use our contract manufacturing services for the fiscal year ending December 31, 2017. We believe the loss of this business will not have a material adverse impact on our financial condition and results of operations, as our strategic focus remains growing sales of our higher margin regenerative technology products. The Company has initiated a process of identifying strategic alternatives for the contract manufacturing business to maximize shareholder value, which includes the potential sale or other uses of the business. The Company intends to continue to operate its contract manufacturing business, as is, until such the time as a strategic alternative is identified and consummated.

Asset Sale

On June 30, 2016, we entered into a purchase agreement with BSN, pursuant to which we sold to BSN all of our rights under our former distribution agreement with Sorbion, dated as of September 20, 2013, as subsequently amended and assigned to BSN, including but not limited to all distribution rights, exclusivity rights, intellectual property rights and marketing rights to the sorbion product line and our remaining unsold inventory of sorbion products purchased under the distribution agreement. Subject to the terms and conditions of the purchase agreement, in exchange for the sale of such rights to the sorbion products and unsold products, BSN paid us an aggregate consideration of $4.1 million. Effective upon the closing of the sale, the distribution agreement was terminated. In addition, we received $100,000 in connection with a transaction services agreement with BSN. As a result of the foregoing, we no longer distribute sorbion wound dressings and exudate management products and past sales of sorbion products are accounted for as a discontinued operation.

Results of Operations

Year Ended December 31, 2016 Compared to the Year Ended December 31, 2015

Overview. For the years ended December 31, 2016 and 2015, we had a net loss of $28.2 million and $26.0 million, respectively. Included in the operating loss for the years ended December 31, 2016 and 2015 was non-cash stock-based compensation of $4.9 million and $8.6 million, and decreases in the fair value adjustments to contingent consideration of $10.1 million and $1.5 million, respectively. Impairment charges of $10.9 million were also included in our operating loss for the year ended December 31, 2016. We expect our future growth to consist of both organic and acquisition growth from product sales.

Revenues, net. For the year ended December 31, 2016 revenues increased by $6.1 million, or 50%, to $18.2 million from $12.1 million for the year ended December 31, 2015. The increase in our overall revenue was primarily due to increase in product sales. Our 2016 revenue includes a full year of MIST Therapy sales while our 2015 revenue only includes seven months of sales of MIST Therapy as we acquired this technology on May 29, 2015 from the acquisition of Celleration.

The components of revenue were as follows for the years ended December 31, 2016 and 2015 (in thousands):

	Year Ended December 31,	
	2016	2015
Revenues		
Product	$ 16,088	$ 10,041
Contract manufacturing	2,152	2,136
Total revenues, net	$ 18,240	$ 12,177

Gross profit. Our gross profit was $11.6 million for the year ended December 31, 2016 compared to gross profit of $7.0 million for the year ended December 31, 2015. The improved results for the year ended December 31, 2016, as compared to 2015 was primarily due to the greater volume of product sales as product revenue typically commands higher gross profit margins. Gross margin on our product sales was approximately 76%, while our overall gross margin was approximately 64% for year ended December 31, 2016. Gross margin on our product sales was approximately 79%, while our overall gross margin was approximately 57% for year ended December 31, 2015.

The components of cost of revenues are as follows for the years ended December 31, 2016 and 2015 (in thousands):

	Year Ended December 31,	
	2016	2015
Cost of revenues		
Materials and finished products	$ 3,905	$ 2,748
Stock-based compensation	184	364
Compensation and benefits	916	866
Depreciation and amortization	779	644
Equipment, production and other expenses	871	605
Total cost of revenues	$ 6,655	$ 5,227

Selling, general and administrative expenses. The following table highlights selling, general and administrative expenses by type for the years ended December 31, 2016 and 2015 (in thousands):

	Year Ended December 31,	
	2016	2015
Selling, general and administrative expenses		
Compensation and benefits	$ 15,840	$ 12,321
Stock-based compensation	4,691	8,269
Professional fees	4,420	2,674
Marketing	2,379	2,146
Depreciation and amortization	3,350	2,146
Royalty fees	1,093	729
Other expenses	5,352	6,055
Total selling, general and administrative expenses	$ 37,125	$ 34,340

Selling, general and administrative expenses increased by $2.8 million, to $37.1 million for the year ended December 31, 2016, as compared to $34.3 million for the year ended December 31, 2015.

Compensation and benefits increased by $3.5 million, to $15.8 million for the year ended December 31, 2016, as compared to $12.3 million for the year ended December 31, 2015. The increase in compensation and benefits was primarily due to the increase in the average number of full-time employees in 2016 compared to 2015, a result of the acquisition of Celleration in May 2015. Stock-based compensation decreased by $3.6 million, to $4.7 million for the year ended December 31, 2016, as compared to $8.3 million for the year ended December 31, 2015. The decrease in stock-based compensation is primarily due to the lower weighted average estimated fair value of options granted during the year ended December 31, 2016 as compared to the year ended December 31, 2015.

The increase in other selling, general and administrative expense, including professional fees, is primarily in support of our revenue growth, as a result of our acquisition of Celleration, and due to the addition of a new corporate office. Other selling, general and administrative expenses consist of costs associated with our selling efforts and general management, including recruiting, information technology, travel, training and third party logistics.

Research and product development expenses. During the years ended December 31, 2016 and 2015, we incurred research and product development expenses of $859,000 and $715,000, respectively, related to a randomized controlled trial for our Biovance product in chronic diabetic foot wounds. This trial consists of all of our research and development efforts during the years ended December 31, 2016 and 2015. We have experienced slower than expected patient enrollment and projected costs to complete the trial are significantly higher than we previously expected. In addition, we believe there is no longer a business need for this trial due to the amount of patient data currently available, our success in getting government and commercial insurance coverage for Biovance, and our recent increase in Biovance sales. Due to these factors, we have decided to terminate patient enrollment for the Biovance trial. We expect our research and product development costs related to this trial to continue through the completion of study close-down during the first quarter of 2017.

Milestone expense to licensor. During the year ended December 31, 2016, we incurred $1.0 million of milestone expense for achieving two of the three milestones under the license agreement with HLI related to the launch of the Interfyl product. We incurred expense of $500,000 related to the first commercial sale of Interfyl in the flowable matrix configuration and $500,000 related to the first commercial sale of Interfyl in the particulate form. We initiated sales and marketing efforts of Interfyl in September 2016 and commercial sales of both configurations occurred in September 2016. This milestone payment is payable in November 2017 and is included in other current liabilities as of December 31, 2016. We believe Interfyl will be a significant product offering in our portfolio of regenerative technologies, as it can be used in a broad range of surgical applications.

Acquisition-related expenses. During the year ended December 31, 2016, we incurred $3.0 million in acquisition-related costs related to acquisition of Soluble Systems, LLC ("Soluble"), which was subsequently terminated in February 2017, including bad debt expense of $1.0 million related to a subordinated promissory note receivable made to Soluble in connection with the terminated acquisition. During the year ended December 31, 2015, we incurred $2.9 million related to the acquisition of Celleration. Acquisition-related costs include professional fees associated with due diligence and other activities related to acquisitions.

Change in fair value of contingent consideration liability. During the year ended December 31, 2016, we recorded a decrease in the fair value of the contingent consideration liability of approximately $10.1 million compared to a decrease of $1.5 million in the year ended December 31, 2015. The decrease in the fair value of the contingent consideration liability is primarily due to lower MIST sales than originally projected.

Impairment charges. During the year ended December 31, 2016, we recorded an impairment charge of approximately $1.7 million related to our MIST Therapy tradename and approximately $9.2 million related to our goodwill. The impairment charge was triggered by the significant and sustained decline in our stock price and resulting market capitalization. The revenue from our portfolio of advanced wound care technologies was less than anticipated. Based on our revised forecasts, our fair value was calculated to be less than the amounts assigned to our assets and liabilities, resulting in an impairment in goodwill as of December 31, 2016. The impairment charge related to the tradename was calculated based on the fair value of the MIST Therapy tradename as compared to the carrying value of the tradename as of December 31, 2016. There were no charges during the year ended December 31, 2015.

Other income. During the year ended December 31, 2016, we were required to perform certain services related to the transition of the sorbion business to BSN. As compensation, BSN paid us $100,000 for the services completed during the year ended December 31, 2016. This compensation was recognized over the 90-day service period and is included in other income for the year ended December 31, 2016.

Income tax benefit. During the year ended December 31, 2016, we recorded an income tax benefit of approximately $719,000. The income tax benefit is primarily attributable to the impairment of the MIST Therapy tradename acquired during the acquisition of Celleration, which necessitates a write-down of the deferred tax liability associated with the acquired indefinite-lived asset. During the year ended December 31, 2015, we recorded an income tax benefit of approximately $1.7 million. The income tax benefit is related to the partial release of our previously recorded valuation allowances of approximately $1.7 million resulting from recording the acquisition of Celleration in May 2015.

Income from Discontinued Operations. During the year ended December 31, 2016, we sold our rights to the sorbion product line, as well as our remaining sorbion inventory to BSN. This sale resulted in income from discontinued operations of approximately $4.2 million for the year ended December 31, 2016, which consists of $850,000 of income from discontinued operations as well as $3.3 million recognized as a gain on the sale of the assets. During the year ended December 31, 2015, we had $1.2 million of income from discontinued operations.

Liquidity and Capital Resources

Year Ended December 31, 2016 Compared to Year Ended December 31, 2015

As of December 31, 2016, we had cash and cash equivalents totaling $5.6 million compared to $26.1 million at December 31, 2015. The decrease was largely attributable to cash used in operating activities of approximately $18.3 million, $2.6 million to pay a portion of the contingent consideration related to the Celleration acquisition, $1.0 million issued as a bridge loan to Soluble in connection with the terminated acquisition, and $1.7 million to repay a portion of our long-term debt during the year ended December 31, 2016. This decrease was partially offset by $4.1 million received from the sale of the rights to the sorbion product to BSN.

Net cash used in operating activities was $18.3 million and $21.6 million for the years ended December 31, 2016 and 2015, respectively. Net cash used in operating activities was principally to fund our net cash loss.

Net cash provided by investing activities was $2.2 million for the year ended December 31, 2016, compared to net cash used in investing activities of $15.4 million in the year ended December 31, 2015. Cash provided by investing activities during the year ended December 31, 2016 included $4.1 million received from the sale of the rights to the sorbion product to BSN, offset by purchases of improvements and equipment of $893,000 and $1.0 million provided to Soluble as a bridge loan. Cash used in investing activities during the year ended December 31, 2015 primarily relates to the acquisition of Celleration.

Net cash used in financing activities for the year ended December 31, 2016 consisted of $2.6 million utilized to pay the cash portion of the contingent consideration related to the Celleration acquisition and $1.7 million utilized to repay a portion of our long-term debt. During the year ended December 31, 2015, net cash flow generated from financing activities was $46.3 million, of which we received net proceeds from the issuance of common stock of $32.2 million. Additionally, during the year ended December 31, 2015, we received net proceeds from long-term debt of $14.2 million.

At December 31, 2016, current assets totaled $11.8 million and current liabilities totaled $20.1 million, as compared to current assets totaling $32.7 million and current liabilities totaling $9.2 million at December 31, 2015. As a result, we had negative working capital of $8.4 million at December 31, 2016 compared to working capital of $23.5 million at December 31, 2015.

Our cash requirements have historically been for mergers and acquisitions, post-market clinical trials, marketing and sales activities, finance and administrative costs, capital expenditures and overall working capital. We have experienced negative operating cash flows since inception and have funded our operations primarily from sales of common stock and other securities.

Liquidity Outlook

Because we have had recurring losses, negative cash flows from operating activities, limited cash on hand in light of our expected expenditures and are in default of our Credit Agreement, the report of our independent auditors with respect to our financial statements as of December 31, 2016 and for the year ended December 31, 2016 contains an explanatory paragraph as to the potential inability to continue as a going concern. This opinion indicates that substantial double exists regarding our ability to remain in business.

Our financial statements have been prepared assuming we will continue as a going concern. We have experienced recurring losses since our inception. We incurred a net loss of $28.2 million and used $18.3 million in cash from operations for the year ended December 31, 2016, and had an accumulated deficit of $124.3 million as of December 31, 2016. At December 31, 2016, we had approximately $5.6 million of cash and cash equivalents.

On May 29, 2015, simultaneously with and related to the closing of the Celleration acquisition, we entered into our Credit Agreement. The Credit Agreement provided a senior secured term loan in a single borrowing in the principal amount of $15.5 million. The Credit Agreement (i) has a four-year term, (ii) accrues interest at an annual rate equal to the greater of (a) one-month LIBOR or 1% plus (b) 9.75%, payable monthly (iii) monthly principal payments of $225,000 commencing in May 2017, with the remaining unpaid balance due on the maturity date and (iv) is secured by a first priority lien on substantially all our assets. The Credit agreement requires us to meet certain financial covenants. We are currently in default of a covenant pertaining to trailing twelve-month revenue under the Credit Agreement as a result of our failure to achieve $22,250,000 and $24,600,000 of gross revenue for the twelve-month periods ended September 30, 2016 and December 31, 2016, respectively. Under an agreement dated January 26, 2017, as amended on March 7, 2017, the lender agreed to forbear from exercising any rights and remedies related to the default until the earlier of April 30, 2017 or the date when the lender becomes aware of any other default. The lender has the rights to pursue any rights and remedies available to it, including, but not limited to, declaring all or any portion of the outstanding principal amount to be immediately due and payable, imposing a default rate of interest as specified in the credit agreement, or pursing the lender's rights and remedies as a secured party under the UCC as a secured lender. In addition, the lender has a lien on substantially all of our assets and, as a result of the default, may seek to foreclose on some or substantially all of our assets after the expiration of the forbearance.

We have agreed to pay contingent consideration of three and one half times revenue from acquired MIST Therapy products in excess of certain revenue targets for the years ending December 31, 2015 and 2016, payable in equal amounts of cash and our common stock. This contingent consideration is payable in two installments in March 2016 and March 2017. In March 2016, we paid the first installment of this consideration of $2.6 million in cash and $2.6 million in stock. As of December 31, 2016, the present value of the contingent consideration due in 2017 was approximately $1.4 million, payable in equal amounts of cash and our stock. We expect to pay the cash portion of contingent consideration of $675,000 in March 2017.

During the year ended December 31, 2016, we made a bridge loan of $1.0 million in cash to Soluble in connection with a potential acquisition pursuant to the terms of a subordinated promissory note. In January 2017, we advanced an additional $350,000 to Soluble. The acquisition was terminated in February 2017. We believe the collectability of the amount due from Soluble is in doubt and, therefore, have fully reserved the amount due as of December 31, 2016.

On February 27, 2017, we closed a private placement of 5,540,000 shares of common stock at a purchase price of $0.50 per share, pursuant to a securities purchase agreement with certain accredited investors. We received aggregate gross proceeds of $2,770,000.

We expect to continue incurring losses and negative cash flows from operations until our products reach commercial profitability. As a result of these expected losses and negative cash flows from operations, along with our current cash position, and our current outstanding principal balance of approximately $13.8 million, which the lender may declare due and payable in full following the termination of a forbearance agreement. We do not have sufficient resources to fund operations beyond the next twelve months from the date of filing this annual report and we will need to raise additional capital to finance our losses and negative cash flows from operations. If our lender declares the amounts owed under the Credit Agreement due and payable in full, it would hinder our ability to recover the carrying value of some or all of our intangible assets including goodwill that aggregated approximately $40.5 million at December 31, 2016. Therefore, due to our history of recurring losses and our negative working capital, there is substantial doubt about our ability to continue operating as a going concern. Our plans include the continued commercialization of our products and raising capital through the sale of additional equity and/or debt securities. There can be no assurances, however, that we will be successful in obtaining the level of financing needed for our operations. If we are unsuccessful in raising additional capital, we may need to reduce activities, curtail or cease operations.

Off Balance Sheet Arrangements

As of December 31, 2016, we had no off-balance sheet arrangements in the nature of guarantee contracts, retained or contingent interests in assets transferred to unconsolidated entities (or similar arrangements serving as credit, liquidity or market risk support to unconsolidated entities for any such assets), or obligations (including contingent obligations) arising out of variable interests in unconsolidated entities providing financing, liquidity, market risk or credit risk support to us, or that engage in leasing, hedging or research and development services with us.

Critical Accounting Policies and Estimates

The preparation of financial statements in accordance with generally accepted accounting principles requires that we make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of our financial statements and the reported amounts of revenues and expenses during the reporting period. The accounting policies that we believe require more significant estimates and assumptions include valuing equity securities and derivative financial instruments issued in financing transactions, allowance for doubtful accounts, inventory reserves, deferred taxes and related valuation allowances, and the fair values of long lived assets, intangibles, goodwill and contingent consideration. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ significantly from these estimates under different assumptions or conditions. There have been no material changes to these estimates for the periods presented in this Annual Report.

We believe that of our significant accounting policies, which are described below and in Note 2 to our audited consolidated financial statements included in this Item 7 of this Annual Report, the following accounting policies involve a greater degree of judgment and complexity. Accordingly, these are the policies we believe are the most critical to aid in fully understanding and evaluating our financial condition and results of operations.

Acquisitions

Results of operations of acquired companies are included in our results of operations as of the respective acquisition dates. The purchase price of each acquisition is allocated to the net assets acquired based on estimates of their fair values at the date of the acquisition. Any purchase price in excess of these net assets is recorded as goodwill. The allocation of purchase price in certain cases may be subject to revision based on the final determination of fair values during the measurement period, which may be up to one year from the acquisition date.

Contingent consideration is recognized at the estimated fair value on the acquisition date. Subsequent changes to the fair value of contingent payments are recognized in earnings. Contingent payments related to acquisitions consist of revenue based payments, and are valued using discounted cash flow techniques. The fair value of revenue based payments is based upon probability-weighted future revenue estimates and increases or decreases as revenue estimates or expectation of timing of payments changes.

Goodwill and Other Indefinite-Lived Intangible Assets

Goodwill and other indefinite-lived intangible assets are tested for impairment annually, at the end of the four quarter of each fiscal year, and between annual tests if an event occurs or circumstances change that would indicate it is more likely than not that the carrying amount may be impaired. Impairment testing for goodwill is done at a reporting unit level. A reporting unit is defined as an operating segment or one level below an operating segment, called a component. However, two or more components of an operating segment will be aggregated and deemed a single reporting unit if the components have similar economic characteristics. We operate as one reporting unit.

Authoritative accounting guidance allows us to first assess qualitative factors to determine whether it is necessary to perform a more detailed quantitative impairment test for goodwill and other indefinite-lived intangible assets. We may elect to bypass the qualitative assessment and proceed directly to the quantitative test for any reporting unit or indefinite-lived intangible assets. Qualitative factors that we consider as part of our assessment include a comparison of the most recent valuation to reporting unit carrying amounts, change in our market capitalization and its implied impact on reporting unit fair value, industry and market conditions, macroeconomic conditions, trends in product costs and financial performance of our businesses. If we perform the quantitative test for any reporting units or indefinite-lived intangible assets, we generally use a discounted cash flow method to estimate fair value. The discounted cash flow method is based on the present value of projected cash flows. Assumptions used in these cash flow projections are generally consistent with our internal forecasts. The estimated cash flows are discounted using a rate that represents the weighted average cost of capital. The weighted average cost of capital is based on a number of variables, including the equity-risk premium and risk-free interest rate. Management believes the assumptions used for the impairment tests are consistent with those that would be utilized by a market participant performing similar analyses and valuations. Adverse changes in future market conditions or weaker operating results compared to our expectations may impact our projected cash flows and estimates of weighted average cost of capital, which could result in a potential impairment charge if we are unable to recover the carrying value of our goodwill and other intangible assets.

For the 2016 annual goodwill impairment test and certain indefinite-lived intangible assets impairment tests, we elected to bypass the qualitative assessment and proceeded directly to the quantitative analysis using a discounted cash flow method to estimate fair value. As a result of this test, our goodwill was determined to be impaired and an impairment charge of $9.2 million was recorded for the year ended December 31, 2016. Additionally, our indefinite-lived intangible asset related to the MIST Therapy tradename was also impaired and an impairment charge of $1.7 million was recorded for the year ended December 31, 2016. Total non-cash impairment charges related to goodwill and indefinite-lived intangible assets of $10.9 million is included in impairment charges the consolidated statement of operations for the year ended December 31, 2016. The impairment charge was triggered by the significant and sustained decline in our stock price and resulting market capitalization. The revenue from our portfolio of advanced wound care technologies was less than anticipated. Based on our revised forecasts, our fair value was calculated to be less than the amounts assigned to our assets and liabilities, resulting in an impairment in goodwill as of December 31, 2016. The impairment charge related to the tradename was calculated based on the fair value of the MIST Therapy tradename as compared to the carrying value of the MIST Therapy tradename as of December 31, 2016. No impairment was deemed to exist as of December 31, 2015.

If different assumptions for our goodwill and other indefinite-lived intangible assets impairment tests had been applied, significantly different outcomes could have resulted. There can be no assurance that the estimates and assumptions used in our goodwill and indefinite-lived intangible assets impairment testing performed as of the end of the fourth quarter of 2016 will prove to be accurate predictions of the future. For example, if general macroeconomic conditions deteriorate or otherwise vary from current assumptions (including changes in the weighted average cost of capital), industry or market conditions deteriorate, business conditions or strategies for a specific reporting unit change from current assumptions, including cost increases or loss of major customers, our businesses do not perform as projected, or there is an extended period of a significant decline in our stock price, this could be an indicator that the excess fair value of our reporting units could be lessened and the chance of an impairment of goodwill could be raised.

Impairment of Long-Lived Assets Subject to Amortization

We amortize intangible assets with finite lives over their estimated useful lives and review them for impairment at least annually or whenever an impairment indicator exists. We continually monitor events and changes in circumstances that could indicate carrying amounts of our long-lived assets, including our intangible assets, may not be recoverable. When such events or changes in circumstances occur, we assess recoverability by determining whether the carrying value of such assets will be recovered through the undiscounted expected future cash flows. If the future undiscounted cash flows are less than the carrying amount of these assets, we recognize an impairment loss based on the excess of the carrying amount over the fair value of the assets. There were no long-lived asset impairment charges recorded during the years ended December 31, 2016 or 2015.

Recent Accounting Pronouncements

Recently issued accounting pronouncements are addressed in Note 2 in the Notes to Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our Consolidated Financial Statements and the relevant notes to those statements are attached to this report beginning on page F-1.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures.

We conducted an evaluation of the effectiveness of our "disclosure controls and procedures" ("Disclosure Controls"), as defined by Rules 13a-15(e) and 15d-15(e) of the Exchange Act, as of December 31, 2016, the end of the period covered by this Annual Report on Form 10-K. The Disclosure Controls evaluation was done under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. Based upon this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our Disclosure Controls were effective at the reasonable assurance level as of December 31, 2016.

Management's Report on Internal Control over Financial Reporting

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

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate over time.

Management, including our Chief Executive Officer and Chief Financial Officer, assessed the effectiveness of our internal control over financial reporting as of December 31, 2016. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in *Internal Control—Integrated Framework (2013)*. Based on its assessment and those criteria, management has concluded that we maintained effective internal control over financial reporting as of December 31, 2016.

Changes in Internal Control over Financial Reporting

We regularly review our system of internal control over financial reporting to ensure we maintain an effective internal control environment. As we expand, we make changes to our processes and systems to improve controls and we continue to create and enhance the design and documentation of our internal control processes to ensure effective controls over financial reporting.

There have been no changes in our internal control over financial reporting during the year ended December 31, 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The following table sets forth information regarding our executive officers and the members of our board of directors. All directors hold office for one-year terms until the election and qualification of their successors. Officers are elected by the board of directors and serve at the discretion of the board.

Name	Age	Position
David Johnson	59	President, Chief Executive Officer and Director
Brian Posner	55	Chief Financial Officer, Treasurer and Secretary
Bradford Barton	56	Chief Operating Officer
Pellegrino Pionati	59	Chief Strategy and Marketing Officer
Jerome Zeldis, M.D., Ph.D.	66	Chairman and Director
Winston Kung	41	Director
Joseph Leone	63	Director
Gary Restani	70	Director
Jeffrey Sklar	54	Director
Mark Wagner	60	Director

In accordance with the certain Stock Purchase Agreement, dated November 14, 2013, by and between us and Celgene (the "Celgene Agreement"), we were required to appoint an individual to our board designated by Celgene (the "Celgene Designee"), who was originally Mr. Perry A. Karsen. For so long as Celgene or any of its affiliates hold at least 50% of the 1,672,474 shares purchased pursuant to the Celgene Agreement, our board of directors is required to use its reasonable best efforts to, if the members of our board of directors are to be re-elected, nominate and recommend that our stockholders elect such Celgene Designee, or remove, upon direction from Celgene, any Celgene Designee, and appoint each successor Celgene Designee that Celgene designates. On February 15, 2016, effective upon Mr. Karsen's resignation, Winston Kung was appointed as a director and the successor Celgene Designee.

In addition, pursuant to the terms of the Agreement and Plan of Merger, dated February 2, 2015, by and among us, ALQA Cedar, Inc., Celleration, and certain representatives of the Celleration stockholders, we were required to appoint Mark Wagner to our board of directors following the effective time of our acquisition of Celleration on May 29, 2015.

The following sets forth biographical information and the qualifications and skills for our executive officers and the members of our board of directors:

David Johnson was appointed to our board and as Executive Chairman of Aquamed Technologies, Inc., our wholly owned subsidiary, on November 29, 2012. He was appointed our President and Chief Executive Officer on February 4, 2013. Mr. Johnson was formerly President of the ConvaTec Division of Bristol-Myers Squibb, Inc. until 2008 when he orchestrated a sale of the division from its pharmaceutical parent to Avista Capital Partners and Nordic Capital in a deal valued at $4.1 billion. Concurrently, he acquired and integrated the assets of Copenhagen-based Unomedical to expand ConvaTec Inc.'s manufacturing and infrastructure into Europe. From 2008 through 2012, Mr. Johnson served as the Chief Executive Officer of ConvaTec Inc. Prior to his tenure with ConvaTec Inc., Mr. Johnson held several senior positions in the U.S., Europe and Canada with Zimmer Inc., Fisher Scientific, and Baxter Corporation. He served as a member of ConvaTec Inc.'s board of directors and the board of the Advanced Medical Technology Association (AdvaMed), where he chaired the Global Wound Sector Team for four years. Mr. Johnson received an Undergraduate Business Degree in Marketing from the Northern Alberta Institute of Technology in Edmonton, Alberta, Canada, completed the INSEAD Advanced Management Program in Fontainbleau, France, and is a fellow from the Wharton School of the University of Pennsylvania. Mr. Johnson's extensive experience in the pharmaceutical and biotechnology fields, as well as his executive leadership experience, make him an asset that will serve as a bridge between the board of directors and our executive officers.

Brian Posner was appointed to serve as our Chief Financial Officer, Treasurer and Secretary on September 3, 2013. Mr. Posner has more than 25 years of diversified management experience, at both public and private companies. Most recently, he served as Chief Financial Officer of Ocean Power Technologies, Inc., a publicly-traded renewable energy company specializing in wave power technology, from June 2010 to August 2013. Prior to that, he served as Chief Financial Officer of Power Medical Interventions, Inc., a publicly-traded medical device company, from January 2009 until its sale to Covidien Plc in September 2009. From June 1999 to December 2008, Mr. Posner served in a series of positions of increasing responsibility with Pharmacopeia, Inc., a clinical development stage biopharmaceutical company, culminating in his service as Executive Vice President and Chief Financial Officer from May 2006 to December 2008. Mr. Posner also worked at Phytomedics, Inc., and as Regional Chief Financial Officer of Omnicare, Inc. Mr. Posner earned an MBA in Managerial Accounting from Pace University's Lubin School of Business and a BA in Accounting from Queens College.

Bradford Barton has served as our Chief Operating Officer since August 29, 2014. Prior to that, he served as the Chief Operating Officer of our proprietary products division since May 2013. Mr. Barton was formerly President of the Americas division at ConvaTec Inc., where he led the company's core businesses in ostomy care, wound therapeutics and continence and critical care in the U.S., Canada and Latin America, from November 2010 until February 2013. Mr. Barton joined ConvaTec Inc. in 1996 and held several senior management positions across the company's business divisions and regions, including Vice President of the Americas division, with responsibility for the wound therapeutics business in the U.S., Canada and Puerto Rico, Vice President of the Intercontinental division as well as Vice President and General Manager of the ostomy care business in the U.S. Prior to his tenure at ConvaTec Inc., Mr. Barton also held a number of sales leadership positions at Calgon Corporation and Calgon Vestal Laboratories, Inc., which was acquired by the Steris Corporation in 1996.

Pellegrino Pionati has served as our Chief Strategy and Marketing Officer since June 15, 2015. Mr. Pionati joined us from Bayer HealthCare Pharmaceuticals, where he served as the Vice President of Marketing for the Essure portfolio and a member of the Global Franchise and Women's Health Care Leadership teams from May 2014 until May 2015. From March 2013 to May 2014, he was the President of 4P's Advisors LLC, a management consulting firm focused on strategy development, new product development and marketing for companies in the medical technology and healthcare industry. From 1998 until December 2012, Mr. Pionati served a 14 year tenure at ConvaTec, Inc., where he held several global marketing and management level positions, including President of Global Marketing, Business Development and International and President of the Intercontinental Region. Prior to joining ConvaTec, Inc., he held a variety of positions at Johnson & Johnson, Inc. in sales, service, clinical regulatory and marketing and co-led the development of an internally-backed startup, J&J Independence Technologies. Mr. Pionati holds an MBA from the University of Pittsburg's Katz School of Business and a Bachelors of Commerce in Marketing from Concordia University of Montreal.

Jerome Zeldis, M.D., Ph.D. has served as a member our board of directors since May 17, 2012 and was appointed Chairman on November 27, 2012. Dr. Zeldis is the Chief Medical Officer and President of Clinical Development of Sorrento Therapeutics. Dr. Zeldis was the Chief Executive Officer of Celgene Global Health and the Chief Medical Officer of Celgene Corporation until 2016. Dr. Zeldis was with Celgene since 1997; prior to his last role at Celgene, he served as Senior Vice President of Clinical Research and Medical Affairs. Prior to Celgene, Dr. Zeldis worked at Sandoz Research Institute and Janssen Research Institute in both clinical research and medical development. He is currently on the board of Semorex, Trek Therapeutics, MetaStat, Kalytera Therapuetics, BioSig Technologies, IR Biosciences Holdings, PTC Therapeutics, and Soligenix. Dr. Zeldis attended Brown University for a B.A., M.S., followed by Yale University for a M.Phil., M.D., and Ph.D. in molecular biophysics and biochemistry (immunochemistry). He trained in internal medicine at the UCLA Center for the Health Sciences and Gastroenterology at the Massachusetts General Hospital and Harvard Medical School. He was Assistant Professor of Medicine at the Harvard Medical School, Associate Professor of Medicine at University of California, Davis, Clinical Associate Professor of Medicine at Cornell Medical School and Professor of Clinical Medicine at the Robert Wood Johnson Medical School in New Brunswick, New Jersey. Dr. Zeldis has published 122 peer reviewed articles and 24 reviews, book chapters, and editorials. Dr. Zeldis's background in the healthcare industry, as well as his experience in emerging growth companies make him a valuable resource on the board of directors.

Winston Kung was appointed as a member of our board of directors on February 15, 2016. Mr. Kung is the Vice President of Business Development and Global Alliances at Celgene. He previously served as the Chief Business Officer at Celgene Cellular Therapeutics, a subsidiary of Celgene, from April 2013 to February 2015. Prior to joining Celgene Cellular Therapeutics, Mr. Kung was a director in Citigroup's Global Healthcare Corporate and Investment Banking division, where he focused on biotech and pharmaceutical companies, from June 2010 to April 2013. He also worked as a Vice President in the Global Mergers and Acquisitions Group at Barclays (formerly Lehman Brothers) from May 2007 through June 2010. Prior to his career in investment banking, Mr. Kung worked on the business and corporate development teams at both Amgen and Genentech. He holds a B.A. in biology from Brown University and an M.B.A. from Harvard Business School. Mr. Kung's significant healthcare and investment banking experience make him a valuable resource on the board of directors.

Joseph Leone has served as a member of our board of directors since January 3, 2011. Since December 2012, Mr. Leone has served as Director and a Senior Officer of RMH Franchise Holdings, a privately owned company with 175 franchise restaurants in 15 states and revenues over $400 million. Mr. Leone spent more than 24 years with CIT Group, one of the nation's largest small and mid-size business lenders, and held several senior-level positions at CIT, most recently Vice Chairman and Chief Financial Officer from May 1995 through April 2010. From 1975 through 1983, Mr. Leone was employed by KPMG – Peat Marwick as a Senior Manager for Financial Services Clients including Citibank and Manufacturers Hanover Bank. He has been a Certified Public Accountant since 1977. Mr. Leone is a graduate of Baruch College (BBA in Accounting) and the Advanced Management Program at Harvard Business School. Mr. Leone serves as the chairman of the Audit Committee of The Baruch College Fund. Mr. Leone's extensive background in accounting and finance makes him a valuable member of the board.

Gary Restani has served as a member of our board of directors since July 21, 2014. Until April 2014, he was President and Chief Executive Officer of Spiracur Inc., a privately held medical device company focused on the development of innovative wound healing technologies. Mr. Restani has more than 40 years of experience in the medical device industry. He served as President and Chief Operating Officer of Hansen Medical, Inc. from October 2006 to February 28, 2009. From December 1999 to June 2006, he served as President of ConvaTec, Inc. From March 1995 to November 1999, Mr. Restani served as the President of various international divisions of Zimmer, Inc., a medical device and surgical tool company. From March 1990 to February 1995, Mr. Restani served as President of various international divisions of Smith & Nephew Orthopedics, Inc., an orthopedics, endoscopy and wound management company. He served as Director of Synovis Orthopedic and Woundcare, Inc. (alternate name, Pegasus Biologics, Inc.) from 2007 to 2011. Mr. Restani served as a Director of Corpak Medsystems until 2014, and with DFine Inc. from 2007 to 2012. He served on the board of AdvaMed from 1997 to 2006 as well as the Leadership Board of the Cleveland Clinic's Center for Digestive Diseases from 2000 to 2006. He served as a Director of Hansen Medical, Inc. from September 2006 to June 17, 2009. He attended Sir George Williams University and Loyola University and holds a certificate from Dartmouth College for completing the Tuck School of Business' General Management Executive Program. Mr. Restani's extensive experience in the medical technology sector, as well as his executive leadership experience, make him a valuable resource on the board.

Jeffrey Sklar has served as a member of our board of directors since January 3, 2011. Mr. Sklar has served as the Managing Partner of Sklar, Heyman Hirshfield, & Kantor LLP, a regional accounting firm, where he oversees the industry specialization team for non-bank financial institutions and for forensic and investigative auditing services, since January 2010 and prior to that, from January 2006 to December 2009, he served as an audit partner. Since 2000, Mr. Sklar has also served as the Managing Director of SHC Consulting Group, LLC. Mr. Sklar served Public Savings Bank as a Director, as the Chair of the Compliance and Risk Committee, and as a member of the Audit Committee from September 2010 to September 2011. In addition to being a Certified Public Accountant, Mr. Sklar is a Certified Financial Crime Specialist, Certified Anti-Money Laundering Specialist, Certified Fraud Specialist and Certified in Financial Forensics by the American Institute of CPAs. He also serves on the Advisory Board of the Association of Financial Crime Specialists. Mr. Sklar's qualifications to serve on the board include his extensive background in accounting and finance.

Mark Wagner was appointed to our board of directors on May 29, 2015. He previously served as a director and as the President and Chief Executive Officer of Celleration from June 2009 through our acquisition of Celleration. Prior to joining Celleration, he cofounded Orasi Medical Inc., a privately held medical device and technology company, and served as a member of its board of directors from 2007 through 2012. Mr. Wagner has also served as Chief Executive Officer at several emerging companies in the medical device and healthcare industry, including ProVation Medical, Inc., a health information technology company, Survivalink Corporation, a medical device manufacturer, and Altiva Corporation, a spinal implant device company. Earlier in his career, Mr. Wagner held executive and management level positions at Nellcor Puritan Bennett and numerous other positions during his 15 year tenure with GE Healthcare. He is currently on the board of directors of Minnetronix, Inc. and Preceptis Medical. Mr. Wagner holds a B.S. in Business Administration from the University of Southern California. Mr. Wagner has decades of leadership experience in the medical device field and healthcare industry, as well as his traditional corporate background with emerging growth companies, which makes him a valuable resource on the board of directors.

The board of directors regards all of the individuals above as competent professionals with many years of experience in the business community. The board of directors believes that the overall experience and knowledge of the members of the board of directors will contribute to the overall success of our business.

Family Relationships

There are no family relationships among any of our director or executive officers.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our directors and officers, and persons who own more than ten percent of our common stock, to file with the SEC initial reports of ownership and reports of changes in ownership of our common stock. Directors, officers and persons who own more than ten percent of our common stock are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file.

To our knowledge, based solely on a review of the copies of such reports furnished to us, during the fiscal year ended December 31, 2016, each of our directors, officers and greater than ten percent stockholders complied with all Section 16(a) filing requirements applicable to our directors, officers and greater than ten percent stockholders, except for one late Form 3 filed by Mr. Kung and one late Form 4 filed by Mr. Wagner with respect to one transaction.

Code of Ethics

We have adopted a code of corporate governance and ethics that applies to all our directors and employees, including the principal executive officer, principal financial officer, principal accounting officer and controller. The full text of our Amended and Restated Code of Corporate Governance and Ethics is published on the Investors section of our website at www.alliqua.com. We intend to disclose any future amendments to certain provisions of the Amended and Restated Code of Corporate Governance and Ethics, or waivers of such provisions granted to executive officers and directors, on this website within four business days following the date of any such amendment or waiver.

Board Committees

Our board of directors has established an audit committee, a nominating and corporate governance committee and a compensation committee, each of which has the composition and responsibilities described below.

Audit Committee. The audit committee is currently comprised of Messrs. Leone, Sklar and Restani, each of whom our board has determined to be financially literate and qualify as an independent director under Section 5605(a)(2) and Section 5605(c)(2) of the rules of the Nasdaq Stock Market. Mr. Leone is the chairman of our audit committee. In addition, each of Messrs. Leone and Sklar qualify as an audit committee financial expert, as defined in Item 407(d)(5)(ii) of Regulation S-K. The function of the audit committee is to assist the board of directors in its oversight of (1) the integrity of our financial statements, (2) compliance with legal and regulatory requirements, (3) the qualifications, independence and performance of our independent auditors and (4) the performance of our internal audit function and internal control systems.

Nominating and Corporate Governance Committee. The nominating and corporate governance committee is currently comprised of Messrs. Leone and Restani and Dr. Zeldis, each of whom qualifies as an independent director under Section 5605(a)(2) of the rules of the Nasdaq Stock Market. Dr. Zeldis is the chairman of the nominating and corporate governance committee. The primary function of the nominating and corporate governance committee is to identify individuals qualified to become board members, consistent with criteria approved by the board, and select the director nominees for election at each annual meeting of stockholders. The nominating and corporate governance committee will consider all proposed nominees for the board of directors, including those put forward by stockholders. Stockholder nominations should be addressed to the nominating and corporate governance committee in care of the Secretary, at the following address: Alliqua BioMedical, Inc., 1010 Stony Hill Road, Suite 200, Yardley, Pennsylvania 19067, in accordance with the provisions of the Company's bylaws. The nominating and corporate governance committee annually reviews with the board the applicable skills and characteristics required of board nominees in the context of current board composition and Company circumstances. In making its recommendations to the board, the nominating and corporate governance committee considers all factors it considers appropriate, which may include experience, accomplishments, education, understanding of the business and the industry in which the Company operates, specific skills, general business acumen and the highest personal and professional integrity.

Compensation Committee. The compensation committee is currently comprised of Messrs. Restani and Sklar and Dr. Zeldis, each of whom qualifies as an independent director under Section 5605(a)(2) of the rules of the Nasdaq Stock Market, an "outside director" for purposes of Section 162(m) of the Code and a "non-employee director" for purposes of Section 16b-3 under the Exchange Act and does not have a relationship to us which is material to his ability to be independent from management in connection with the duties of a compensation committee member, as described in Section 5605(d)(2) of the rules of the Nasdaq Stock Market. Mr. Sklar is the chairman of the compensation committee. The function of the compensation committee is to discharge the board of directors' responsibilities relating to compensation of our executive officers. The primary objective of the compensation committee is to approve and evaluate all of our compensation plans, policies and programs insofar as they affect our executive officers.

ITEM 11. EXECUTIVE COMPENSATION

Compensation Philosophy and Process

The responsibility for establishing, administering and interpreting our policies governing the compensation and benefits for our executive officers lies with our compensation committee and our board of directors. Our board of directors has not retained the services of any compensation consultants in connection with the compensation of our executive officers.

The goals of our executive compensation program are to attract, motivate and retain individuals with the skills and qualities necessary to support and develop our business within the framework of our size and available resources. We have designed our executive compensation program to achieve the following objectives:

- attract and retain executives experienced in developing and delivering products such as our own;
- motivate and reward executives whose experience and skills are critical to our success;
- reward performance; and
- align the interests of our executive officers and stockholders by motivating executive officers to increase stockholder value.

The compensation committee may delegate its responsibilities and authority to a subcommittee. Our executive officers played no role in determining or recommending the amount or form of executive and director compensation for 2016.

2016 and 2015 Summary Compensation Table

The table below sets forth the compensation earned by our named executive officers for the fiscal years ended December 31, 2016 and 2015.

Name and Principal Position	Year	Salary	Bonus	Stock Awards (1)	Option Awards (1)	All Other Compensation	Total
David Johnson	2016	$ 350,000	$ 245,000(3)	$ 258,000	$ -	$ 11,400(5)	$ 864,400
President and Chief Executive Officer	2015	$ 350,000	$ 175,000(4)	$ 1,869,000	$ 560,081	$ 11,400(5)	$ 2,965,481
Brian Posner	2016	$ 240,000	$ 100,800(3)	$ 86,000	$ -	$ 8,400(6)	$ 435,200
Chief Financial Officer, Treasurer and Secretary	2015	$ 240,000	$ 72,000(4)	$ 623,000	$ 560,081	$ 8,400(6)	$ 1,503,481
Bradford Barton	2016	$ 240,000	$ 100,800(3)	$ 86,000	$ -	$ 8,400(7)	$ 435,200
Chief Operating Officer	2015	$ 240,000	$ 72,000(4)	$ 623,000	$ 560,081	$ 8,400(7)	$ 1,503,481
Pellegrino Pionati (2)	2016	$ 240,000	$ 100,800(3)	$ 86,000	$ -	$ 8,400(6)	$ 435,200
Chief Strategy and Marketing Officer	2015	$ 139,923	$ 42,000(4)	$ 630,000	$ 411,470	$ 4,550(6)	$ 1,227,943

(1) The amounts reported represent the aggregate grant date fair value of the awards, calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718—Compensation—Stock Compensation ("ASC 718"), with the exception that the amount shown assumes no forfeitures. Assumptions used in the calculation of these amounts are included in "Note 2. Summary of Significant Accounting Policies—Stock-Based Compensation" and "Note 15. Stockholders' Equity" to our audited financial statements for the fiscal year ended December 31, 2016 included in this Annual Report.

(2) Effective June 15, 2015, Mr. Pionati was appointed as Chief Strategy and Marketing Officer.

(3) Discretionary year-end performance bonus earned in 2016 to be paid in 2017 in shares of restricted stock.

(4) Discretionary year-end bonus earned in 2015 were paid 50% in cash in 2016 and the remaining 50% in shares of restricted common stock during 2016. The restricted stock award portion of the 2015 bonus amount was granted on February 9, 2016 based on the closing price of our common stock on such date of grant. The restricted stock award was subject to forfeiture until all such award vested on February 9, 2017, subject to the terms and conditions of the Alliqua BioMedical, Inc. 2014 Long-Term Incentive Plan.

(5) Comprised of (i) auto expense allowance payments of $9,000 and (ii) life insurance premium payments of $2,400.

(6) Comprised of auto expense allowance payments.

(7) Comprised of auto expense and telephone allowance payments.

Agreements with Executive Officers

David Johnson

In connection with the appointment of David Johnson as Chief Executive Officer, on February 4, 2013, we entered into an Executive Employment Agreement with Mr. Johnson. The employment agreement has an initial term of three years and will be automatically renewed for an additional one-year term unless terminated by either party upon written notice provided not less than four months before the end of the initial term. Under the employment agreement, Mr. Johnson is entitled to an annual salary of $350,000, which may be increased, but not decreased, at the board's discretion. Mr. Johnson is also eligible to receive an annual bonus of up to 100% of his base salary, provided that he is employed with us on December 31 of the year to which the bonus relates. The amount of Mr. Johnson's annual bonus, if any, will be determined based upon the achievement of certain performance criteria. The performance criteria for each year will be set by the compensation committee after consultation with Mr. Johnson. Mr. Johnson is also entitled to a monthly automobile allowance of $750 per month, reimbursement of up to $200 per month for the cost of a term life insurance policy having a face amount of $1 million, and benefit plans provided by us to all employees and executive employees.

Mr. Johnson is entitled to receive the following equity awards pursuant to our 2011 Long-Term Incentive Plan or, if there are not sufficient shares available under the 2011 Long-Term Incentive Plan, pursuant to a stand-alone award agreement:

(i) a nonqualified stock option to purchase a number of shares of our common stock equal to three percent of the total outstanding common stock (determined on a fully-diluted basis as of February 4, 2013), with the following terms: (A) an exercise price equal the fair market value of a share of common stock on the date of grant; (B) immediate vesting; and (C) a term of 10 years; and

(ii) an award of nonqualified stock options on the last business day of each calendar quarter through February 4, 2016 relating to a number of shares of common stock equal to 0.333% percent of our outstanding common stock as of the date of grant (determined on a fully-diluted basis), with the following terms: (A) an exercise price equal to the fair market value of a share of common stock on the date of grant, (B) the first eight (8) grants will be 100% vested on the first anniversary of their respective dates of grant and the last four (4) grants will be 100% vested on the date of grant, (C) immediate vesting of any unvested restricted stock units upon the effective date of a "Change in Control" (as defined in the 2011 Long-Term Incentive Plan) and (D) a term of ten years.

Mr. Johnson is also eligible to receive additional equity awards in such amount and on such terms as is determined by the board. Mr. Johnson received the first award set forth above on February 4, 2013. He was awarded options to purchase 279,227 shares of common stock at an exercise price of $3.28 per share. Mr. Johnson received stock option grants for the first, second and third calendar quarters of 2013 under the second award set forth above on November 14, 2013. He was awarded an aggregate of 117,125 shares of common stock at an exercise price of $3.50 per share. The foregoing share numbers and prices have been adjusted for the 1 for 43.75 reverse stock split of our common stock that occurred on November 18, 2013.

On December 20, 2013, we entered into a First Amendment to Executive Employment Agreement with Mr. Johnson, which amended the employment agreement to provide for a single stock option award in lieu of all of the remaining quarterly grants thereunder. Pursuant to the amendment, Mr. Johnson received a nonqualified stock option to purchase 730,535 shares of our common stock at an exercise price equal to $6.82 per share on December 20, 2013. The option has a term of ten years, with one-ninth of the optioned shares vesting on the first day of each calendar quarter during the period commencing on January 1, 2014 and ending on February 4, 2016, provided that Mr. Johnson remains employed by us on such date, and subject to the terms and conditions of that certain nonqualified stock option agreement by and between us and Mr. Johnson, effective as of December 20, 2013.

The employment agreement also contains certain confidentiality, non-solicitation and non-disparagement requirements for Mr. Johnson.

We have the right to terminate the employment agreement at any time for cause. "Cause" is defined as Mr. Johnson's commission of any of the following: an act of theft, embezzlement or fraud; an act of intentional dishonesty or willful misrepresentation of a material nature; any willful misconduct with regard to us; a material breach of any fiduciary duties owed to us; conviction of, or pleading nolo contendere or guilty to, a felony or misdemeanor (other than a traffic infraction) that is reasonably likely to cause damage to us or our reputation; a material violation of our written policies, standards or guidelines that is not cured within 30 days; refusal to perform the material duties and responsibilities required by the employment agreement, subject to a 30 day cure period; and a material breach of the employment agreement or any other agreement to which Mr. Johnson and we are parties that is not cured within 30 days. The employment agreement may also be terminated by either party at any time without cause upon 30 days written notice, and by Mr. Johnson with good reason upon 90 days written notice, which shall include a 30 day cure period. "Good Reason" is defined as the occurrence, without Mr. Johnson's prior written consent, of a material reduction in base salary, a material diminution in title, duties, responsibility or authority, relocation of his primary office to an office located 35 miles from the office in Langhorne, Pennsylvania, a material breach by us of any agreement with Mr. Johnson or failure by us to have any successor assume the employment agreement.

If Mr. Johnson is terminated by reason of death or disability, we will pay to him or his estate or a pro rata portion of any earned, but unpaid, bonus for services rendered during the year preceding the date of termination. If Mr. Johnson's employment is terminated by us without cause or by him with good reason, subject to compliance with the confidentiality, non-solicitation and non-disparagement requirements of the employment agreement and the execution of a release of claims, (i) we will pay him an amount equal to the sum of 24 months base salary; (ii) either his pro rata bonus for the year if termination of employment is in the first two years of the term, or two years of bonus calculated at the target bonus level (payable over 24 months) if termination is after the first two years of the term; (iii) all outstanding stock options and other equity awards granted to Mr. Johnson will vest, to the extent not previously vested, and the stock options will remain exercisable for three months; and (iv) we will provide continued healthcare coverage until the earlier of (x) the expiration of the severance period, or (y) the date that Mr. Johnson's "COBRA" coverage terminates or expires or (z) the date that Mr. Johnson obtains new employment that offers substantially similar health benefits.

Brian Posner

In connection with his appointment as Chief Financial Officer, pursuant to an offer letter dated July 19, 2013, we agreed to pay Mr. Posner an annual salary of $240,000, an annual bonus of up to 60% of his prorated annual base salary based on the achievement of mutually agreed upon objectives (either in equity or cash, to be determined), a monthly stipend of $700 to cover auto expenses, and medical, dental, 401(k), group life and long-term disability benefits.

On June 5, 2015, we entered into an employment agreement with Mr. Posner (the "Posner Employment Agreement"), which amended and restated the terms set forth in that certain offer letter dated July 19, 2013 in its entirety. The Posner Employment Agreement provides for a term of employment that continues until terminated by either party. Under the Posner Employment Agreement, Mr. Posner is entitled to an annual base salary of $240,000, less applicable payroll deductions and tax withholdings. He is also eligible to receive an annual bonus of up to 60% of his annual base salary for each calendar year during employment based upon the achievement of certain performance criteria, provided that he is employed by us through the end of the applicable calendar year to which the bonus relates, subject to certain exceptions. The performance criteria for each year will be established reasonably and in good faith by the board. Mr. Posner is also entitled to a monthly automobile allowance of $700 per month, reimbursement of certain out-of-pocket expenses reasonably incurred in connection with the performance of his services and benefit plans provided by us to all employees.

The Posner Employment Agreement also contains certain confidentiality, non-competition, non-solicitation and assignment of work product covenants for Mr. Posner.

Mr. Posner's employment may be terminated by either party at any time upon written notice. If Mr. Posner's employment is terminated by us for cause or by Mr. Posner without good reason, we will pay Mr. Posner an amount equal to the sum of (i) all unpaid base salary accrued through the date of termination, (ii) all unpaid performance bonus earned and accrued for a previously completed calendar year, (iii) all accrued and unpaid vacation or similar pay required by law and (iv) any unreimbursed expenses properly incurred prior to the termination date.

If Mr. Posner's employment is terminated by us without cause or by Mr. Posner for good reason, subject to the timely execution and return by Mr. Posner of an irrevocable release of claims within 60 days following the date of termination, then we will pay Mr. Posner a lump sum amount equal to the accrued obligations set forth in (i) through (iv) above, plus severance pay in an amount equal to his base salary for 12 months, payable in equal installments in accordance with our normal payroll policies. If, prior to such termination, Mr. Posner was employed by us through at least July 1st of the applicable calendar year, he will also be eligible to receive a pro-rata portion of any annual performance bonus earned during such calendar year, with the amount prorated based on the number of days employed during such calendar year. In addition, all outstanding stock options and restricted stock awards granted to Mr. Posner will immediately vest in full and the stock options will remain exercisable for two years following the termination date or, if sooner, until the end of the applicable stock option's term. We will also provide continued health benefits coverage until the earlier of the expiration of the 12 month severance period and the date that Mr. Posner becomes eligible for comparable employer sponsored health benefits.

Bradford Barton

In connection with his appointment as Chief Operating Officer, pursuant to an offer letter dated May 14, 2013, we agreed to pay Mr. Barton an annual salary of $240,000, an annual bonus of up to 60% of his prorated annual base salary based on the achievement of mutually agreed upon objectives, a monthly stipend of $700 to cover auto and telephone expenses, and medical, dental, 401(k), group life and long-term disability benefits.

On June 5, 2015, we entered into an employment agreement with Mr. Barton (the "Barton Employment Agreement"), which amended and restated the terms set forth in that certain offer letter dated May 14, 2013 in its entirety. The Barton Employment Agreement provides for a term of employment that continues until terminated by either party. Under the Barton Employment Agreement, Mr. Barton is entitled to an annual base salary of $240,000, less applicable payroll deductions and tax withholdings. He is also eligible to receive an annual bonus of up to 60% of his annual base salary for each calendar year during employment based upon the achievement of certain performance criteria, provided that he is employed by us through the end of the applicable calendar year to which the bonus relates, subject to certain exceptions. The performance criteria for each year will be established reasonably and in good faith by the board. Mr. Barton is also entitled to a monthly automobile allowance of $700 per month, reimbursement of certain out-of-pocket expenses reasonably incurred in connection with the performance of his services and benefit plans provided by us to all employees.

The Barton Employment Agreement also contains certain confidentiality, non-competition, non-solicitation and assignment of work product covenants for Mr. Barton.

Mr. Barton's employment may be terminated by either party at any time upon written notice. If Mr. Barton's employment is terminated by us for cause or by Mr. Barton without good reason, we will pay Mr. Barton an amount equal to the sum of (i) all unpaid base salary accrued through the date of termination, (ii) all unpaid performance bonus earned and accrued for a previously completed calendar year, (iii) all accrued and unpaid vacation or similar pay required by law and (iv) any unreimbursed expenses properly incurred prior to the termination date.

If Mr. Barton's employment is terminated by us without cause or by Mr. Barton for good reason, subject to the timely execution and return by Mr. Barton of a release of claims of an irrevocable release of claims within 60 days following the date of termination, then we will pay Mr. Barton a lump sum amount equal to the accrued obligations set forth in (i) through (iv) above, plus severance pay in an amount equal to his base salary for 12 months, payable in equal installments in accordance with our normal payroll policies. If, prior to such termination, Mr. Barton was employed by us through at least July 1st of the applicable calendar year, he will also be eligible to receive a pro-rata portion of any annual performance bonus earned during such calendar year, with the amount prorated based on the number of days employed during such calendar year. In addition, all outstanding stock options and restricted stock awards granted to Mr. Barton will immediately vest in full and the stock options will remain exercisable for two years following the termination date or, if sooner, until the end of the applicable stock option's term. We will also provide continued health benefits coverage until the earlier of the expiration of the 12 month severance period and the date that Mr. Barton becomes eligible for comparable employer sponsored health benefits.

Pellegrino Pionati

In connection with Mr. Pionati's appointment as Chief Strategy and Marketing Officer, on June 3, 2015, we entered into an employment agreement with Mr. Pionati (the "Pionati Employment Agreement") for a term of employment that commenced on June 15, 2015 and continues until terminated by either party. Under the Pionati Employment Agreement, Mr. Pionati is entitled to an annual base salary of $240,000, less applicable payroll deductions and tax withholdings. He is also eligible to receive an annual bonus of up to 60% of his annual base salary for each calendar year during employment based upon the achievement of certain performance criteria, provided that he is employed by us through the end of the applicable calendar year to which the bonus relates, subject to certain exceptions. The performance criteria for each year will be established reasonably and in good faith by our board of directors. Mr. Pionati is also entitled to a monthly automobile allowance of $700 per month, reimbursement of certain out-of-pocket expenses reasonably incurred in connection with the performance of his services and benefit plans provided by us to all employees.

The Pionati Employment Agreement also contains certain confidentiality, non-competition, non-solicitation and assignment of work product covenants for Mr. Pionati.

Mr. Pionati's employment may be terminated by either party at any time upon written notice. If Mr. Pionati's employment is terminated by us for cause or by Mr. Pionati without good reason, we will pay Mr. Pionati an amount equal to the sum of (i) all unpaid base salary accrued through the date of termination, (ii) all unpaid performance bonus earned and accrued for a previously completed calendar year, (iii) all accrued and unpaid vacation or similar pay required by law and (iv) any unreimbursed expenses properly incurred prior to the termination date.

If Mr. Pionati's employment is terminated by us without cause or by Mr. Pionati for good reason, subject to the timely execution and return by Mr. Pionati of an irrevocable release of claims within 60 days following the date of termination, then we will pay Mr. Pionati a lump sum amount equal to the accrued obligations set forth in (i) through (iv) above, plus severance pay in an amount equal to his base salary for 12 months, payable in equal installments in accordance with our normal payroll policies. If, prior to such termination, Mr. Pionati was employed by us through at least July 1st of the applicable calendar year, he will also be eligible to receive a pro-rata portion of any annual performance bonus earned during such calendar year, with the amount prorated based on the number of days employed during such calendar year. In addition, all outstanding stock options and restricted stock awards granted to Mr. Pionati will immediately vest in full and the stock options will remain exercisable for two years following the termination date or, if sooner, until the end of the applicable stock option's term. We will also provide continued health benefits coverage until the earlier of the expiration of the 12 month severance period and the date that Mr. Pionati becomes eligible for comparable employer sponsored health benefits.

In connection with his appointment, on June 15, 2015, Mr. Pionati received (i) stock options to purchase 100,000 shares of common stock at an exercise of $5.25 per share, with one-third vesting on each of June 15, 2016, 2017 and 2018, and (ii) a restricted stock award of 120,000 shares of restricted common stock with 25% vesting on each of June 15, 2015, 2016, 2017 and 2018, in each case, provided that Mr. Pionati is employed by or providing services to us through the applicable vesting date, subject to the terms and conditions of the Alliqua BioMedical, Inc. 2014 Long-Term Incentive Plan.

Outstanding Equity Awards at Fiscal Year End

The following table sets forth information regarding equity awards that have been previously awarded to each of the named executive officers and which remained outstanding as of December 31, 2016:

	Option Awards				Stock Awards	
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested	Market Value of Shares or Units of Stock That Have Not Vested
David Johnson	59,200	-	$ 4.38	11/29/22		
David Johnson	59,200	-	$ 6.56	11/29/22		
David Johnson	59,200	-	$ 8.75	11/29/22		
David Johnson	279,227	-	$ 3.28	02/04/23		
David Johnson	117,125	-	$ 3.50	11/14/23		
David Johnson	730,535	-	$ 6.82	12/20/23		
David Johnson	38,333	76,667[1]	$ 6.23	02/06/25		
David Johnson					200,000[2]	$ 118,000[3]
David Johnson					59,932[4]	$ 35,360[3]
David Johnson					300,000[5]	$ 177,000[3]
Brian Posner	61,714	-	$ 4.38	09/03/23		
Brian Posner	61,714	-	$ 6.56	09/03/23		
Brian Posner	61,714	-	$ 8.75	09/03/23		
Brian Posner	46,666	23,334[6]	$ 9.00	03/06/24		
Brian Posner	38,333	76,667[1]	$ 6.23	02/06/25		
Brian Posner					66,667[2]	$ 39,334[3]
Brian Posner					24,658[4]	$ 14,548[3]
Brian Posner					100,000[5]	$ 59,000[3]
Bradford Barton	54,855	-	$ 4.38	05/10/23		
Bradford Barton	54,855	-	$ 5.47	05/10/23		
Bradford Barton	54,855	-	$ 6.56	05/10/23		
Bradford Barton	54,855	-	$ 8.75	05/10/23		
Bradford Barton	54,855	-	$ 10.94	05/10/23		
Bradford Barton	46,666	23,334[6]	$ 9.00	03/06/24		
Bradford Barton	38,333	76,667[1]	$ 6.23	02/06/25		
Bradford Barton					66,667[2]	$ 39,334[3]
Bradford Barton					24,658[4]	$ 14,548[3]
Bradford Barton					100,000[5]	$ 59,000[3]
Pellegrino Pionati	33,333	66,667[7]	$ 5.25	06/15/25		
Pellegrino Pionati					14,384[4]	$ 8,487[3]
Pellegrino Pionati					60,000[8]	$ 35,400[3]
Pellegrino Pionati					100,000[5]	$ 59,000[3]

[1] Vests and becomes exercisable as follows: 38,333 shares on February 6, 2017 and 38,334 shares on February 6, 2018.

[2] Represents a restricted stock award ("RSA") granted on February 6, 2015. The RSA vests and becomes exercisable annually over three years on a pro rata basis on the grant date anniversaries.

[3] Computed by multiplying the number of non-vested RSA shares by $0.59, which was the closing market price of our common stock on December 30, 2016.

[4] Vests and becomes exercisable on February 9, 2017.

[5] Represents a restricted stock award ("RSA") granted on May 11, 2016. The RSA is performance based and vests if the Company meets specific revenue targets within a five-year period from the date of grant.

[6] Vests and becomes exercisable on March 6, 2017.

[7] Vests and becomes exercisable as follows: 33,333 shares on June 15, 2017 and 33,334 on June 15, 2018.

[8] Represents a restricted stock award ("RSA") granted on June 15, 2015. The RSA vests and becomes exercisable annually over three years on a pro rata basis on the grant date anniversaries.

Change of Control Agreements

We do not currently have any plans providing for the payment of retirement benefits to our officers or directors, other than as described under "Agreements with Executive Officers" above.

We do not currently have any change-of-control or severance agreements with any of our executive officers or directors, other than as described under "Agreements with Executive Officers" above. In the event of the termination of employment of the named executive officers, any and all unexercised stock options shall expire and no longer be exercisable after a specified time following the date of the termination, other than as described under "Agreements with Executive Officers" above.

2011 Long-Term Incentive Plan

Our board of directors adopted the 2011 Long-Term Incentive Plan on November 7, 2011, which was approved by our stockholders at the 2011 annual meeting held on December 19, 2011. The purpose of the 2011 Long-Term Incentive Plan is to enable us to remain competitive and innovative in its ability to attract, motivate, reward and retain the services of key employees, certain key contractors, and non-employee directors. The 2011 Long-Term Incentive Plan provides for the granting of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock, restricted stock units, performance awards, dividend equivalent rights, and other awards which may be granted singly, in combination, or in tandem, and which may be paid in cash or shares of common stock. Our 2011 Long-Term Incentive Plan is expected to provide flexibility to its compensation methods in order to adapt the compensation of employees, contractors, and non-employee directors to a changing business environment, after giving due consideration to competitive conditions and the impact of federal tax laws. The 2011 Long-Term Incentive Plan is administered by our board of directors. A total of 1,828,572 shares of common stock are reserved for award under the 2011 Plan, of which 214,612 remained available for future awards as of December 31, 2016.

2014 Long-Term Incentive Plan

Our board of directors approved the 2014 Long-Term Incentive Plan (the "2014 Plan") on April 10, 2014, which was approved by our stockholders at the 2014 annual meeting held on June 5, 2014 and adopted on that date. On February 26, 2015, our board of directors approved an amendment to the 2014 Plan to increase the total number of shares available for issuance pursuant to awards under the 2014 Plan, which was approved by stockholders at our 2015 annual meeting held on May 6, 2015.

The purpose of the 2014 Plan is to enable us to remain competitive and innovative in our ability to attract, motivate, reward and retain the services of key employees, certain key contractors, and non-employee directors. The 2014 Plan provides for the granting of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock, restricted stock units, performance awards, dividend equivalent rights, and other awards which may be granted singly, in combination, or in tandem, and which may be paid in cash or shares of common stock. The 2014 Plan is expected to provide flexibility to its compensation methods in order to adapt the compensation of employees, contractors, and non-employee directors to a changing business environment, after giving due consideration to competitive conditions and the impact of federal tax laws. The 2014 Plan is administered by our board of directors. A total of 5,500,000 shares of common stock are reserved for award under the 2014 Plan, of which 609,850 remained available for future awards as of December 31, 2016.

Director Compensation

The following table provides compensation information concerning our directors, other than David Johnson, during the year ended December 31, 2016:

	Year	Fees Earned or Paid in Cash	Option Awards [1]	Total
Jerome Zeldis, M.D., Ph.D.	2016	$ 60,000	$ 27,381(2)	$ 87,381
Winston Kung (3)	2016	$ -(4)	$ -(5)	$ -
Joseph Leone	2016	$ 45,000	$ 27,381(2)	$ 72,381
Gary Restani	2016	$ 42,000	$ 27,381(2)	$ 69,381
Jeffrey Sklar	2016	$ 46,000	$ 27,381(2)	$ 73,381
Mark Wagner	2016	$ 30,000	$ 27,381(2)	$ 57,381
Perry Karsen (6)	2016	$ -(7)	$ -	$ -
Andrew Africk (8)	2016	$ 12,581	$ -	$ 12,581

(1) The amounts reported represent the aggregate grant date fair value of the awards, calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718—Compensation—Stock Compensation ("ASC 718"), with the exception that the amount shown assumes no forfeitures. Assumptions used in the calculation of these amounts are included in "Note 2. Summary of Significant Accounting Policies—Stock-Based Compensation" and "Note 15. Stockholders' Equity" to our audited financial statements for the fiscal year ended December 31, 2016 included in this Annual Report.

(2) An option to purchase 45,000 shares of common stock was granted during the year ended December 31, 2016.

(3) Mr. Kung became a director on February 15, 2016.

(4) Mr. Kung waived cash compensation for serving as a director during the year ended December 31, 2016.

(5) Mr. Kung waived his option grant for serving as a director during the year ended December 31, 2016.

(6) Mr. Karsen resigned as director as of February 15, 2016.

(7) Mr. Karsen waived cash compensation for serving as a director during the period ended February 15, 2016.

(8) Mr. Africk resigned as director on May 5, 2016.

For the year ended December 31, 2016, cash compensation for non-employee directors, including the board chair, was $30,000. In addition, the audit committee chair was paid $12,000, the compensation committee chair was paid $10,000, other audit committee members were paid $6,000, other compensation committee members were paid $4,500 and nominating and corporate governance committee members, including the chair, were paid $3,000. Each non-employee director also received stock options to purchase 45,000 shares of our common stock on May 11, 2016, at an exercise price of $0.86 per share. These stock options will vest monthly over a 12 month period from the date of grant and have a ten-year term.

Mr. Kung has waived his cash compensation and stock option grant for the year ended December 31, 2016.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Equity Compensation Plan Information

The following table provides certain information as of December 31, 2016 with respect to our equity compensation plans under which our equity securities are authorized for issuance:

	Number of securities to be issued upon exercise of outstanding	Weighted average exercise price of outstanding options,	Number of securities remaining available for future issuance
Equity compensation plans approved by security holders	4,093,673	$ 4.77	824,473
Equity compensation plans not approved by security holders	3,183,327(1)	$ 6.59	-
Total	7,277,000	$ 5.57	824,473

(1) Compromised of the following awards:

- A warrant to purchase 1,143 shares of common stock, with a five year term, at an exercise price of $3.50 was issued to a consultant on April 9, 2012, vesting on the date of grant.
- A warrant to purchase 1,143 shares of common stock, with a five year term, at an exercise price of $3.50 was issued to a consultant on May 9, 2012, vesting on the date of grant.
- An option granted to a consultant to purchase 22,857 shares of common stock, granted on July 31, 2012, with an exercise price of $4.38 per share and a term of five years, vesting on the date of grant.
- An option granted to a consultant to purchase 11,429 shares of common stock, granted on August 15, 2012, with an exercise price of $4.38 per share and a term of five years, vesting on the date of grant.
- Options granted to two consultants to purchase 22,857 shares of common stock each, granted on September 19, 2012, each with an exercise price of $4.38 per share and a term of five years, each vesting as to 5,714 shares on the date of grant, as to 2,286 shares in each of following seven quarters and as to 1,142 shares in the final quarter.
- An option granted to a director on November 27, 2012, with a term of ten years, to purchase 457,143 shares of common stock The options are scheduled to vest and become exercisable as follows: (i) options to purchase 57,143 shares of common stock with an exercise price of $8.75 per share vesting upon the date of grant; (ii) options to purchase 57,143 shares of common stock with an exercise price of $8.75 per share vesting on each of the first, second, and third year anniversaries of the date of grant; and (iii) options to purchase 228,571 shares of common stock with an exercise price of $8.75 per share vesting upon the meeting of certain performance criteria. Options to purchase 171,429 shares were forfeited prior to December 31, 2013.
- An option granted to an officer on November 27, 2012, with a term of five years, to purchase 11,429 shares of common stock, with an exercise price of $4.38 per share vesting on the date of grant. 900 shares under this grant have been exercised and are not included in the table above.
- An option granted to a director on November 27, 2012, with a term of five years, to purchase 26,286 shares of common stock, with an exercise price of $4.38 per share vesting on the date of grant.
- An option granted to a director on November 27, 2012, with a term of five years, to purchase 3,429 shares of common stock, with an exercise price of $4.38 per share vesting on the date of grant.
- An option granted to a director on November 27, 2012, with a term of five years, to purchase 60,571 shares of common stock, with an exercise price of $4.38 per share vesting on the date of grant.
- An option granted to Mr. Johnson to purchase 177,600 shares of common stock, granted on November 27, 2012, vesting as follows: (i) options to purchase 59,200 shares of common stock at an exercise price of $4.38 per share, which vested and became exercisable on November 29, 2012; (ii) options to purchase 59,200 shares of common stock at an exercise price of $6.56 per share, which vested and became exercisable on November 29, 2013; (iii) and options to purchase 59,200 shares of common stock at an exercise price of $8.75 per share, which vested and became exercisable on November 29, 2014.

- An option granted to a consultant to purchase 39,999 shares of common stock, granted on May 10, 2013, with an exercise price of $4.38 per share and a term of ten years, vesting 22,857 shares of common stock on the date of grant and 5,714 shares of common stock on September 30, 2013, December 31, 2013 and March 31, 2014. 25,000 shares under this grant have been exercised and are not included in the table above.

- An option granted to an employee on May 10, 2013, with a term of ten years, to purchase 171,432 shares of common stock, vesting as follows: (i) options to purchase 57,144 shares of common stock immediately on the date of grant; and (ii) options to purchase 57,144 shares of common stock on each of the first and second year anniversaries of the date of grant. The exercise price for one-fourth of each tranche is $4.38, $5.47, $6.56, and $8.75 per share.

- An option granted to an employee on May 10, 2013, with a term of ten years, to purchase 274,275 shares of common stock vesting as follows: (i) options to purchase 54,855 shares of common stock immediately on the date of grant; and (ii) options to purchase 54,855 shares of common stock on each of the first, second, third, and fourth year anniversaries of the date of grant. The exercise price for one-fifth of each tranche is $4.38, $5.47, $6.56, $8.75 and $10.94 per share.

- An option granted to a consultant to purchase 17,143 shares of common stock, granted on May 30, 2013, with a term of ten years, vesting as follows: (i) options to purchase 5,714 shares of common stock vesting immediately on the date of grant with an exercise price of $4.38 per share; (ii) options to purchase 5,714 shares of common stock vesting on January 1, 2014 with an exercise price of $6.56 per share; and (iii) 5,714 shares vesting on January 1, 2015 with an exercise price of $8.75 per share.

- An option granted to Dr. Zeldis on July 22, 2013 to purchase 622,170 shares of common stock. The options are scheduled to vest and become exercisable as follows: (i) options to purchase 207,390 shares of common stock at $6.56 per share to vest upon the filing of the Company's annual report on Form 10-K having consolidated gross revenue of at least $10 million by April 15, 2016; (ii) options to purchase 207,390 shares of common stock with an exercise price of $8.75 per share to vest upon the filing of the Company's annual report on Form 10-K having consolidated gross revenue of at least $20 million by April 17, 2017; and (iii) options to purchase 207,390 shares of common stock with an exercise price of $10.94 per share to vest upon the filing of the Company's annual report on Form 10-K having consolidated gross revenue of at least $25 million by April 17, 2018.

- An option granted to Mr. Posner, with a ten year term, to purchase 185,142 shares of common stock, granted on September 3, 2013. The options are scheduled to vest as follows: (i) 61,714 shares at an exercise price of $4.38 per share, which vested immediately; (ii) 61,714 shares at an exercise price of $6.56 per share, which vested upon the one year anniversary of employment; and (iii) 61,714 shares at an exercise price of $8.75 per share, which vested upon the two year anniversary of employment. The options have a term of ten years.

- A warrant to purchase 6,857 shares of common stock, with a five year term, at an exercise price of $4.38 was issued to a consultant on September 11, 2013, vesting in 12 equal monthly installments over the first year from the date of issuance.

- A warrant to purchase 6,857 shares of common stock, with a five year term, at an exercise price of $4.38 was issued to a consultant on October 28, 2013, vesting on the one year anniversary of the date of grant.

- A warrant to purchase 3,429 shares of common stock, with a five year term, at an exercise price of $5.69 was issued to a consultant on October 28, 2013, vesting in 12 equal monthly installments over the first year from the date of issuance.

- Warrants to two consultants to each purchase 8,000 shares of common stock, with a five year term, at an exercise price of $4.38 were issued on November 12, 2013, each vesting in 12 equal monthly installments over the first year from the date of issuance.

- A warrant to purchase 9,143 shares of common stock, with a five year term, at an exercise price of $4.38 was issued to a consultant on November 12, 2013, vesting in 12 equal monthly installments over the first year from the date of issuance.

- A warrant to purchase 13,714 shares of common stock, with a five year term, at an exercise price of $4.38 was issued to a consultant on November 12, 2013, vesting in 12 equal monthly installments over the first year from the date of issuance.

- Warrants to two consultants to each purchase 4,000 shares of common stock, with a five year term, at an exercise price of $5.69 were issued on November 12, 2013, each vesting in 12 equal monthly installments over the first year from the date of issuance.

- A warrant to purchase 4,571 shares of common stock, with a five year term, at an exercise price of $5.69 was issued to a consultant on November 12, 2013, vesting in 12 equal monthly installments over the first year from the date of issuance.

- A warrant to purchase 6,857 shares of common stock, with a five year term, at an exercise price of $5.69 was issued to a consultant on November 12, 2013, vesting in 12 equal monthly installments over the first year from the date of issuance.

- An option granted to Mr. Johnson, with a term of ten years, to purchase 117,125 shares of common stock, granted on November 14, 2013 with an exercise price of $3.50. The options vested as follows: (i) options to purchase 32,549 shares vested on March 28, 2014, (ii) options to purchase 41,116 shares vested on June 28, 2014; and (iii) options to purchase 43,460 shares vested on September 30, 2014.

- An option granted to a consultant to purchase 34,286 shares of common stock, granted on November 14, 2013, with an exercise price of $5.69 per share and a term of five years, vesting on the date of grant.

- An option granted to a consultant on November 15, 2013, with a term of ten years, to purchase 22,857 shares of common stock vesting as follows: (i) options to purchase 7,619 shares of common stock immediately on the date of grant with an exercise price of $3.94 per share; (ii) options to purchase 7,619 shares of common stock on the first year anniversary of the date of grant with an exercise price of $6.56 per share; and (iii) 7,619 shares of common stock on the second anniversary of the date of grant with an exercise price of $8.75 per share.

- An option granted to Mr. Johnson, with a term of ten years, to purchase 730,535 shares of common stock, granted on December 20, 2013 at an exercise price of $6.82. The options vest on the first day of each calendar quarter during the period commencing on January 1, 2014 and ending on February 4, 2016, provided that Mr. Johnson remains employed by the company on such date.

- An option granted to an employee on December 20, 2013, with a term of ten years, to purchase 50,000 shares of common stock with an exercise price of $6.82 per share vesting as follows: (i) options to purchase 12,500 shares of common stock immediately on the date of grant; and (ii) options to purchase 12,500 shares of common stock on each of the first, second, and third year anniversaries of the date of grant.

- An option granted to an employee on January 6, 2014, with a term of ten years, to purchase 50,000 shares of common stock with an exercise price of $6.99 per share. The option is scheduled to vest and become exercisable in thirds on each of the next three anniversaries of the date of grant.

- An option granted to an employee on January 6, 2014, with a term of ten years, to purchase 91,520 shares of common stock with an exercise price of $6.99 per share. The option is scheduled to vest and become exercisable in thirds on each of the next three anniversaries of the date of grant.

- An option granted to an employee on January 6, 2014, with a term of ten years, to purchase 80,000 shares of common stock with an exercise price of $6.99 per share. The option is scheduled to vest and become exercisable in thirds on each of the next three anniversaries of the date of grant.

Security Ownership of Certain Beneficial Owners and Management

The following table sets forth information with respect to the beneficial ownership of our common stock as of February 15, 2017 by:

- each person known by us to beneficially own more than 5.0% of our common stock;
- each of our directors;
- each of the named executive officers; and
- all of our directors and executive officers as a group.

The percentages of common stock beneficially owned are reported on the basis of regulations of the SEC governing the determination of beneficial ownership of securities. Under the rules of the SEC, a person is deemed to be a beneficial owner of a security if that person has or shares voting power, which includes the power to vote or to direct the voting of the security, or investment power, which includes the power to dispose of or to direct the disposition of the security. Except as indicated in the footnotes to this table, each beneficial owner named in the table below has sole voting and sole investment power with respect to all shares beneficially owned and each person's address is c/o Alliqua BioMedical, Inc., 1010 Stony Hill Road, Yardley, PA 19067. As of March 7, 2017, we had 35,109,601 shares outstanding.

Name of Beneficial Owner	Number of Shares Beneficially Owned(1)	Percentage Beneficially Owned(1)
5% Owners		
Celgene Corporation 86 Morris Avenue Summit, New Jersey 07901	8,025,194(2)	22.2%
Perceptive Advisors, LLC 499 Park Avenue, 25th Floor New York, NY 10022	3,968,165(3)	10.7%
Officers and Directors		
David I. Johnson	2,353,906(4)	6.4%
Brian M. Posner	550,013(5)	1.6%
Bradford C. Barton	653,127(6)	1.8%
Pellegrino Pionati	264,229(7)	*
Jerome Zeldis, M.D., Ph.D.	1,502,827(8)	4.2%
Winston Kung	-	-
Joseph M. Leone	162,824(9)	*
Jeffrey Sklar	132,008(10)	*
Gary Restani	62,665(11)	*
Mark Wagner	312,176(12)	*
Directors and executive officers as a group (10 persons)	5,993,775	15.6%

*Represents ownership of less than 1%

(1) Shares of common stock beneficially owned and the respective percentages of beneficial ownership of common stock assumes the exercise of all options, warrants and other securities convertible into common stock beneficially owned by such person or entity currently exercisable or exercisable within 60 days of March 1, 2017. Shares issuable pursuant to the exercise of stock options and warrants exercisable within 60 days are deemed outstanding and held by the holder of such options or warrants for computing the percentage of outstanding common stock beneficially owned by such person, but are not deemed outstanding for computing the percentage of outstanding common stock beneficially owned by any other person.

(2) Based on information contained in Amendment No. 4 to Schedule 13D filed with the SEC on March 1, 2017. Comprised of (i) 7,046,100 shares of our common stock owned directly by Celgene Corporation, and (ii) 979,094 shares of our common stock issuable to Celgene Corporation upon the exercise of warrants that are currently exercisable. Celgene Corporation is a publicly traded corporation listed on the Nasdaq Stock Market.

(3) Based on information contained in Schedule 13G/A filed on February 14, 2017. Comprised of (i) 1,921,951 shares of our common stock owned directly by Perceptive Advisors, LLC, and (ii) 2,046,214 shares of our common stock issuable to Perceptive Advisors, LLC upon the exercise of warrants that are currently exercisable.

(4) Comprised of (i) 944,535 shares of our common stock owned directly by Mr. Johnson, (ii) 1,381,153 shares of our common stock issuable to Mr. Johnson upon the exercise of vested stock options, and (iii) 28,218 shares of common stock issuable upon the exercise of warrants held by Mr. Johnson.

(5) Comprised of (i) 241,539 shares of our common stock owned directly by Mr. Posner and (ii) 308,474 shares of our common stock issuable to Mr. Posner upon the exercise of vested stock options.

(6) Comprised of (i) 245,643 shares of our common stock owned directly by Mr. Barton, (ii) 397,607 shares of our common stock issuable to Mr. Barton upon the exercise of vested stock options, and (iii) 9,877 shares of common stock issuable upon the exercise of warrants held by Mr. Barton.

(7) Comprised of (i) 230,896 shares of our common stock owned directly by Mr. Pionati and (ii) 33,333 shares of our common stock issuable to Mr. Pionati upon the exercise of vested stock options.

(8) Comprised of (i) 686,750 shares of our common stock owned directly by Dr. Zeldis, (ii) 637,237 shares of our common stock issuable to Dr. Zeldis upon the exercise of stock options that are vested or will vest within 60 days, and (iii) 178,750 shares of common stock issuable upon the exercise of warrants held by Dr. Zeldis.

(9) Comprised of (i) 18,823 shares of our common stock owned directly by Mr. Leone, (ii) 132,106 shares of our common stock issuable to Mr. Leone upon the exercise of stock options that are vested or will vest within 60 days, and (iii) 11,895 shares of common stock issuable upon the exercise of warrants held by Mr. Leone.

(10) Comprised of (i) 24,357 shares of our common stock owned directly by Mr. Sklar, (ii) 686 shares of our common stock held in a custodial account for a child, of which Mr. Sklar disclaims beneficial ownership, (iii) 95,536 shares of our common stock issuable to Mr. Sklar upon the exercise of stock options that are vested or will vest within 60 days, and (iv) 11,429 shares of common stock issuable upon the exercise of warrants held by Mr. Sklar.

(11) Comprised of shares of our common stock issuable to Mr. Restani upon the exercise of vested stock options that are vested or will vest within 60 days.

(12) Comprised of (i) 8,000 shares of our common stock owned directly by Mr. Wagner, (ii) 247,926 shares owned directly by 2003 Revocable Trust of Mark Wagner dated April 23, 2003 (the "Wagner Trust") and (iii) 56,250 shares of our common stock issuable to Mr. Wagner upon the exercise of stock options that are vested or will vest within 60 days. Mr. Wagner is the trustee and deemed to have a pecuniary interest in, and therefore to be the beneficial owner of, shares held by the Wagner Trust. The Wagner Trust acquired 174,033 shares as part of the merger consideration for the acquisition of Celleration on May 29, 2015.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Certain Relationships and Related Party Transactions

On May 29, 2015, we and each of its subsidiaries entered into the Credit Agreement with Perceptive Credit Opportunities Fund, LP ("Perceptive"), an affiliate of Perceptive Advisors, LLC, which beneficially owns more than 5% of our common stock. The Credit Agreement provided for a senior secured term loan in a single borrowing to us in the principal amount of $15.5 million. The term loan was drawn in full on May 29, 2015, and the proceeds of the term loan were used to fund the cash portion of the closing consideration for our acquisition of Celleration. The full unpaid principal amount of the term loan will mature on May 29, 2019. Prior to maturity, on the last business day of each calendar month following May 29, 2017, we will be required to make monthly principal payments of $225,000, with any remaining unpaid balance of the term loan being payable in cash on the maturity date. Accordingly, as of the date hereof, the full amount of principal remains outstanding with respect to such term loan. The outstanding principal amount of the term loan under the Credit Agreement bears interest at a rate per annum equal to the sum of (i) the greater of LIBOR and 1%, plus (ii) an applicable margin of 9.75%, and is subject to increase by 4% per annum upon the occurrence and continuance of any event of default thereunder. The repayment of the term loan and our obligations under the Credit Agreement are secured by a first priority lien on all of our existing and after acquired tangible and intangible assets, including intellectual property.

We are currently in default of a covenant pertaining to trailing twelve-month revenue under the Credit Agreement with Perceptive as a result of our failure to achieve $22,250,000 and $24,600,000 of gross revenue for the twelve-month periods ended September 30, 2016 and December 31, 2016, respectively. Under an agreement dated January 26, 2017, as amended on March 7, 2017, Perceptive agreed to forbear from exercising any rights and remedies related to the default until the earlier of April 30, 2017 or the date when Perceptive becomes aware of any other default. Perceptive reserved the rights, commencing with the occurrence of any of these events, to pursue any rights and remedies available to it, including, but not limited to, declaring all or any portion of the outstanding principal amount to be immediately due and payable, imposing a default rate of interest as specified in the credit agreement, or pursing the lender's rights and remedies as a secured party under the UCC as a secured lender. In addition, Perceptive has a lien on substantially all of our assets and, as a result of the default, may seek to foreclose on some or substantially all of our assets after the expiration of the forbearance. If Perceptive were to exercise its right to demand payment of the outstanding debt, we would not have sufficient funds to satisfy that obligation and Perceptive's exercise of its other remedies would have a material adverse effect on our operations and financial condition. In connection with the entry into the January 26, 2017 forbearance agreement, as amended on March 7, 2017, we also amended and restated the warrant issued to Perceptive in connection with the closing of the Credit Agreement on May 29, 2015. The amended and restated warrant is exercisable for 2,000,000 shares of our common stock. The amended and restated warrant is exercisable at an exercise price of $0.50. The amended and restated warrant contains a weighted average anti-dilution feature whereby the exercise price of the amended and restated warrant is subject to reduction if we issue shares of common stock (or securities convertible into common stock) in the future at a price below the current exercise price of such warrant.

On February 27, 2017, we closed a private placement of 5,540,000 shares of common stock at a purchase price of $0.50 per share, for gross proceeds of $2,770,000. Celgene Corporation, which beneficially owns more than 5% of our common stock, purchased 4,000,000 shares of common stock for a purchase price of $2,000,000, and Dr. Zeldis, the chairman of our board of directors, purchased 400,000 shares of common stock for a purchase price of $200,000 in the private placement.

On May 4, 2015, we completed an underwritten public offering of 7,582,418 shares of common at a public offering price of $4.55 per share, for aggregate gross proceeds of $34.5 million, before deducting underwriting discounts and offering expenses. The investors in the offering included Celgene Corporation, a beneficial owner of more than 5% of our common stock, which purchased 659,340 shares of common stock at $4.55 per share, for an aggregate purchase price of approximately $3.0 million.

Mark Wagner, who is a member of our board of directors, is a director of Minnetronix, Inc. ("Minnetronix"). On November 17, 2015, we entered into a manufacturing supply agreement with Minnetronix, pursuant to which Minnetronix agreed to perform manufacturing and other services in exchange for certain fees and expenses, with such amounts being variable and contingent on various factors. During the years ended December 31, 2016 and 2015, we incurred costs of approximately $491,000 and $5,000, respectively.

Director Independence

Our board of directors has determined that each of Joseph Leone, Gary Restani, Mark Wagner, Jeffrey Sklar and Jerome Zeldis, M.D., Ph.D. satisfy the requirements for independence set out in Section 5605(a)(2) of the Nasdaq Stock Market Rules and that each of these directors has no material relationship with us (other than being a director and/or stockholder). In making its independence determinations, the board of directors sought to identify and analyze all of the facts and circumstances relating to any relationship between a director, his immediate family or affiliates and our company and its affiliates and did not rely on categorical standards other than those contained in the Nasdaq rule referenced above.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The following table presents aggregate fees for professional services rendered by Marcum LLP for the fiscal years ended December 31, 2016 and 2015.

	Year Ended December 31, 2016	Year Ended December 31, 2015
Audit fees	$ 203,425	$ 260,009
Audit-related fees	29,165	51,430
Tax fees	-	7,210
Total	$ 232,590	$ 318,649

Audit Fees

Audit fees for the years ended December 31, 2016 and 2015 consist of the aggregate fees billed by Marcum LLP for the audit of the consolidated financial statements and internal control over financial reporting included in our Annual Report on Form 10-K and review of interim condensed financial statements included in the quarterly reports on Form 10-Q for the years ended December 31, 2016 and 2015. Audit fees also include services related to providing consents to fulfill the accounting firm's responsibilities under generally accepted accounting principles.

Audit-Related Fees

Audit-related fees for the year ended December 31, 2016 include services in connection with our registration statement on Form S-4 filed in November 2016 and Form S-4/A filed in December 2016. Audit-related fees for the year ended December 31, 2015 include services in connection with our registration statement on Form S-4 filed in March 2015, Form S-4/A filed in April 2015, and Form S-8 in August 2015.

Tax Fees

Marcum LLP did not provide any professional services for tax compliance, tax advice or tax planning for the year ended December 31, 2016. Tax fees for the year ended December 31, 2015 consisted of fees for tax consultation services.

Pre-Approval of Independent Registered Public Accounting Firm Fees and Services Policy

Our audit committee pre-approves all auditing and permitted non-audit services to be performed for us by our independent auditor, except for de minimis non-audit services that are approved by the audit committee prior to the completion of the audit. The audit committee may form and delegate authority to subcommittees consisting of one or more members when appropriate, including the authority to grant pre-approvals of audit and permitted non-audit services. The audit committee pre-approved all of the fees set forth in the table above.

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this report:

(1) Financial Statement Schedules:

(2) Financial Statement Schedules:
None

(3) Exhibits:
See "Index to Exhibits" for a description of our exhibits.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ALLIQUA BIOMEDICAL, INC.

By: /s/ DAVID JOHNSON
David Johnson
President and Chief Executive Officer

Date: March 14, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ DAVID JOHNSON David Johnson	President, Chief Executive Officer and Director (principal executive officer)	March 14, 2017
/s/ BRIAN M. POSNER Brian M. Posner	Chief Financial Officer, Treasurer and Secretary (principal financial and accounting officer)	March 14, 2017
/s/JEROME ZELDIS Jerome Zeldis, M.D., Ph.D.	Chairman of the Board of Directors	March 14, 2017
/s/ JOSEPH LEONE Joseph Leone	Director	March 14, 2017
/s/ WINSTON KUNG Winston Kung	Director	March 14, 2017
/s/ GARY RESTANI Gary Restani	Director	March 14, 2017
/s/ JEFFREY SKLAR Jeffrey Sklar	Director	March 14, 2017
/s/ MARK WAGNER Mark Wagner	Director	March 14, 2017

Index to Exhibits

Exhibit No.	Description
2.1	Agreement and Plan of Merger, dated May 5, 2014, by and between Alliqua, Inc., ALQA Merger Sub, Inc., Choice Therapeutics, Inc. and E. James Hutchens, as the Stockholder Representative, incorporated by reference to Exhibit 2.1 to the Form 8-K filed May 6, 2014.
2.2	Agreement and Plan of Merger, dated June 5, 2014, by and between Alliqua, Inc. and Alliqua BioMedical, Inc., incorporated by reference to Exhibit 2.1 to the Form 8-K filed June 11, 2014.
2.3**	Agreement and Plan of Merger, dated February 2, 2015, by and among Alliqua BioMedical, Inc., ALQA Cedar, Inc., Celleration, Inc. and certain representatives of the stockholders of Celleration, Inc., as identified therein, incorporated by reference to Exhibit 2.1 to the Form 8-K filed February 2, 2015.
2.4**	Contribution Agreement and Plan of Merger, dated October 5, 2016, by and among Alliqua BioMedical, Inc., Alliqua Holdings, Inc., Chesapeake Merger Corp., and Soluble Systems, LLC, incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed on October 6, 2016.
3.1	Certificate of Incorporation of Alliqua BioMedical, Inc., incorporated by reference to Exhibit 3.1 to the Form 8-K filed June 11, 2014.
3.2	Certificate of Amendment to Certificate of Incorporation of Alliqua BioMedical, Inc., incorporated by reference to Exhibit 3.3 to the Form 8-K filed June 11, 2014.
3.3	Certificate of Amendment to Certificate of Incorporation of Alliqua BioMedical, Inc., incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed on May 6, 2016.
3.4	Bylaws of Alliqua BioMedical, Inc., incorporated by reference to Exhibit 3.2 to the Form 8-K filed June 11, 2014.
4.1	Form of Warrant used in connection with February 16, 2012 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed February 21, 2012.
4.2	Form of Warrant used in connection with August 14, 2012 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed August 16, 2012.
4.3	Form of Warrant used in connection with November 8, 2012 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed November 14, 2012.
4.4	Form of Warrant used in connection with February 22, 2013 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed February 25, 2013.
4.5	Form of Warrant used in connection with April and May 2013 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed April 26, 2013.
4.6	Form of Warrant used in connection with June 28, 2013 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed July 5, 2013.
4.7	Form of $0.10 Warrant used in connection with October 22, 2013 private placement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed October 28, 2013.
4.8	Warrant issued to Celgene Corporation on November 18, 2013, incorporated by reference to Exhibit 4.12 to the Form 10-K filed December 31, 2013.
4.9	Form of Warrant used in connection with November 18, 2013 private placement, incorporated by reference to Exhibit 4.13 to the Form 10-K filed December 31, 2013.
4.10	Form of Warrant, dated April 14, 2014, by and between Alliqua, Inc. and certain accredited investors, incorporated by reference to Exhibit 10.2 to the Form 8-K filed April 15, 2014.
10.1+	2001 Incentive Stock Purchase Plan, incorporated by reference to Exhibit 10.2 to the Form S-8 filed on May 8, 2003.
10.2+	Form of Nonstatutory Stock Option Agreement under the 2001 Incentive Stock Purchase Plan, incorporated by reference to Exhibit 10.2 to the Form 10-K/A filed May 16, 2013.
10.3+	Form of Incentive Stock Option Agreement under the 2001 Incentive Stock Purchase Plan, incorporated by reference to Exhibit 10.3 to the Form 10-K/A filed May 16, 2013.
10.4+	Form of Indemnification Agreement, incorporated by reference to Exhibit 10.2 to the Form 8-K filed January 5, 2011.
10.5	Exclusive License Agreement, dated as of July 15, 2011, by and between Noble Fiber Technologies, LLC and Alliqua Biomedical, Inc., incorporated by reference to Exhibit 10.1 to the Form 8-K filed July 20, 2011.
10.6	Collateral Assignment of 510(k) Rights, dated as of July 15, 2011, by and between Noble Fiber Technologies, LLC and Alliqua Biomedical, Inc., incorporated by reference to Exhibit 10.1 to the Form 8-K filed July 20, 2011.
10.7+	2011 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.1 to the Form 8-K filed December 20, 2011.
10.8	Form of Securities Purchase Agreement, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.1 to the Form 8-K filed February 21, 2012.
10.9	Securities Purchase Agreement, dated as of August 14, 2012, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.1 to the Form 8-K filed August 16, 2012.
10.10	Securities Purchase Agreement, dated as of November 8, 2012, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.1 to the Form 8-K filed November 14, 2012.

10.11+	First Amendment to the 2011 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.1 to the Form 8-K filed December 20, 2012.
10.12+	Form of Nonstatutory Stock Option Agreement under the 2011 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.32 to the Form 10-K/A filed May 16, 2013.
10.13+	Form of Incentive Stock Option Agreement under the 2011 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.33 to the Form 10-K/A filed May 16, 2013.
10.14+	Executive Employment Agreement, dated as of February 4, 2013, between Alliqua, Inc. and David Johnson, incorporated by reference to Exhibit 10.1 to the Form 8-K filed February 7, 2013.
10.15+	Indemnification Agreement, dated as of February 4, 2013, in favor of David Johnson, incorporated by reference to Exhibit 10.3 to the Form 8-K filed February 7, 2013.
10.16	Securities Purchase Agreement, dated as of February 22, 2013, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.1 to the Form 8-K filed February 25, 2013.
10.17	Securities Purchase Agreement, dated as of April 11, 2013, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.1 to the Form 8-K filed April 26, 2013.
10.18	Securities Purchase Agreement, dated as of June 28, 2013, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.3 to the Form 8-K filed July 5, 2013.
10.19+	Nonqualified Stock Option Agreement, dated September 3, 2013, between Brian Posner and Alliqua, Inc., incorporated by reference to Exhibit 10.2 to the Form 8-K filed September 9, 2013.
10.20^	Distributor Agreement, dated September 23, 2013, by and between Sorbion GmbH & Co KG and Alliqua Biomedical, Inc., incorporated by reference to Exhibit 10.5 to the Form 10-Q filed November 12, 2013.
10.21^	License, Marketing and Development Agreement, dated as of November 14, 2013, by and between Anthrogenesis Corporation, d/b/a CCT, and Alliqua, Inc., incorporated by reference to Exhibit 10.48 to the Form 10-K filed December 31, 2013.
10.22^	Supply Agreement, dated as of November 14, 2013, by and between Anthrogenesis Corporation and Alliqua, Inc., incorporated by reference to Exhibit 10.49 to the Form 10-K filed December 31, 2013.
10.23	Stock Purchase Agreement, dated as of November 14, 2013, by and between Celgene Corporation and Alliqua, Inc., incorporated by reference to Exhibit 10.50 to the Form 10-K filed December 31, 2013.
10.24	Securities Purchase Agreement, dated as of November 18, 2013, by and among Alliqua, Inc. and certain purchasers set forth therein, incorporated by reference to Exhibit 10.51 to the Form 10-K filed December 31, 2013.
10.25	First Amendment to Executive Employment Agreement dated December 20, 2013, by and between Alliqua, Inc. and David Johnson, incorporated by reference to Exhibit 10.1 to the Form 8-K filed December 27, 2013.
10.26	Nonqualified Stock Option Agreement dated December 20, 2013, by and between Alliqua, Inc. and David Johnson, incorporated by reference to Exhibit 10.2 to the Form 8-K filed December 27, 2013.
10.27+	Form of Restricted Stock Award Agreement under the 2011 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.62 to the Form 10-K filed December 31, 2013.
10.28+	Form of Restricted Stock Award Agreement for 2013 Executive Bonuses under the 2011 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.63 to the Form 10-K filed December 31, 2013.
10.29+	Form of Nonqualified Stock Option Agreement (outside of any incentive plan), incorporated by reference to Exhibit 99.8 to the Form S-8 filed January 23, 2014.
10.30	Form of Securities Purchase Agreement, dated April 14, 2014, by and between Alliqua, Inc. and certain accredited investors, incorporated by reference to Exhibit 10.1 to the Form 8-K filed April 15, 2014.
10.31	Form of Letter Agreement, dated April 11, 2014, by and between Alliqua, Inc. and certain holders of warrants to purchase Common Stock of Alliqua, Inc., incorporated by reference to Exhibit 10.3 to the Form 8-K filed April 15, 2014.
10.32+	Alliqua BioMedical, Inc. 2014 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.1 to the Form 8-K filed June 11, 2014.
10.33^	Supply Agreement, dated April 10, 2014, by and between Alliqua, Inc. and Anthrogenesis Corporation, d/b/a Celgene Cellular Therapeutics, incorporated by reference to Exhibit 10.4 to the Form 10-Q filed August 11, 2014.
10.34^	First Amendment to Supply Agreement, dated April 10, 2014 by and between Alliqua, Inc. and Anthrogenesis Corporation, d/b/a Celgene Cellular Therapeutics, incorporated by reference to Exhibit 10.5 to the Form 10-Q filed August 11, 2014.
10.35^	First Amendment to License, Marketing and Development Agreement, dated September 30, 2014, by and between Alliqua, Inc. and Anthrogenesis Corporation, d/b/a Celgene Cellular Therapeutics, incorporated by reference to Exhibit 10.1 to the Form 10-Q filed November 5, 2014.
10.36^	Second Amendment to Supply Agreement, dated September 30, 2014, by and between Alliqua, Inc. and Anthrogenesis Corporation, d/b/a Celgene Cellular Therapeutics, incorporated by reference to Exhibit 10.2 to the Form 10-Q filed November 5, 2014.

10.37	Voting Agreement, dated February 2, 2015, by and between Alliqua BioMedical, Inc. and each of the stockholders of Celleration, Inc., as identified therein, incorporated by reference to Exhibit 10.1 to Amendment No. 1 to Registration Statement on Form S-4 filed on April 2, 2015.
10.38	Commitment Letter, dated February 2, 2015, by and between Perceptive Credit Opportunities Fund, LP and Alliqua BioMedical, Inc., incorporated by reference to Exhibit 10.2 to Amendment No. 1 to Registration Statement on Form S-4 filed on April 2, 2015.
10.39	Side Letter Agreement to Commitment Letter, dated March 10, 2015, by and between Perceptive Credit Opportunities Fund, LP and Alliqua BioMedical, Inc., incorporated by reference to Exhibit 10.3 to Amendment No. 1 to Registration Statement on Form S-4 filed on April 2, 2015.
10.40^	Second Amendment to the License, Marketing and Development Agreement, dated April 30, 2015, by and between Alliqua BioMedical, Inc. and Anthrogenesis Corporation, d/b/a Celgene Cellular Therapeutics, incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 6, 2015.
10.41+	First Amendment to the Alliqua BioMedical, Inc. 2014 Long-Term Incentive Plan, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on May 6, 2015.
10.42+	Form of Incentive Stock Option Agreement under the 2014 Long-Term Incentive Plan, incorporated by reference to Exhibit 99.3 to the Form S-8 filed August 6, 2015.
10.43+	Form of Nonqualified Stock Option Agreement under the 2014 Long-Term Incentive Plan, incorporated by reference to Exhibit 99.4 to the Form S-8 filed August 6, 2015.
10.44+	Form of Restricted Stock Award Agreement under the 2014 Long-Term Incentive Plan, incorporated by reference to Exhibit 99.5 to the Form S-8 filed August 6, 2015.
10.45+	Form of Restricted Stock Unit Agreement under the 2014 Long-Term Incentive Plan, incorporated by reference to Exhibit 99.6 to the Form S-8 filed August 6, 2015.
10.46	Credit Agreement and Guaranty, dated May 29, 2015, by and among Alliqua BioMedical, Inc., Perceptive Credit Opportunities Fund, LP and those certain subsidiary guarantors party thereto, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 1, 2015.
10.47	Pledge and Security Agreement, dated May 29, 2015, by and among Alliqua BioMedical, Inc., Perceptive Credit Opportunities Fund, LP and those certain subsidiary guarantor party thereto, incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 1, 2015.
10.48	Warrant, dated May 29, 2015, by and between Alliqua BioMedical, Inc. and Perceptive Credit Opportunities Fund, LP, incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 1, 2015.
10.49+	Employment Agreement, dated June 3, 2015, by and between Alliqua BioMedical, Inc. and Nino Pionati, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 9, 2015.
10.50+	Employment Agreement, dated June 5, 2015, by and between Alliqua BioMedical, Inc. and Brian Posner, incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 9, 2015
10.51+	Employment Agreement, dated June 5, 2015, by and between Alliqua BioMedical, Inc. and Bradford Barton, incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on June 9, 2015.
10.52	First Amendment to Distributor Agreement, dated July 31, 2015, by and between Alliqua BioMedical, Inc. and BSN Medical, Inc., an affiliate of Sorbion GmbK & Co KG, incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 5, 2015.
10.53	Purchase Agreement, dated June 30, 2016, by and between Alliqua BioMedical, Inc. and BSN medical, Inc., incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 9, 2016.
10.54	Transition Agreement, dated June 30, 2016, by and between Alliqua BioMedical, Inc. and BSN medical, Inc., incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 9, 2016.
10.55	Consent Agreement, dated August 25, 2016, by and among Alliqua BioMedical, Inc., certain subsidiaries set forth on the signature pages thereto, and Perceptive Credit Holdings, L.P., incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 4, 2016.
10.56	Forbearance and Amendment Agreement, dated January 26, 2017, by and among Alliqua BioMedical, Inc., AquaMed Technologies, Inc. and Perceptive Credit Holdings, LP., incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on January 30, 2017.

10.57	Amended Warrant, dated January 26, 2017, by and between Alliqua BioMedical, Inc. and Perceptive Credit Holdings, LP., incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on January 30, 2017.
10.58	Form of Securities Purchase Agreement, dated February 27, 2017, by and between Alliqua BioMedical, Inc. and certain accredited investors, incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on February 28, 2017.
10.59	Amendment No. 1 to Forbearance and Amendment Agreement, dated March 7, 2017, by and among Alliqua BioMedical, Inc., AquaMed Technologies, Inc. and Perceptive Credit Holdings, LP., incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on March 13, 2017.
10.60	Amended Warrant, dated March 7, 2017, by and between Alliqua BioMedical, Inc. and Perceptive Credit Holdings, LP., incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K filed with the Securities and Exchange Commission on March 13, 2017.
21.1*	List of Subsidiaries
23.1*	Consent of Independent Registered Public Accounting Firm to the Form 10-K.
31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of Sarbanes-Oxley Act of 2002
31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of Sarbanes-Oxley Act of 2002
32.1*	Certification of Chief Executive Officer Pursuant to Section 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Chief Financial Officer Pursuant to Section 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101*	The following materials from the Company's Annual Report on Form 10-K for the year ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language), (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Stockholders' Equity, (iv) Consolidated Statements of Cash Flows, and (v) Notes to the Consolidated Financial Statements

* Filed herewith.

**Certain exhibits and schedules have been omitted and the Company agrees to furnish supplementally to the Securities and Exchange Commission a copy of any omitted exhibits upon request.

^ Confidential treatment has been granted with respect to certain portions of this exhibit.

+ Management contract or compensatory plan or arrangement.

ALLIQUA BIOMEDICAL, INC. AND SUBSIDIARIES
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Audit Committee of the
Board of Directors and Shareholders of
Alliqua BioMedical, Inc. and Subsidiaries

We have audited the accompanying consolidated balance sheets of Alliqua BioMedical, Inc. and Subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, stockholders' equity and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, 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. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Alliqua BioMedical, Inc. and Subsidiaries, as of December 31, 2016 and 2015, and the consolidated results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 3 to the financial statements, the Company has experienced recurring losses since inception and as of December 31, 2016, the Company was in default of a covenant pertaining to trailing twelve-month revenue under a credit agreement. These conditions raise substantial doubt about the Company's ability to continue as a going concern. Management's plans regarding these matters are also described in Note 3. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Marcum LLP

Marcum llp
New York, NY
March 14, 2017

ALLIQUA BIOMEDICAL, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	December 31, 2016	December 31, 2015
ASSETS:		
Current Assets:		
Cash and cash equivalents	$ 5,580	$ 26,080
Accounts receivable, net	2,760	2,060
Inventory, net	2,702	2,275
Prepaid expenses and other current assets	735	942
Current assets of discontinued operations	-	1,315
Total current assets	11,777	32,672
Improvements and equipment, net	2,092	1,847
Intangible assets, net	28,498	33,667
Goodwill, net	11,959	21,166
Other assets	173	173
Assets of discontinued operations - noncurrent	-	227
Total assets	$ 54,499	$ 89,752
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 2,612	$ 2,594
Accrued expenses and other current liabilities	5,286	3,071
Contingent consideration, current	675	2,573
Senior secured term loan, net	11,541	-
Warrant liability	20	861
Current liabilities of discontinued operations	-	103
Total current liabilities	20,134	9,202
Senior secured term loan, net	-	12,126
Contingent consideration, long-term	1,141	14,455
Deferred tax liability	749	1,468
Other long-term liabilities	385	76
Total liabilities	22,409	37,327
Commitments and Contingencies		
Stockholders' Equity		
Preferred Stock, par value $0.001 per share, 1,000,000 shares authorized, no shares issued and outstanding	-	-
Common Stock, par value $0.001 per share, 95,000,000 shares authorized; 29,669,036 and 27,668,913 shares issued and outstanding as of December 31, 2016 and December 31, 2015, respectively	30	28
Additional paid-in capital	156,363	148,457
Accumulated deficit	(124,303)	(96,060)
Total stockholders' equity	32,090	52,425
Total liabilities and stockholders' equity	$ 54,499	$ 89,752

The accompanying notes are an integral part of these consolidated financial statements.

ALLIQUA BIOMEDICAL, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)

	Year Ended December 31,	
	2016	**2015**
Revenue, net of returns, allowances and discounts	$ 18,240	$ 12,177
Cost of revenues	6,655	5,227
Gross profit	11,585	6,950
Operating expenses		
Selling, general and administrative	37,125	34,340
Research and product development	859	715
Milestone expense to licensor	1,000	-
Acquisition-related	2,959	2,876
Change in fair value of contingent consideration liability	(10,065)	(1,474)
Impairment charges	10,895	-
Total operating expenses	42,773	36,457
Loss from operations	(31,188)	(29,507)
Other (expense) income		
Interest expense	(2,541)	(1,565)
Interest income	42	42
Change in fair value of warrant liability	841	2,095
Loss on early extinguishment of debt	(373)	-
Other income	100	-
Total other (expense) income	(1,931)	572
Loss from continuing operations before tax	(33,119)	(28,935)
Income tax benefit	715	1,718
Loss from continuing operations	(32,404)	(27,217)
Discontinued operations:		
Income from discontinued operations, net of tax of $0 for the years ended December 31, 2016 and 2015	850	1,200
Gain on sale of assets, net of tax of $0 for the years ended December 31, 2016 and 2015	3,311	-
Income from discontinued operations, net of tax	4,161	1,200
Net loss	$ (28,243)	$ (26,017)
Net loss per basic and diluted common share:		
Loss from continuing operations	$ (1.16)	$ (1.18)
Discontinued operations		
Income from discontinued operations	0.03	0.05
Gain on sale of assets	0.12	-
Total from discontinued operations	0.15	0.05
Net loss per basic and diluted common share	$ (1.01)	$ (1.13)
Weighted average shares used in computing basic and diluted net loss per common share	27,965,626	23,061,931

The accompanying notes are an integral part of these consolidated financial statements.

ALLIQUA BIOMEDICAL, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except for share and per share data)

	Common Stock		Additional Paid-in	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Deficit	Equity
Balance, December 31, 2014	16,202,689	$ 16	$ 92,538	$ (70,043)	$ 22,511
Issuance of common stock for the purchase of Celleration, Inc.	3,168,229	3	15,204	-	15,207
Issuance of common stock for cash, net of issuance costs of $2,303,461	7,582,418	8	32,189	-	32,197
Exercise of common stock options	75,919	-	332	-	332
Cashless exercise of warrants	8,970	-	-	-	-
Extinguishment of warrant liability	-	-	32	-	32
Stock-based compensation	720,000	1	8,633	-	8,634
Net settlement on vesting of restricted stock awards	(89,312)	-	(471)	-	(471)
Net loss	-	-	-	(26,017)	(26,017)
Balance, December 31, 2015	27,668,913	$ 28	$ 148,457	$ (96,060)	$ 52,425
Stock-based compensation (A)	1,016,527	1	5,336	-	5,337
Issuance of common stock in connection with the contingent consideration of the Celleration, Inc. acquisition (B)	985,936	1	2,572	-	2,573
Net settlement on vesting of restricted stock awards	(2,340)	-	(2)	-	(2)
Net loss	-	-	-	(28,243)	(28,243)
Balance, December 31, 2016	29,669,036	$ 30	$ 156,363	$ (124,303)	$ 32,090

(A) Includes $474,000 that was part of accrued expenses as of December 31, 2015, which was credited to equity upon the issuance of 324,561 restricted common shares during the year ended December 31, 2016.

(B) Includes $2.6 million that was part of contingent consideration as of December 31, 2015, which was credited to equity upon the issuance of 985,936 common shares during the year ended December 31, 2016.

The accompanying notes are an integral part of these consolidated financial statements.

ALLIQUA BIOMEDICAL, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,	
	2016	**2015**
Operating Activities		
Net loss	$ (28,243)	$ (26,017)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	4,167	2,867
Amortization of deferred lease incentive	(42)	(8)
Lease incentive	267	-
Impairment charges	10,895	-
Deferred income tax benefit	(719)	(1,718)
Provision for doubtful accounts	38	108
Reserve for note receivable	1,020	-
Provision for excess and slow moving inventory	(58)	58
Stock-based compensation expense	4,863	8,634
Deferred rent	84	-
Accrued interest receivable	(19)	-
Amortization of debt issuance and debt discount costs	841	565
Loss on early extinguishment of debt	321	-
Change in fair value of warrant liability	(841)	(2,095)
Fair value adjustment of contingent consideration liability	(10,065)	(1,474)
Gain on sale of assets	(3,311)	-
Changes in operating assets and liabilities:		
Accounts receivable	(281)	(780)
Inventory	(113)	(1,438)
Prepaid expenses and other assets	207	(257)
Accounts payable	(26)	572
Accrued expenses and other current liabilities	2,680	(639)
Net Cash Used in Operating Activities	(18,335)	(21,622)
Investing Activities		
Proceeds from sale of assets	4,103	-
Purchase of improvements and equipment	(893)	(423)
Acquisition of business, net of cash acquired	-	(14,948)
Issuance of note	(1,000)	-
Net Cash Provided by (Used in) Investing Activities	2,210	(15,371)
Financing Activities		
Contingent purchase price payments	(2,573)	-
Repayment of long-term debt	(1,748)	-
Prepayment penalty	(52)	-
Net proceeds from issuance of common stock	-	32,197
Net proceeds from long-term debt	-	14,244
Proceeds from the exercise of stock options	-	332
Payment of withholding taxes related to stock-based employee compensation	(2)	(471)
Net Cash (Used in) Provided by Financing Activities	(4,375)	46,302
Net (Decrease) Increase in Cash and Cash Equivalents	(20,500)	9,309
Cash and Cash Equivalents - Beginning of year	26,080	16,771
Cash and Cash Equivalents - End of year	$ 5,580	$ 26,080
Supplemental Disclosure of Cash Flows Information		
Cash paid during the period for:		
Interest	$ 1,599	$ 1,000
Non-cash investing and financing activities:		
Extinguishment of warrant liability due to cashless warrant exercise	$ -	$ 31
2015 Accrued bonus awarded in equity	474	-
Common stock issued for contingent purchase price payments	2,573	-
Acquisition of business:		
Current assets, excluding cash and cash equivalents	$ -	$ 1,836
Intangibles	-	31,952

Goodwill	-	17,066
Liabilities assumed	-	(2,066)
Deferred tax liability	-	(3,122)
Contingent consideration	-	(15,570)
Issuance of common stock for acquisition	-	(15,208)

The accompanying notes are an integral part of these consolidated financial statements.

ALLIQUA BIOMEDICAL, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business and Basis of Presentation

Alliqua BioMedical, Inc. (the "Company") is a regenerative technologies company that commercializes differentiated regenerative medical products which assist the body in the repair of human tissue.

On October 5, 2016, the Company entered into a merger agreement to acquire the business of Soluble Systems, LLC ("Soluble") through a series of transactions. On February 27, 2017, the Company terminated this agreement, due to its inability to secure the requisite financing to meet the closing conditions of the merger agreement. The merger agreement was contingent upon the Company securing debt or equity financing, or a combination thereof, that results in gross proceeds of at least $45 million, inclusive of any current indebtedness of Soluble or the Company that is assumed, restructured or refinanced by the combined company.

Principles of Consolidation

The accompanying consolidated financial statements include the financial statements of the Company and its wholly-owned subsidiaries, AquaMed Technologies, Inc., Alliqua Holdings, Inc. and Chesapeake Merger Corp. All significant inter-company transactions and accounts have been eliminated in consolidation.

Reclassifications

Certain amounts in prior periods have been reclassified to conform to the current year presentation. Such reclassifications did not have a material effect on the Company's financial condition or results of operations as previously reported.

2. Summary of Significant Accounting Policies

Use of Estimates in the Financial Statements

The preparation of the consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. These estimates and assumptions include valuing equity securities and derivative financial instruments issued in financing transactions, allowance for doubtful accounts, inventory reserves, deferred taxes and related valuation allowances, and the fair values of long lived assets, intangibles, goodwill and contingent consideration. Actual results could differ from the estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. The Company's balance of cash and cash equivalents at December 31, 2016 and 2015 consisted principally of bank deposits. From time to time, the Company's cash account balances may be uninsured or in deposit accounts that exceed Federal Deposit Insurance Corporation guarantee limit. The Company reduces its exposure to credit risk by maintaining its cash deposits with major financial institutions and monitoring their credit ratings.

Trade Accounts Receivable

Trade accounts receivable are stated at the amount the Company expects to collect and do not bear interest. The Company evaluates the collectability of accounts receivable based on a combination of factors. In circumstances where a specific customer is unable to meet its financial obligations to the Company, a provision to the allowances for doubtful accounts is recorded against amounts due to reduce the net recognized receivable to the amount that is reasonably expected to be collected. For all other customers, a provision to the allowances for doubtful accounts is recorded based on factors including the length of time the receivables are past due, the current business environment and the Company's historical experience. Provisions to the allowances for doubtful accounts are recorded to selling, general and administrative expenses. Account balances are charged off against the allowance when it is probable that the receivable will not be recovered. The allowance for doubtful accounts was approximately $213,000 and $175,000 as of December 31, 2016 and 2015, respectively.

Inventory

Inventory is stated at the lower of cost, the value determined by the first-in, first-out method, or market. At each balance sheet date, the Company evaluates inventories for excess quantities, obsolescence or shelf life expiration. This evaluation includes analysis of historical sales levels by product, projections of future demand, the risk of technological or competitive obsolescence for products, general market conditions, and a review of the shelf life expiration dates for products. To the extent that management determines there are excess or obsolete inventory or quantities with a shelf life that is too near its expiration for the Company to reasonably expect that it can sell those products prior to their expiration, the Company adjusts the carrying value to estimated net realizable value.

Improvements and Equipment

Improvements and equipment are recorded at cost. Depreciation of equipment is computed utilizing the straight-line method over the estimated useful lives of the assets. Amortization of leasehold improvements is computed utilizing the straight-line method over the lesser of the lease term or the estimated useful life. Repairs and maintenance costs are expensed as incurred. The cost of major additions and improvements is capitalized, while maintenance and repair costs that do not improve or extend the lives of the respective assets are charged to operations as incurred.

Goodwill and Other Indefinite-Lived Intangible Assets

The Company records goodwill and other indefinite-lived assets in connection with business combinations. Goodwill, which represents the excess of acquisition cost over the fair value of the net tangible and intangible assets of acquired companies, is not amortized. Indefinite-lived assets are stated at fair value as of the date acquired in a business combination.

The Company assesses the recoverability of goodwill and certain indefinite-lived intangible assets annually in the fourth quarter and between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Impairment testing for goodwill is done at a reporting unit level. Under Financial Accounting Standards Board ("FASB") guidance for goodwill and intangible assets, a reporting unit is defined as an operating segment or one level below the operating segment, called a component. However, two or more components of an operating segment will be aggregated and deemed a single reporting unit if the components have similar economic characteristics. The Company operates as one reporting unit.

Authoritative accounting guidance allows the Company to first assess qualitative factors to determine whether it is necessary to perform the more detailed two-step quantitative goodwill impairment test. The Company performs the quantitative test if its qualitative assessment determined it is more likely than not that a reporting unit's fair value is less than its carrying amount. The Company may elect to bypass the qualitative assessment and proceed directly to the quantitative test for any reporting unit or asset. The quantitative goodwill impairment test, if necessary, is a two-step process. The first step is to identify the existence of a potential impairment by comparing the fair value of a reporting unit (the estimated fair value of a reporting unit is calculated using a discounted cash flow model) with its carrying amount, including goodwill. If the fair value of a reporting unit exceeds its carrying amount, the reporting unit's goodwill is considered not to be impaired and performance of the second step of the quantitative goodwill impairment test is unnecessary. However, if the carrying amount of a reporting unit exceeds its fair value, the second step of the quantitative goodwill impairment test is performed to measure the amount of impairment loss to be recorded, if any. The second step of the quantitative goodwill impairment test compares the implied fair value of the reporting unit's goodwill with the carrying amount of that goodwill. If the carrying amount of the reporting unit's goodwill exceeds its implied fair value, an impairment loss is recognized in an amount equal to that excess. The implied fair value of goodwill is determined using the same approach as employed when determining the amount of goodwill that would be recognized in a business combination. That is, the fair value of the reporting unit is allocated to all of its assets and liabilities as if the reporting unit had been acquired in a business combination and the fair value was the purchase price paid to acquire the reporting unit.

For the 2016 annual goodwill and certain indefinite-lived intangible assets impairment tests, the Company elected to bypass the qualitative assessment and proceeded directly to the quantitative analysis using a discounted cash flow method to estimate fair value. As a result of this test, the Company's goodwill was determined to be impaired and an impairment charge of $9.2 million was recorded for the year ended December 31, 2016. Additionally, the Company's indefinite-lived intangible asset related to the MIST Therapy tradename was also impaired and an impairment charge of $1.7 million was recorded for the year ended December 31, 2016. Total non-cash impairment charges related to goodwill and indefinite-lived intangible assets of $10.9 million is included in impairment charges in the consolidated statement of operations for the year ended December 31, 2016. The impairment charge was triggered by the Company's significant and sustained decline in stock price and resulting market capitalization. The revenue from the Company's portfolio of advanced wound care technologies was less than anticipated. Based on revised forecasts, the fair value of the Company was calculated to be less than the amounts assigned to the Company's assets and liabilities, resulting in an impairment in goodwill as of December 31, 2016. The impairment charge related to the tradename was calculated based on the fair value of the MIST Therapy tradename as compared to the carrying value of the MIST Therapy tradename as of December 31, 2016. No impairment was deemed to exist as of December 31, 2015.

At December 31, 2016 the remaining recorded goodwill was $12.0 million compared to $21.2 million at December 31, 2015. The changes in the carrying amount of goodwill for the years ended December 31, 2016 and 2015, are as follows (in thousands):

	Goodwill
Balance as of December 31, 2014	$ 4,100
Goodwill acquired (1)	17,066
Balance as of December 31, 2015	$ 21,166
Impairment loss	(9,207)
Balance as of December 31, 2016	$ 11,959

(1) Goodwill acquired as a result of the acquisition of Celleration in May 2015. See Note 5 – *Acquisitions* for further information on the acquisition.

Long-Lived Assets

Long-lived assets, such as property and equipment, and intangibles subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company's long-lived intangible assets primarily consist of developed technology, customer lists/relationships, non-compete agreements, trade names and trademarks and are amortized ratably over a range of one to ten years which approximates customer attrition rate and technology obsolescence. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized of the amount by which the carrying amount of the asset exceeds the fair value of the asset.

The Company continually evaluates whether events or changes in circumstances might indicate that the remaining estimated useful life of long-lived assets may warrant revision, or that the remaining balance may not be recoverable. When factors indicate that long-lived assets should be evaluated for possible impairment, the Company uses an estimate of the related undiscounted cash flows in measuring whether the long-lived asset should be written down to fair value. Measurement of the amount of impairment is based on generally accepted valuation methodologies, as deemed appropriate. The factors used to determine fair value are subject to management's judgement and expertise and include, but are not limited to, the present value of future cash flows, net of estimated operating costs, anticipated capital expenditures and various discount rates commensurate with the risk and current market conditions associated with realizing the expected cash flows projected. There were no long-lived asset impairment charges recorded during the years ended December 31, 2016 or 2015, other than the impairment of the MIST Therapy tradename during the year ended December 31, 2016 described above and in Note 10-*Intangible Assets*.

Fair Value of Financial Instruments

The carrying amounts reported in the consolidated balance sheets for cash and cash equivalents, accounts receivable and accounts payable and accrued expenses approximate fair value based on the short-term maturity of these instruments.

Fair value is defined as the price that would be received upon selling an asset or the price paid to transfer a liability on the measurement date. It focuses on the exit price in the principal or most advantageous market for the asset or liability in an orderly transaction between willing market participants. A three-tier fair value hierarchy is established as a basis for considering such assumptions and for inputs used in the valuation methodologies in measuring fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair values are as follows:

Level 1: Observable prices in active markets for identical assets and liabilities.

Level 2: Observable inputs other than quoted prices in active markets for identical assets and liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets and liabilities.

Revenue Recognition

Revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred, title and risk of loss have passed to the customer, there is a fixed or determinable sales price, and collectability of that sales price is reasonably assured. The Company also recognizes revenue under a variety of rental programs of the MIST Therapy system, which is recognized over the term of the rental agreement.

Cost of Goods Sold and Selling, General and Administrative Expenses

Costs associated with the production and procurement of product are included in cost of goods sold, including shipping and handling costs such as inbound freight costs, purchasing and receiving costs, inspection costs and other product procurement related charges. All other expenses are included in selling, general and administrative expenses, as the predominant expenses associated therewith are general and administrative in nature.

Advertising

Advertising costs are expensed as incurred and are included in selling, general and administrative expenses. Advertising expenses for the years ended December 31, 2016 and 2015 were approximately $2.4 million and $2.1 million, respectively.

Shipping and Handling

Amounts billed to customers for shipping and handling are included in revenues. The related shipping and freight charges incurred by the Company are included in cost of goods sold and were not material for either the years ended December 31, 2016 or 2015.

Research and Development

All research and product development costs are expensed as incurred. For the year ended December 31, 2016 and 2015, the Company incurred research and development costs of approximately $859,000 and $715,000, respectively, related to a randomized controlled trial for our Biovance product in chronic diabetic foot wounds.

Income Taxes

The Company accounts for income taxes pursuant to the asset and liability method which requires us to recognize current tax liabilities or receivables for the amount of taxes we estimate are payable or refundable for the current year and deferred tax assets and liabilities for the expected future tax consequences attributable to temporary differences between the financial statement carrying amounts and their respective tax bases of assets and liabilities and the expected benefits of net operating loss and 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. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in operations in the period enacted. A valuation allowance is provided when it is more likely than not that a portion or all of a deferred tax asset will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income and the reversal of deferred tax liabilities during the period in which related temporary differences become deductible.

The Company adopted the provisions of Accounting Standards Codification Topic 740 ("ASC 740") related to the accounting for uncertainty in income taxes recognized in an enterprise's consolidated financial statements. ASC 740 prescribes a comprehensive model for the financial statement recognition, measurement, presentation and disclosure of uncertain tax positions taken or expected to be taken in income tax returns.

The benefit of tax positions taken or expected to be taken in the Company's income tax returns are recognized in the financial statements if such positions are more likely than not of being sustained upon examination by taxing authorities. Differences between tax positions taken or expected to be taken in a tax return and the benefit recognized and measured pursuant to the interpretation are referred to as "unrecognized benefits". A liability is recognized (or amount of net operating loss carryover or amount of tax refundable is reduced) for an unrecognized tax benefit because it represents an enterprise's potential future obligation to the taxing authority for a tax position that was not recognized as a result of applying the provisions of ASC 740. Interest costs and related penalties related to unrecognized tax benefits are required to be calculated, if applicable. The Company's policy is to classify assessments, if any, for tax related interest as interest expense and penalties as selling, general and administrative expenses. No interest or penalties were recorded during the years ended December 31, 2016 and 2015. As of December 31, 2016 and December 31, 2015, no liability for unrecognized tax benefits was required to be reported. The Company does not expect any significant changes in its unrecognized tax benefits in the next year.

Common Stock Purchase Warrants

The Company assesses classification of common stock purchase warrants at each reporting date to determine whether a change in classification between assets and liabilities or equity is required. The Company's free standing derivatives consist of warrants to purchase common stock that were issued pursuant to a Securities Purchase Agreement on November 8, 2012 and pursuant to a Credit Agreement on May 29, 2015. The Company evaluated the common stock purchase warrants to assess their proper classification in the consolidated balance sheet and determined that the common stock purchase warrants contain exercise reset provisions. Accordingly, these instruments have been classified as warrant liabilities in the accompanying consolidated balance sheets as of December 31, 2016 and 2015. The Company re-measures warrant liabilities at each reporting and exercise date, with changes in fair value recognized in earnings for each reporting period.

Stock-Based Compensation

The Company measures the cost of services received in exchange for an award of equity instruments based on the fair value of the award. For employees and directors, the fair value of the award is measured on the grant date and for non-employees, the fair value of the award is generally re-measured on interim financial reporting dates and vesting dates until the service period is complete. The fair value amount is then recognized over the period services are required to be provided in exchange for the award, usually the vesting period. The Company recognizes stock-based compensation expense on a graded-vesting basis over the requisite service period for each separately vesting tranche of each award. Stock-based compensation expense is reflected within cost of revenues and operating expenses in the consolidated statements of operations. The Company recognizes stock-based compensation expense for awards with performance conditions if and when the Company concludes that it is probable that the performance condition will be achieved. The Company reassesses the probability of vesting at each reporting period for awards with performance conditions and adjusts stock-based compensation expense based on its probability assessment.

Recent Accounting Principles

In January 2017, the FASB issued Accounting Standards Update (ASU) 2017-04: "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"), which removes Step 2 from the goodwill impairment test. It is effective for annual and interim periods beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment test performed with a measurement date after January 1, 2017. The Company does not expect this new guidance to have a material impact on its financial positions or results of operations.

In January 2017, the FASB issued ASU 2017-01 "Business Combinations (Topic 805): Clarifying the Definition of a Business", which clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The standard introduces a screen for determining when assets acquired are not a business and clarifies that a business must include, at a minimum, an input and a substantive process that contribute to an output to be considered a business. This standard is effective for fiscal years beginning after December 15, 2017, including interim periods within that reporting period. The Company does not expect this new guidance to have a material impact on its financial position, results of operations or financial statement disclosures.

In December 2016, the FASB issued ASU 2016-18 “Statement of Cash Flows (Topic 230): Restricted Cash (a consensus of the FASB Emerging Issues Task Force,” which clarifies the presentation requirements of restricted cash within the statement of cash flows. The changes in restricted cash and restricted cash equivalents during the period should be included in the beginning and ending cash and cash equivalents balance reconciliation on the statement of cash flows. When cash, cash equivalents, restricted cash or restricted cash equivalents are presented in more than one line item within the statement of financial position, an entity shall calculate a total cash amount in a narrative or tabular format that agrees to the amount shown on the statement of cash flows. Details on the nature and amounts of restricted cash should also be disclosed. This standard is effective for fiscal years beginning after December 15, 2017, including interim periods within that reporting period. The Company does not expect this new guidance to have a material impact on its financial position or results of operations.

In August 2016, the FASB issued ASU No. 2016-15, “Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments.” ASU No. 2016-15 clarifies and provides specific guidance on eight cash flow classification issues that are not currently addressed by current GAAP and thereby reduce the current diversity in practice. ASU No. 2016-15 is effective for public business entities for annual periods, including interim periods within those annual periods, beginning after December 15, 2017, with early application permitted. This guidance is applicable to the Company’s fiscal year beginning January 1, 2018. The Company does not anticipate that this guidance will have a material impact on its consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, “Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting” (“ASU 2016-09”). The standard is intended to simplify several areas of accounting for share-based compensation arrangements, including the income tax impact, classification on the statement of cash flows and forfeitures. ASU 2016-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016, which for the Company will commence with the year beginning January 1, 2018, with early adoption permitted commencing January 1, 2017. The Company is currently evaluating the standard to determine the impact of its adoption on the consolidated financial statements.

In February 2016, the FASB issued Accounting Standards Update 2016-02, “Leases (Topic 842)” (“ASU 2016-02”). The standard requires a lessee to recognize assets and liabilities on the balance sheet for leases with lease terms greater than 12 months. The standard is effective for annual reporting periods beginning after December 15, 2018, which for the Company will commence with the year beginning January 1, 2019, with early application permitted. The adoption will require a modified retrospective approach for leases that exist or are entered into after the beginning of the earliest period presented. The Company is currently evaluating the standard to determine the impact of the adoption on the consolidated financial statements.

In November 2015, the FASB issued Accounting Standards Update 2015-17, “Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes” (“ASU 2015-07”), an update to accounting guidance to simplify the presentation of deferred income taxes. The guidance requires an entity to classify all deferred tax liabilities and assets, along with any valuation allowance, as noncurrent in the balance sheet. The guidance is effective for public companies with annual reporting periods beginning after December 15, 2016, including interim periods within that reporting period. Early application is permitted. The Company has elected to early adopt ASU 2015-17 during the year ended December 31, 2015 with retrospective application. The adoption of ASU 2015-17 did not have a material impact on the Company’s consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15, “Disclosure of Uncertainties about an Entity’s Ability to Continue as a Going Concern”. ASU 2014-15 is intended to define management’s responsibility to evaluate whether there is substantial doubt about an organization’s ability to continue as a going concern and to provide related footnote disclosures. For all entities, the ASU is effective for annual periods ending after December 15, 2016 and interim periods within annual periods beginning after December 15, 2016. Early adoption is permitted. The Company adopted this standard for the year ended December 31, 2016.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers (Topic 606)" ("ASU 2014-09"). ASU 2014-09 supersedes the revenue recognition requirements in ASC Topic 605, "Revenue Recognition" and some cost guidance included in ASC Subtopic 605-35, "Revenue Recognition - Construction-Type and Production-Type Contracts." The core principle of ASU 2014-09 is that revenue is recognized when the transfer of goods or services to customers occurs in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. ASU 2014-09 requires the disclosure of sufficient information to enable readers of the Company's financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts. ASU 2014-09 also requires disclosure of information regarding significant judgments and changes in judgments, and assets recognized from costs incurred to obtain or fulfill a contract. ASU 2014-09 provides two methods of retrospective application. The first method would require the Company to apply ASU 2014-09 to each prior reporting period presented. The second method would require the Company to retrospectively apply ASU 2014-09 with the cumulative effect recognized at the date of initial application. ASU 2014-09 will be effective for the Company beginning in fiscal 2019 as a result of ASU 2015-14, "Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date," which was issued by the FASB in August 2015 and extended the original effective date by one year. The Company is currently evaluating the impact of adopting the available methodologies of ASU 2014-09 and 2015-14 upon its financial statements in future reporting periods. The Company has not yet selected a transition method. The Company is in the process of evaluating the new standard against its existing accounting policies, including the timing of revenue recognition, and its contracts with customers to determine the effect the guidance will have on its financial statements and what changes to systems and controls may be warranted.

There have been four new ASUs issued amending certain aspects of ASU 2014-09, ASU 2016-08, "Principal versus Agent Considerations (Reporting Revenue Gross Versus Net)," was issued in March, 2016 to clarify certain aspects of the principal versus agent guidance in ASU 2014-09. In addition, ASU 2016-10, "Identifying Performance Obligations and Licensing," issued in April 2016, amends other sections of ASU 2014-09 including clarifying guidance related to identifying performance obligations and licensing implementation. ASU 2016-12, "Revenue from Contracts with Customers - Narrow Scope Improvements and Practical Expedients" provides amendments and practical expedients to the guidance in ASU 2014-09 in the areas of assessing collectability, presentation of sales taxes received from customers, noncash consideration, contract modification and clarification of using the full retrospective approach to adopt ASU 2014-09. Finally, ASU 2016-20, "Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers," was issued in December 2016, and provides elections regarding the disclosures required for remaining performance obligations in certain cases and also makes other technical corrections and improvements to the standard. With its evaluation of the impact of ASU 2014-09, the Company will also consider the impact on its financial statements related to the updated guidance provided by these four new ASUs.

3. Going Concern

The Company's financial statements are prepared using accounting principles generally accepted in the United States of America applicable to a going concern that contemplates the realization of assets and liquidation of liabilities in the normal course of business.

As of December 31, 2016, the Company had a cash balance of $5.6 million. The Company has experienced recurring losses since its inception. The Company incurred a net loss of $28.2 million and used $18.3 million in cash from operations for the year ended December 31, 2016, and had an accumulated deficit of $124.3 million as of December 31, 2016. As of December 31, 2016, the Company was in default of a covenant pertaining to trailing twelve-month revenue under the Credit Agreement as a result of the Company's failure to achieve $22,250,000 and $24,600,000 of gross revenue for the twelve-month periods ended September 30, 2016 and December 31, 2016, respectively. Under an agreement dated January 26, 2017, as amended on March 7, 2017, the lender agreed to forbear from exercising any rights and remedies related to the default until the earlier of April 30, 2017 or the date when the lender becomes aware of any other default. The lender reserved the rights, commencing with the occurrence of any of these events, to pursue any rights and remedies available to it, including, but not limited to, declaring all or any portion of the outstanding principal amount to be immediately due and payable, imposing a default rate of interest as specified in the credit agreement, or pursing the lender's rights and remedies as a secured party under the UCC as a secured lender. In addition, the lender has a lien on substantially all of the Company's assets and, as a result of the default, may seek to foreclose on some or substantially all of the Company's assets after the expiration of the forbearance. Such action could hinder the Company's ability to recover the remaining carrying value of some or all of its intangible assets including goodwill that aggregated approximately $40.5 million at December 31, 2016. These factors raise substantial doubt as to the Company's ability to continue as a going concern within one year from the date of this filing. The ability of the Company to continue as a going concern is dependent upon the Company's successful efforts to raise sufficient capital and attain profitable operations.

Management is evaluating all options to raise sufficient funds to meet to refinance its outstanding indebtedness and to fund the Company's working capital requirements through debt and/or equity offerings. There can be no assurances, however, that management will be able to obtain sufficient additional funds when needed, or that such funds, if available, will be obtained on terms satisfactory to the Company. There is no assurance that the Company will be successful in achieving profitable operations. The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded assets and liabilities that might be necessary should the Company be unable to continue as a going concern.

4. Net Loss Per Common Share

Basic loss per share data for each period presented is computed using the weighted-average number of shares of common stock outstanding during each such period. Diluted income (loss) per share data is computed using the weighted-average number of common and dilutive common-equivalent shares outstanding during each period. Dilutive common-equivalent shares consist of: (a) shares that would be issued upon the exercise of stock options and warrants, computed using the treasury stock method; and (b) shares of non-vested restricted stock.

The following securities are excluded from the calculation of weighted average dilutive common shares because their inclusion would have been anti-dilutive:

	As of December 31,	
	2016	**2015**
Stock options	7,199,286	6,230,549
Warrants	3,365,407	3,372,550
Non-vested restricted stock	1,470,228	691,725
Total	12,034,921	10,294,824

5. Acquisitions

Acquisition of Celleration, Inc.

On May 29, 2015, the Company acquired all outstanding equity interest of Celleration, Inc. ("Celleration"), a medical device company focused on developing and commercializing the MIST Therapy® therapeutic ultrasound platform for the treatment of acute and chronic wounds for an aggregate purchase price of approximately $46.3 million. The purchase price consisted of an initial cash payment of approximately $15.5 million (including working capital adjustments of approximately $0.3 million), 3,168,229 shares of the Company's common stock and contingent consideration with an estimated acquisition date fair value of approximately $15.6 million. In evaluating this acquisition, the Company considered the strategic fit of the combined entity, the amount and timing of cost and expense savings, and revenue synergies that were expected to result from the merger of the two companies. The Company also considered the demonstrated clinical efficacy and economic valuation of MIST Therapy, as well as favorable reimbursement decisions by the Centers for Medicare and Medicaid Services.

The following summarizes the final allocation of the purchase price based on fair value of the assets acquired and liabilities assumed (in thousands):

Consideration:		
Common stock	$	15,208
Cash paid		15,476
Fair value of contingent consideration		15,570
Total consideration		46,254
Cash		528
Trade receivables		877
Inventory		341
Other current assets		207
Improvements and equipment		411
Tradenames		3,601
Technology		27,143
Customer relationships		1,208
Goodwill		17,066
Accounts payable		(308)
Accrued expenses and other liabilities		(1,698)
Deferred tax liability		(3,122)
Net assets acquired	$	46,254

The Company agreed to pay contingent consideration of 3.5 times revenue from acquired MIST Therapy products in excess of certain revenue targets for the years ending December 31, 2015 and 2016, payable in equal amounts of cash and the Company's common stock. This contingent consideration is payable in two installments in March 2016 and March 2017.

The first installment consisted of $2.6 million of cash and approximately 986,000 shares of the Company's common stock valued at approximately $2.6 million and was paid in March 2016. This payment was based on 3.5 times of the excess of 2015 MIST Therapy revenue of approximately $10.2 million over 2014 MIST Therapy revenue of approximately $8.7 million.

As of December 31, 2016, the Company has recorded a liability of approximately $1.4 million for the second installment of contingent consideration due in March 2017. For the year ended December 31, 2016, the Company recorded a decrease in the fair value of this liability of $9.5 million. The fair value of this liability is based on 3.5 times of the excess of 2016 MIST Therapy revenue over 2015 MIST Therapy revenue. This payment is payable in equal amounts of cash and the Company's stock.

At the date of acquisition and December 31, 2016, the cash flow projection was discounted using a weighted average cost of capital of 12.5%. These fair value measurements were based on significant inputs not observed in the market and thus represented a Level 3 measurement.

Pro Forma Results

The following unaudited pro forma financial information summarizes the results of operations for the year ended December 31, 2015, as if the acquisition had been completed as of January 1, 2015. The pro forma results were calculated applying the Company's accounting policies and include the effects of adjustments related to the amortization charges from the acquired intangibles and long-term debt. The unaudited pro forma information does not purport to be indicative of the results that would have been obtained if the acquisitions had occurred at the beginning of the year prior to acquisition, nor of the results that may be reported in the future. The unaudited pro forma results of operations from continuing operations for the year ended December 31, 2015 are as follows (in thousands, except per share amounts):

	Year Ended December 31, 2015
Revenues	$ 16,266
Net loss	$ (31,877)
Net loss per share	$ (1.31)

6. Discontinued Operations

Asset Sale

In order to add capital and to focus on future investments on commercializing its own regenerative technologies effective June 30, 2016, the Company entered into a purchase agreement (the "Purchase Agreement") with BSN medical, Inc. ("BSN") whereby the Company agreed to sell to BSN (i) all of the Company's rights, including all distribution rights, exclusivity rights, intellectual property rights and marketing rights (collectively, the "Rights") to the sorbion product line pursuant to its distribution agreement (as amended, the "Sorbion Agreement") with Sorbion GmbH & Co KG and (ii) the unsold inventory of sorbion products previously purchased by the Company in existence as of the closing, which occurred upon execution and delivery of the Purchase Agreement. In consideration for the sale of the Rights and the unsold inventory to BSN by the Company, BSN agreed to pay (i) $3.5 million related to the purchase of the Rights and the termination of the Sorbion Agreement and certain other agreements between the parties and (ii) up to $900,000 related to the unsold sorbion inventory upon the Company's completion of its obligations to deliver all remaining and qualifying unsold sorbion inventory, with such payment amount varying based upon the condition of the sorbion inventory, as specified in the Purchase Agreement.

During the year ended December 31, 2016, the Company recorded a gain of approximately $3.3 million (net of tax of $0) on the sale of the assets related to the Purchase Agreement, pursuant to the following (in thousands):

Proceeds from sale		
Consideration for inventory	$ 603	
Consideration for intangible assets	3,500	
Total Consideration		4,103
Less: Net book value of assets sold to BSN		
Inventory, net	(603)	
Intangibles, net	(189)	
Total net book value of assets		(792)
Gain on sale of assets		$ 3,311

On June 30, 2016, the Company entered into a ninety-day transition services agreement with BSN ("Transition Agreement"). Under the Transition Agreement, the Company was required to perform certain services related to the communication with distributors, wholesalers and customers in respect of transition of the business to BSN, as specified in the Transition Agreement. As compensation, BSN paid the Company $100,000 for the services completed during the year ended December 31, 2016. This compensation was recognized over the service period and is included in other income for the year ended December 31, 2016.

Discontinued Operations

Summarized operating results of discontinued operations for the years ended December 31, 2016 and 2015 are presented in the following table (in thousands):

	Years Ended December 31,	
	2016	2015
Revenue, net of returns, allowances and discounts	$ 1,709	$ 2,864
Cost of revenues	536	823
Gross profit	1,173	2,041
Selling, general and administrative	323	841
Income from discontinued operations, net of tax	$ 850	$ 1,200

Non-cash amortization expense of $38,000 and $76,000 is included in selling, general and administrative expense in the years ended December 31, 2016 and 2015, respectively.

There were no assets and liabilities of discontinued operations as of December 31, 2016. Summarized assets and liabilities of discontinued operations as of December 31, 2015 are presented in the table below, (in thousands):

	December 31, 2015
Accounts receivable, net	$ 457
Inventory, net	858
Total current assets	1,315
Intangible assets, net	227
Total assets	1,542
Accounts payable	44
Accrued expenses and other current liabilities	59
Total current liabilities	$ 103

7. Note Receivable

On August 25, 2016, in connection with the definitive agreement to acquire the business of Soluble Systems, LLC ("Soluble"), the Company provided Soluble with a $500,000 bridge loan in the form of a subordinated promissory note. On October 5, 2016, the Company amended and restated the original subordinated promissory to increase the principal amount of the note to $l.0 million. The Company advanced soluble the additional $500,000 on October 5, 2016. Interest on the note accrues at a rate of 6%. Pursuant to the terms of the definitive agreement, any outstanding amounts payable under the bridge loan will be deducted from the equity consideration at the time the transaction closes, or repaid in full upon a termination of the agreement. On February 27, 2017, the Company terminated the definitive agreement to acquire the business of Soluble. The Company believes that the collectability of the amount due from Soluble is in doubt and, therefore, has fully reserved the amount due as of December 31, 2016. The net balance of $0 is included in prepaid and other current assets as of December 31, 2016.

8. Inventory

Inventory consists of the following (dollars in thousands):

	December 31, 2016	December 31, 2015
Raw materials	$ 135	$ 241
Work in process	173	228
Finished goods	2,394	1,865
Less: Inventory reserve for excess and slow moving inventory	-	(59)
Total	$ 2,702	$ 2,275

9. Improvements and Equipment, net

Improvements and equipment consist of the following (in thousands):

	Useful Life (Years)	December 31, 2016	December 31, 2015
Machinery and equipment	3-10	$ 5,041	$ 3,621
Office furniture and equipment	3-10	337	88
Leasehold improvements	**(A)**	595	253
		5,973	3,962
Less: Accumulated depreciation and amortization		(3,881)	(2,115)
Improvements and equipment, net		$ 2,092	$ 1,847

(A) Leasehold improvements are amortized over the shorter of the remaining lease term or estimated useful life.

Depreciation and amortization expense was $1.8 million and $421,000 for the years ended December 31, 2016 and 2015, respectively.

10. Intangible Assets

The gross carrying amount and accumulated amortization of intangible assets are as follows (in thousands):

		December 31, 2016			
	Useful Life (Years)	Gross Amount	Accumulated Amortization	Impairment	Net Carrying Amount
Technology	10	$ 32,539	$ (7,312)	$ -	$ 25,227
Customer relationships	9-12	1,984	(639)	-	1,345
Tradename	3	111	(98)	-	13
Tradename related to MIST Therapy (1)	3	3,601	-	(1,688)	1,913
Non-compete	1	208	(208)	-	-
Total intangible assets		38,443	(8,257)	(1,688)	28,498

	Useful Life (Years)	December 31, 2015 Gross Amount	Accumulated Amortization	Impairment	Net Carrying Amount
Intangible assets subject to amortization:					
Technology	10	$ 32,539	$ (4,057)	$ -	$ 28,482
Customer relationships	9-12	1,984	(449)	-	1,535
Tradename	3	111	(62)	-	49
Non-compete	1	208	(208)	-	-
		$ 34,842	$ (4,776)	$ -	$ 30,066
Indefinite-lived intangible assets:					
Tradename related to MIST Therapy (1)	Indefinite	3,601	-	-	3,601
Total indefinite-lived intangible assets		3,601	-	-	3,601
Total intangible assets		$ 38,443	$ (4,776)	$ -	$ 33,667

(1) In December 2016, the Company determined the tradename related to MIST Therapy was no longer an indefinite-lived intangible asset. The Company assigned a remaining useful of approximately 1.5 years, consistent with the Company's other trademarks.

The Company performs its assessment of the recoverability of indefinite-lived intangible assets annually during the fourth quarter, or more frequently as impairment indicators arise, and it is based upon a comparison of the carrying value of such assets to their estimated fair values. The Company performed its most recent annual assessment during the four quarter of 2016, which resulted in an impairment charge of approximately $1.7 million to the MIST Therapy tradename and is included in impairment charges in the consolidated statement of operations.

Amortization expense attributable to intangible assets for the year ended December 31, 2016 and 2015 was approximately $3.5 million and $2.4 million, respectively.

Amortization expense in each of the five years and thereafter subsequent to December 31, 2016 related to the Company's intangible assets is expected to be as follows (in thousands):

	Expected Amortization Expense
2017	$ 4,807
2018	4,007
2019	3,169
2020	3,144
2021	3,098
Thereafter	10,273
Total	$ 28,498

11. Accrued Expenses

Accrued expenses and other current liabilities consist of the following (in thousands):

	December 31, 2016	December 31, 2015
Salaries, benefits and incentive compensation	$ 3,070	$ 2,118
Milestone payment to licensor	1,000	-
Professional fees	692	671
Royalty fees	197	52
Deferred revenue	181	92
Other	146	138
Total accrued expenses and other current liabilities	$ 5,286	$ 3,071

12. Operating Leases

The Company leases two corporate offices and one commercial manufacturing facility through operating lease agreements. The Company has obligations through 2023 for both corporate offices, one located in Eden Prairie, Minnesota, and one located in Yardley, Pennsylvania. The Company also has an obligation for its commercial manufacturing facility located in Langhorne, Pennsylvania, through 2026. During the year ended December 31, 2016, the landlord of the office in Yardley, Pennsylvania, made certain improvements to the facility. The Company recorded a deferred lease incentive liability of $267,000 for the improvements funded by the landlord in accrued and other long-term liabilities on the consolidated balance sheet and amortizes the deferred liability as a reduction to rent expense on the consolidated statement of operations over the term of the lease. Tenant improvements are also included in leasehold improvements on the balance sheet.

Future minimum lease payments, excluding expense reimbursements, under noncancelable operating leases at December 31, 2016 are as follows (in thousands):

2017	$ 500
2018	506
2019	512
2020	519
2021	525
Thereafter	1,311
Total	$ 3,873

Total rent expense was $542,000 and $282,000 for the years ended December 31, 2016 and 2015, respectively.

13. Debt

Senior Secured Term Loan Facility

On May 29, 2015, the Company entered into a Credit Agreement and Guaranty (the "Credit Agreement") with Perceptive Credit Opportunities Fund, L.P. ("Perceptive"). The Credit Agreement provided a senior secured term loan in a single borrowing to the Company in the principal amount of $15.5 million. The Credit Agreement (i) has a four-year term, (ii) accrues interest at an annual rate equal to the greater of (a) one-month LIBOR or 1% plus (b) 9.75%, (iii) is interest only for the first 24 months, followed by monthly amortization payments of $225,000, with the remaining unpaid balance due on the maturity date and (iv) is secured by a first priority lien on substantially all of the Company's assets. The Company is required to pay an exit fee when the term loan is paid in full equal to the greater of 2% of the outstanding principal balance immediately prior to the final payment or $200,000, which was amended in conjunction with the extinguishment of debt described below from the greater of 1% of the outstanding principal balance immediately prior to the final payment or $100,000. The interest rate at December 31, 2016 was 10.75%.

In connection with the Credit Agreement, the Company incurred approximately $1.3 million of debt issuance costs. The debt issuance costs are being amortized over the term of the loan on a straight-line basis, which approximates the effective interest method. During the years ended December 31, 2016 and 2015, the Company recorded amortization of debt issuance costs of $273,000 and $169,000 respectively, which is included in interest expense for the periods presented.

In connection with the entry into the Credit Agreement, a five-year warrant (the "Warrant") to purchase 750,000 shares of common stock, par value of $0.001 per share at an exercise price of $5.5138 per share (the "Exercise Price") was issued to Perceptive. The Company granted Perceptive customary demand and piggy-back registration rights with respect to the shares of common stock issuable upon exercise of the Warrant. The warrant contains a weighted average anti-dilution feature whereby the Exercise Price is subject to reduction if the Company issues shares of common stock (or securities convertible into common stock) in the future at a price below the current Exercise Price. As a result, the warrant was determined to be a derivative liability. The warrant had an issuance date fair value of approximately $2.7 million which was recorded as a debt discount. During the years ended December 31, 2016 and 2015, the Company recorded amortization of debt discount of $569,000 and $397,000, respectively, which is included in interest expense for the periods presented. See Note 19 – *Fair Value Measurement* for additional details.

As of December 31, 2016, the Company was in default of a covenant pertaining to trailing twelve-month revenue under the Credit Agreement as a result of the Company's failure to achieve approximately $22.3 million and $24 million of gross revenue for the twelve-month periods ended September 30, 2016 and December 31, 2016, respectively. Under an agreement dated January 26, 2017, as amended March 7, 2017, the lender agreed to forbear from exercising any rights and remedies related to the default until the earlier of April 30, 2017 or the date when the lender becomes aware of any other default. The lender reserved the rights, commencing with the occurrence of any of these events, to pursue any rights and remedies available to it, including, but not limited to, declaring all or any portion of the outstanding principal amount to be immediately due and payable, imposing a default rate of interest as specified in the credit agreement, or pursing the lender's rights and remedies as a secured party under the UCC as a secured lender. In addition, the lender has a lien on substantially all of the Company's assets and, as a result of the default, may seek to foreclose on some or substantially all of the Company's assets after the expiration of the forbearance. The Company has classified the entire principal balance of approximately $13.8 million as a current liability in its balance sheet as of December 31, 2016.

In connection with the entry into the January 26, 2017 forbearance agreement, as amended March 7, 2017, we also amended and restated the warrant issued to Perceptive in connection with the closing of the Credit Agreement on May 29, 2015. The amended and restated warrant is exercisable for 2,000,000 shares of our common stock. The amended and restated warrant is exercisable at an exercise price of $0.50. The amended and restated warrant contains a weighted average anti-dilution feature whereby the exercise price of the amended and restated warrant is subject to reduction if we issue shares of common stock (or securities convertible into common stock) in the future at a price below the current exercise price of such warrant.

Extinguishments

On June 30, 2016, the Company entered into a Consent Under Credit Agreement (the "Consent Agreement") with Perceptive pursuant to which Perceptive consented to the Purchase Agreement with BSN (see Note 6 – *Discontinued Operations*), provided that the Company agreed to pay $1.8 million of the proceeds from the Purchase Agreement to Perceptive, of which $1.7 million was applied towards the outstanding principal amount of the term loan under the Credit Agreement and $52,000 was used to pay an early prepayment fee. This payment was made on July 1, 2016. During the year ended December 31, 2016, the Company recorded a loss on early extinguishment of debt of $373,000 related to the Consent Agreement. This amount consisted of a $52,000 prepayment penalty, the write-off of $226,000 of unamortized discount, and the write-off of $95,000 of unamortized debt issuance costs.

Debt consists of the following (in thousands):

	December 31, 2016	December 31, 2015
Long-term debt	$ 13,752	$ 15,500
Unamortized debt issuance and discount costs	(2,211)	(3,374)
Total	$ 11,541	$ 12,126

14. Commitments and Contingencies

License Agreement

On July 15, 2011, the Company entered into a license agreement with Noble Fiber Technologies, LLC, whereby the Company has the exclusive right and license to manufacture and distribute "SilverSeal Hydrogel Wound Dressings" and "SilverSeal Hydrocolloid Wound Dressings". The license is granted for ten years with an option to be extended for consecutive renewal periods of two years after the initial term. Royalties are to be paid equal to 9.75% of net sales of licensed products. The agreement calls for minimum royalties in 2016 in the amount of $600,000. There are no minimum royalties subsequent to 2016. Total royalties charged to selling, general and administrative expense for the year ended December 31, 2016 and 2015 were $600,000 and $500,000, respectively. Approximately $598,000 and $497,000 is included in accounts payable as of December 31, 2016 and 2015, respectively, in connection with this agreement.

Agreements for Human Placental Based Products

Human Longevity, Inc.

In November 2013, the Company entered into a License, Marketing and Development Agreement (the "License Agreement") and Supply Agreement (the "Biovance Supply Agreement") with Celgene Cellular Therapeutics ("CCT"), an affiliate of Celgene Corporation ("Celgene"). The agreements grant the Company an exclusive, royalty-bearing license in CCT's intellectual property for certain placental based products, including ECM and Biovance ®, as well as provide the Company with the its requirements of Biovance for distribution. In January 2016, Human Longevity, Inc.'s ("HLI"), a genomics-based, technology-driven company, announced the purchase of LifebankUSA and other select assets from CCT. CCT assigned and HLI assumed the license and supply agreements the Company entered into with CCT, for certain placental based products. The Company is required to pay HLI annual license fees, designated amounts when certain milestone events occur and royalties on all sales of licensed products, with such amounts being variable and contingent on various factors. During the years ended December 31, 2016 and 2015, the Company incurred royalties of approximately $493,000 and $229,000, respectively, in connection with this agreement. Approximately $197,000 and $52,000 is included in accrued expenses as of December 31, 2016 and 2015, respectively, in connection with this agreement. The initial term of the License Agreement ends on November 14, 2023, unless sooner terminated pursuant to the termination rights under the License Agreement, and will extend for additional two-year terms unless either party gives written notice within a specified period prior to the end of a term.

The License Agreement with HLI is terminable on a product-by-product basis if the Company fails to meet certain minimum sales thresholds in the second year or any subsequent year of commercial sales of each licensed product. Each year of commercial sales are referred to in the License Agreement as "launch years" and the calendar period constituting each launch year for each licensed product is determined in accordance with the terms of the License Agreement. To maintain its license for Biovance, the Company must meet a minimum gross sales amount for Biovance in the second year and third year of commercial sales. If the Company fails to meet the minimum threshold in the second year of commercial sales of product, it would be able to cure such failure by making a cure payment specified in the License Agreement to HLI; provided, however, the Company does not have the option to make a cure payment, should it fail to meet the minimum threshold for such product in the third year of commercial sales and HLI may terminate the License Agreement with respect to such product.

In September 2014, the Company entered into a First Amendment to the License Agreement (the "Amended License Agreement"), pursuant to which the Company received the right to market Biovance for podiatric and orthopedic applications. The Amended License Agreement also amends certain terms and the related schedule for milestone payments to CCT. In May 2015, the Company amended its exclusive licensing agreement with CCT, which granted the Company the right to develop and market CCT's connective tissue matrix product, also known as Interfyl.

In April 2016, the Company entered into a Supply Agreement with HLI, pursuant to which HLI supplies the Company with the Company's entire requirement of Interfyl™ Human Connective Tissue Matrix. Additionally, the Company agreed to make certain future milestone payments upon the achievement of certain milestones. The Company initiated sales and marketing efforts of Interfyl™ Human Connective Tissue Matrix in September 2016 and achieved two milestones under the license agreement. The Company is required to pay HLI $500,000 related to the first commercial sale of Interfyl in the flowable matrix configuration and $500,000 related to the first commercial sale of Interfyl in the particulate form. Commercial sales of both configurations occurred in September 2016, and as such the recorded $1.0 million of milestone expense during the year ended December 31, 2016. This milestone payment is payable in November 2017 and is included in other current liabilities as of December 31, 2016.

Litigation, Claims and Assessments

The Company is subject to periodic lawsuits, investigations and claims that arise in the ordinary course of business. The Company is not party to any material litigation as of December 31, 2016.

15. Stockholders' Equity

Preferred Stock

The Company has authorized 1,000,000 shares of preferred stock, $0.001 par value per share, which may be divided into series and with preferences, limitations and relative rights determined by the Board of Directors.

Common Stock

On May 4, 2015, the Company closed an underwritten public offering of 7,582,418 shares of its common stock at a price to the public of $4.55 per share. Proceeds from this offering, net of issuance costs were $32.2 million. The shares of common stock were issued pursuant to the Company's shelf registration statement on Form S-3 previously filed with the Securities and Exchange Commission and declared effective on September 25, 2014.

On May 6, 2016, the Company held its 2016 annual meeting of stockholders. The stockholders approved an amendment to the Company's Certificate of Incorporation to increase the number of authorized shares of common stock from 45,714,286 to 95,000,000 shares.

2011 Plan

The Company maintains the 2011 Long-Term Incentive Plan (the "2011 Plan") that provides for the granting of stock options, restricted stock units ("RSUs"), restricted stock and other awards to employees, directors and others. A total of 1,828,571 shares of common stock have been authorized for issuance under the 2011 Plan, of which, as of December 31, 2016, 214,617 shares were available for future issuances.

2014 Plan

The Company maintains the 2014 Long-Term Incentive Plan (the "2014 Plan") that provides for the granting of stock options, RSUs, restricted stock and other awards to employees, directors and others. On February 26, 2015 and May 6, 2015, the Company's Board of Directors and the Company's shareholders, respectively, approved an amendment to the 2014 Plan to increase the total number of shares of common stock authorized for issuance under the 2014 Plan by an additional 3,500,000 shares. A total of 5,500,000 shares of common stock are reserved for award under the 2014 Plan, of which, as of December 31, 2016, 609,856 shares were available for future issuances.

Stock-Based Compensation

For the year ended December 31, 2016, the Company recognized $4.9 million of stock-based compensation expense, of which, $0.2 million is included in cost of revenues and $4.7 million is included in selling, general and administrative expenses in the consolidated statements of operations. For the year ended December 31, 2015, the Company recognized $8.6 million of stock-based compensation expense, of which, $0.3 million is included in cost of revenues and $8.3 million is included in selling, general and administrative expenses in the consolidated statements of operations. As of December 31, 2016, there was $3.1 million of unrecognized stock-based compensation expense which will be amortized over a weighted average period of 1.3 years.

Restricted Stock

The following table summarizes the restricted stock issued as compensation during the years ended December 31, 2016 and 2015 (in thousands):

Issuance Date	Grantee Type	Shares Issued	Vesting Term	Grant Date Value
02/06/15	Employee	600	[1]	$ 3,738
06/15/15	Employee	120	[2]	630
	2015 - Restricted Stock - Total	720		$ 4,368
02/09/16	Employee	325	[3]	$ 474
05/11/16	Employee	700	[4]	602
	2016 - Restricted Stock - Total	1,025		$ 1,076

[1] Vests in three equal annual installments, with one-third vesting on each of February 6, 2016, February 6, 2017 and February 6, 2018.

[2] Vests in equal quarterly installments, with one-fourth vesting immediately and the remaining vesting equally over the next 3 years on the anniversaries of the date of grant.

[3] Vests on the earlier of (a) the first anniversary of the date of grant or (b) the participant's termination of service by the Company without cause.

[4] Vests pursuant to the satisfaction of certain performance conditions.

A summary of restricted stock award activity during the years ended December 31, 2016 and 2015 is presented below (in thousands, except per share data):

	Number of Shares	Weighted Average Grant Date Fair Value Per Share	Total Grant Date Fair Value
Non-vested, December 31, 2014	188	$ 7.03	$ 1,322
Granted	720	6.07	4,368
Vested	(216)	6.76	(1,464)
Forfeited	-	-	-
Non-vested, December 31, 2015	692	$ 6.11	$ 4,226
Granted	1,025	1.05	1,076
Vested	(238)	6.00	(1,428)
Forfeited	(8)	1.46	(12)
Non-vested, December 31, 2016	1,471	$ 2.43	$ 3,862

Warrants

See Note 13 - *Debt – Senior Secured Term Loan Facility* for details associated with a warrant issued in connection with debt.

During the year ended December 31, 2015, the Company issued an aggregate of 8,970 shares of common stock to several holders of warrants who elected to exercise warrants to purchase an aggregate of 15,999 shares of common stock (inclusive of a warrant to purchase 9,142 shares of common stock that was classified as a derivative liability) at an exercise price of $2.19 per share on a “cashless” basis under the terms of the warrants. The aggregate intrinsic value of the warrants exercised was $45,000. See Note 19 – *Fair Value Measurement* for additional details regarding the exercise of the warrant accounted for as a derivative liability.

There were no compensatory warrants issued during the years ended December 31, 2016 and 2015.

A summary of the warrant activity during the years ended December 31, 2016 and 2015 is presented below (in thousands, except years and per warrant data):

	Number of Warrants	Weighted Average Exercise Price per Warrant	Weighted Average Remaining Life in Years	Intrinsic Value
Outstanding, December 31, 2014	2,675	$ 5.76		
Issued	750	5.51		
Exercised	(16)	2.19		
Cancelled	(36)	7.88		
Outstanding, December 31, 2015	3,373	$ 5.70		
Issued	-	-		
Exercised	-	-		
Cancelled	(7)	8.75		
Outstanding, December 31, 2016	3,366	$ 5.69	2.1	$ -
Exercisable, December 31, 2016	3,366	$ 5.69	2.1	$ -

The following table presents information related to warrants at December 31, 2016 (in thousands, except years and per warrant data):

Warrants Outstanding			Warrants Exercisable
Exercise Price	Outstanding Number of Warrants	Weighted Average Remaining Life in Years	Exercisable Number of Warrants
$2.19-$2.99	93	0.8	93
$3.00-$3.99	77	0.1	77
$4.00-$4.99	977	1.5	977
$5.00-$5.99	1,791	2.5	1,791
$6.00-$10.50	428	2.3	428
	3,366	2.1	3,366

As of December 31, 2016 and 2015, warrants to purchase an aggregate of 816,287 shares of common stock at a weighted average exercise price of $5.24 per share were deemed to be a derivative liability. See Note 19 – *Fair Value Measurement.*

Stock Options

Options – 2015 Grants

During 2015, ten-year options to purchase an aggregate of 1,905,000 shares of common stock at exercise prices ranging from $2.38 to $6.23 with an aggregate grant date value of $8.0 million were granted to employees and directors. Options to purchase an aggregate of 1,818,000 and 87,000 shares of common stock were granted pursuant to the 2014 Plan and 2011 Plan, respectively. The options vest as follows: (i) options to purchase 4,500 shares vested immediately, (ii) options to purchase 90,000 shares vest one-twelfth monthly over one year, and (iii) options to purchase 1,810,500 shares vest ratably over three years on the anniversaries of the grant date. The grant date value is being amortized over the vesting term. Details of the grants with the more significant grant date values are as follows:

(1) On February 6, 2015, ten-year options to purchase an aggregate of 745,000 shares of common stock with a grant date value of $3.6 million were granted to employees and an executive of the Company. The options are scheduled to vest and become exercisable at $6.23 per share ratably over three years on the anniversaries of the date of grant.

(2) On May 29, 2015, ten-year options to purchase an aggregate of 455,000 shares of common stock with a grant date value of $1.8 million were granted to employees and a director of the Company. The options are scheduled to vest and become exercisable at $4.95 per share as follows: (i) options to purchase an aggregate of 440,000 shares of common stock vest ratably over three years on the anniversaries of the date of grant and (ii) an option to purchase 15,000 shares of common stock vests ratably over the next year on the monthly anniversary of the date of grant.

(3) On August 3, 2015, ten-year options to purchase an aggregate of 270,000 shares of common stock with a grant date value of $1.0 million were granted to employees of the Company. The options are scheduled to vest and become exercisable at $5.08 per share ratably over three years on the anniversaries of the date of grant.

Options – 2016 Grants

During 2016, ten-year options to purchase an aggregate of 1,649,000 shares of common stock at exercise prices ranging from $0.80 to $2.20 with an aggregate grant date value of $1.3 million were granted to employees and directors pursuant to the 2014 Plan. The options vest as follows: (i) options to purchase 225,000 shares vest one-twelfth monthly over one year, and (ii) options to purchase 1,424,000 shares vest ratably over three years on the anniversaries of the grant date. The grant date value is being amortized over the vesting term.

Options – Summary Data

In applying the Black-Scholes option pricing model to stock options granted, the Company used the following assumptions:

	Year Ended December 31,	
	2016	**2015**
Risk free interest rate	1.14%-2.06%	1.19% - 2.11%
Expected term (years)	5.04-6.50	5.00-6.50
Expected volatility	89.53% - 89.95%	93.70% - 98.25%
Expected dividends	0.00%	0.00%

The risk-free interest rate is based on rates of treasury securities with the same expected term as the options. The Company uses the "simplified method" to calculate the expected term of employee and director stock-based options. The expected term used for consultants is the contractual life. The Company is utilizing an expected volatility figure based on a review of the Company's historical volatility, over a period of time, equivalent to the expected life of the instrument being valued. The expected dividend yield is based upon the fact that the Company has not historically paid dividends, and does not expect to pay dividends in the near future.

Option forfeitures are estimated at the time of valuation and reduce expense ratably over the vesting period. This estimate will be adjusted periodically based on the extent to which actual option forfeitures differ, or are expected to differ, from the previous estimate, when it is material. The Company estimated forfeitures related to options at annual rates ranging from 0% to 5% for options outstanding at December 31, 2016 and 2015.

The weighted average estimated grant date fair value of the options granted during the years ended December 31, 2016 and 2015 was $0.77 and $4.18 per share, respectively.

During the year ended December 31, 2015, the Company issued an aggregate of 75,919 shares of common stock to several holders of options who elected to exercise options to purchase an aggregate of 75,919 shares of common stock for cash proceeds of $332,000. The options had an exercise price of $4.38 per share. The aggregate intrinsic value of the options exercised was $86,000 for the year ended December 31, 2015.

A summary of the stock option activity during the years ended December 31, 2016 and 2015 is presented below (in thousands, except years and per option data):

	Number of Options	Weighted Average Exercise Price per Option	Weighted Average Remaining Life in Years	Intrinsic Value
Outstanding, December 31, 2014	4,818	$ 6.56		
Granted	1,905	5.38		
Exercised	(76)	4.38		
Forfeited	(416)	5.96		
Outstanding, December 31, 2015	6,231	$ 6.26		
Granted	1,649	1.05		
Exercised	-	-		
Forfeited	(680)	3.95		
Outstanding, December 31, 2016	7,200	$ 5.29	7.1	$ -
Exerciseable, December 31, 2016	4,205	$ 6.06	6.3	$ -

The following table presents information related to stock options at December 31, 2016 below (in thousands, except years and per option data):

	Options Outstanding		Options Exercisable		
Range of Exercise Price	Weighted Average Exercise Price	Outstanding Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Life in Years	Exercisable Number of Options
$0.80-$0.99	$ 0.87	313	0.86	9.4	131
$1.00-$1.99	1.07	1,159	-	-	-
$2.00-$2.99	2.24	25	2.38	8.9	2
$3.00-$3.99	3.36	501	3.36	6.5	442
$4.00-$4.99	4.60	1,072	4.52	5.3	792
$5.00-$5.99	5.29	625	5.35	6.1	372
$6.00-$6.99	6.60	2,177	6.68	6.8	1,650
$7.00-$7.99	7.75	31	7.75	7.3	21
$8.00-$8.99	8.74	780	8.74	5.7	556
$9.00-$9.99	9.00	253	9.00	6.2	183
$10.00-$26.69	10.96	264	11.01	6.2	56
		7,200		6.3	4,205

16. Income Taxes

The Company files corporate income tax returns in U.S. federal, state and local jurisdictions, including Pennsylvania, and has tax returns subject to examination by tax authorities generally beginning in the year ended December 31, 2013 and through December 31, 2016. However, to the extent the Company utilizes its net operating loss ("NOL") carryforwards in the future, the tax years in which the attribute was generated may still be adjusted upon examination by the Internal Revenue Service or state tax authorities of the future period tax return in which the attribute is utilized.

The income tax (benefit) provision consists of the following (in thousands):

	For The Years Ended December 31,	
	2016	2015
Federal:		
Current	$ -	$ -
Deferred	(627)	(1,509)
State and local:		
Current	4	3
Deferred	(92)	(212)
Income tax provision	$ (715)	$ (1,718)

For the years ended December 31, 2016 and 2015, the expected tax expense based on the federal statutory rate reconciled with the actual tax expense is as follows:

	For The Years Ended December 31,	
	2016	2015
U.S. federal statutory rate	34.0%	34.0%
State tax rate, net of federal benefit	4.5%	4.8%
Permanent differences		
- Change in fair value of warrant liability	0.9%	2.5%
- Change in fair value of contingent consideration	10.4%	1.7%
-Acquisition costs	0.0%	(2.1%)
-Intangible impairment	(9.3%)	0.0%
- Other	(0.4%)	(0.6%)
Adjustments to deferred taxes	(8.2%)	(2.3%)
Change in valuation allowance	(29.7%)	(32.1%)
Income tax provision	2.2%	5.9%

As of December 31, 2016 and 2015, the Company's deferred tax assets consisted of the effects of temporary differences attributable to the following (in thousands):

	As of December 31,	
	2016	2015
Deferred tax assets:		
Net operating loss carryforwards	$ 40,117	$ 35,284
Stock-based compensation	8,671	7,713
Accruals	541	496
Transaction costs	732	-
Other	861	253
Total deferred tax assets	50,922	43,746
Valuation allowance	(41,482)	(32,977)
Deferred tax assets, net of valuation allowance	$ 9,440	$ 10,769
Deferred tax liabilities:		
Property and equipment	(281)	(409)
Intangible assets	(9,159)	(10,360)
Goodwill	(749)	(1,468)
Total deferred tax liabilities	(10,189)	(12,237)
Net deferred tax liabilities	$ (749)	$ (1,468)

For the years ended December 31, 2016 and 2015, the Company had approximately $104.9 million and $93.0 million of federal NOL carryovers, respectively, which substantially begin to expire in 2020 and through 2036. The Company also has state NOL carryovers in multiple jurisdictions, including most materially in Pennsylvania, $24.6 million and $22.9 million, and in Florida, $10.9 million and $9.8 million, as of December 31, 2016 and December 31, 2015, respectively. During 2016 the Company performed an Internal Revenue Code (the "Code") Section 382 study ("Section 382 study"), and as a result of the study, reduced its NOL carryforwards by $4.8 million, which is the amount of the NOL carryforwards that are expected to expire unutilized pursuant to the Section 382 study. On May 29, 2015, the Company acquired Celleration, Inc. (see Note 5 - *Acquisitions*) and the Company has performed a Section 382 study for Celleration, Inc. The amount of federal NOL carryforwards as of December 31, 2016 disclosed above do not include $47.9 million of Celleration, Inc. NOL carryforwards that are expected to expire unutilized pursuant to the Section 382 study. The Celleration, Inc. state NOL carryforwards have also been reduced accordingly. On May 5, 2014, the Company acquired the equity interests of Choice and the Company believes the Choice NOL carryforwards as of that date are subject to Section 382 limitations. The amount of federal NOL carryforwards as of December 31, 2016 and December 31, 2015 disclosed above do not include $2.5 million of Choice NOL carryforwards that the Company has estimated will expire unutilized pursuant to this limitation.

In assessing the realization of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will be realized. The ultimate realization of the deferred tax assets is dependent upon the future generation of taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. The deferred tax liabilities related to goodwill and to a tradename cannot be used in this determination since both assets are considered to be assets with an indefinite life for financial reporting purposes. After consideration of all the evidence, both positive and negative, management has recorded a full valuation allowance against net deferred tax assets at December 31, 2016 and December 31, 2015 because management has determined that it is more likely than not that these deferred tax assets will not be realized. The valuation allowance increased by $8.5 million and $8.9 million during the years ended December 31, 2016 and December 31, 2015, respectively, primarily related to increases in NOL carryforwards. The increase during the year ended December 31, 2015 was net of the release of valuation allowances of $1.7 million resulting from the acquisition of Celleration in May 2015 for which we recorded an income tax benefit.

17. Related Party

In November 2015, the Company entered into a manufacturing supply agreement with a company where a Company director is a member of the Board of Directors. During the years ended December 31, 2016 and 2015, the Company incurred costs of approximately $491,000 and $5,000, respectively, from this vendor. Approximately $102,000 and $5,000 are included in accounts payable related to this related party as of December 31, 2016 and December 31, 2015, respectively.

18. Concentration of Risk

The Company had no single customer exceeding 10% of either its 2016 revenue or its outstanding accounts receivable balance as of December 31, 2016 or 2015. The Company's largest customer represented 10% of its revenue for the year ended December 31 , 2015.

19. Fair Value Measurement

Fair value is defined as the price that would be received upon selling an asset or the price paid to transfer a liability on the measurement date. It focuses on the exit price in the principal or most advantageous market for the asset or liability in an orderly transaction between willing market participants. A three-tier fair value hierarchy is established as a basis for considering such assumptions and for inputs used in the valuation methodologies in measuring fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs. The three levels of inputs used to measure fair values are as follows:

Level 1: Observable prices in active markets for identical assets and liabilities.

Level 2: Observable inputs other than quoted prices in active markets for identical assets and liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets and liabilities.

Impairment

Goodwill and other indefinite-lived intangible assets are tested for impairment annually, at the end of the fourth quarter of each fiscal year, and between annual tests if an event occurs or circumstances change that would indicate it is more likely than not that the carrying amount may be impaired. Additionally, the Company continually evaluates whether events or changes in circumstances might indicate that the remaining estimated useful life of long-lived assets may warrant revision, or that the remaining balance may not be recoverable. The factors used to determine fair value are subject to management's judgement and expertise and include, but are not limited to, the present value of future cash flows, net of estimated operating costs, internal forecasts, anticipated capital expenditures and various discount rates commensurate with the risk and current market conditions associated with realizing the expected cash flows projected. These assumptions represent Level 3 inputs. Impairment of the Company's goodwill and MIST Therapy tradename for the year ended December 31, 2016 was $10.9 million. There were no impairment charges during the year ended December 31, 2015.

Warrant liabilities

During the year ended December 31, 2015, a warrant to purchase an aggregate of 9,142 shares of common stock which had been accounted for as a derivative liability was exercised. These warrants had an aggregate exercise date fair value of $31,000 which was credited to equity. The Company recorded a gain on the change in fair value of these warrants of $4,000 during the year ended December 31, 2015. The Company recomputed the fair value of these warrants using the Binomial option pricing model (Level 3 inputs) using the following assumptions: expected volatility of 98.25%, risk-free rate of 0.96%, expected term of 2.52 years, and expected dividends of 0.00%.

During the year ended December 31, 2015, in connection with the Credit Agreement, a five-year warrant to purchase 750,000 shares of common stock at an exercise price of $5.5138 per share was issued to Perceptive. See Note 13 – *Debt* for details associated with the warrant. The issuance date fair value of $2.7 million was computed using the Binomial option pricing model (Level 3 inputs) using the following assumptions: expected volatility of 98.25%, risk-free rate of 1.49%, expected term of 5.00 years, and expected dividends of 0.00%.

On December 31, 2015, the Company recomputed the fair value of its warrant liability of outstanding warrants to purchase an aggregate of 816,287 shares of common stock as $861,000 using the Binomial option pricing model (Level 3 inputs) using the following assumptions: expected volatility of 89.95%, risk-free rate of 1.06-1.54%, expected term of 1.86-4.41 years, and expected dividends of 0.00%. The Company recorded a gain on the change in fair value of these warrant liabilities of $2.1 million during the year ended December 31, 2015.

On December 31, 2016, the Company recomputed the fair value of its warrant liability of outstanding warrants to purchase an aggregate of 816,287 shares of common stock as $20,000 using the Binomial option pricing model (Level 3 inputs) using the following assumptions: expected volatility of 65.74%-72.16%, risk-free rate of 0.85%-1.47%, expected term of 0.86-3.41 years, and expected dividends of 0.00%. The Company recorded a gain on the change in fair value of these warrant liabilities of $841,000 during the year ended December 31, 2016. See Note 5 – *Acquisitions* for details on the contingent consideration.

Warrants that contain exercise reset provisions and contingent consideration liabilities are Level 3 derivative liabilities measured at fair value on a recurring basis using pricing models for which at least one significant assumption is unobservable as defined in ASC 820. The fair value of contingent consideration liabilities that are classified as Level 3 were estimated using a discounted cash flow technique with significant inputs that are not observable in the market and thus represents a Level 3 fair value measurement as defined in ASC 820. The significant inputs in the Level 3 measurement not supported by market activity include the probability assessments of expeced future cash flows related to the acquisitions, appropriately discounted considering the uncertainties associated with the obligation, and as calculated in accordance with the terms of the acquisition agreements. The development and determination of the unobservable inputs for Level 3 fair value measurements and the fair value calculations are the responsibility of the Company's Chief Financial Officer and are approved by the Chief Executive Officer.

The following table sets forth a summary of the changes in the fair value of Level 3 warrant liabilities that are measured at fair value on a recurring basis (in thousands):

	December 31,	
	2016	2015
Warrant Liabilities		
Beginning balance as of January 1,	$ 861	$ 304
Change in fair value of warrant liability	(841)	(2,095)
Value of warrants issued	-	2,683
Value of warrants exercised	-	(31)
Ending balance as of December 31,	$ 20	$ 861

	December 31,	
	2016	2015
Contingent Consideration		
Beginning balance as of January 1,	$ 17,028	$ 2,932
Initial fair value of contingent consideration	-	15,570
Payments of contingent consideration	(5,147)	-
Change in fair value of contingent consideration	(10,065)	(1,474)
Ending balance as of December 31,	$ 1,816	$ 17,028

Assets and liabilities measured at fair value on a recurring basis are as follows (in thousands):

	December 31, 2016		
	Level 1	Level 2	Level 3
Liabilities:			
Warrant liabilities	$ -	$ -	$ 20
Contingent consideration	-	-	1,816
Total liabilities	$ -	$ -	$ 1,836

	December 31, 2015		
	Level 1	Level 2	Level 3
Liabilities:			
Warrant liabilities	$ -	$ -	$ 861
Contingent consideration	-	-	17,028
Total liabilities	$ -	$ -	$ 17,889

Assets measured at fair value on a non-recurring basis are as follows (in thousands):

	December 31, 2016			
	Level 1	Level 2	Level 3	Total Impairments
Assets:				
Intangible assets	$ -	$ -	$ 28,498	$ 1,688
Goodwill	-	-	11,959	9,207
Total assets	$ -	$ -	$ 40,457	$ 10,895

	December 31, 2015		
	Level 1	Level 2	Level 3
Assets:			
Intangible assets	$ -	$ -	$ 33,667
Goodwill	-	-	21,166
Total assets	$ -	$ -	$ 54,833

20. Defined Contribution Plan

The Company maintains the Alliqua, Inc. 401(k) Profit Sharing Plan and Trust ("Plan") in accordance with the provisions of Section 401(k) of the Code. The Plan covers substantially all full-time employees of the Company. Participants may contribute up to 100% of their total compensation to the Plan, not to exceed the limit as defined in the Code. Under this plan, the Company matches 50% of the employee's contributions up to 6% of the employee's annual compensation, as defined by the plan. Employees are eligible for the match after a six-month waiting period and the Company match vests immediately. The Company's contribution to the plan was $105,000 and $75,000 for the years ended December 31, 2016 and 2015, respectively.

21. Subsequent Events

Senior Secured Term Loan Facility

On January 26, 2017, as amended on March 7, 2017, the Company entered into an agreement with Perceptive whereby Perceptive agreed to forbear from exercising its rights and remedies related to the default of the Credit Agreement until April 30, 2017 or the date when the lender becomes aware of any other default. The lender reserved the rights, commencing with the occurrence of any of these events, to pursue any rights and remedies available to it, including, but not limited to, declaring all or any portion of the outstanding principal amount to be immediately due and payable, imposing a default rate of interest as specified in the credit agreement, or pursing the lender's rights and remedies as a secured party under the UCC as a secured lender.

In connection with this agreement, the Warrant issued at the entry of the Credit Agreement was amended to allow Perceptive to purchase two million shares of common stock, par value of $0.001 per share at an exercise price of $0.50 per share. The warrant expires on the fifth anniversary of the date of the amendment. The amended and restated warrant contains a weighted average anti-dilution feature whereby the exercise price of the amended and restated warrant is subject to reduction if we issue shares of common stock (or securities convertible into common stock) in the future at a price below the current exercise price of such warrant.

Notes Receivable

In January 2017, the Company provided Soluble with an additional $350,000 bridge loan in the form of a subordinated promissory note. Interest on the note accrues at a rate of 6%. The total amount advanced to Soluble under the subordinated promissory notes as of the date of this filing is approximately $1.4 million. On February 27, 2017, the Company terminated the definitive agreement to acquire Soluble. The Company believes the collectability of the amount due from Soluble is in doubt and, therefore, has fully reserved all amounts due from Soluble.

Private Placement

On February 27, 2017, the Company closed a private placement of 5,540,000 shares of common stock at a purchase price of $0.50 per share, pursuant to a securities purchase agreement with certain accredited investors. The Company received aggregate gross proceeds of $2,770,000.

EXHIBIT 21.1

List of Subsidiaries of Alliqua BioMedical, Inc.

Name of Subsidiary	State of Incorporation
AquaMed Technologies, Inc.	Delaware
Alliqua Holdings, Inc.	Delaware
Chesapeake Merger Corp.	Delaware

EXHIBIT 23.1

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in the Registration Statement of Alliqua BioMedical, Inc. on Form S-3 (File No. 333-197844) and Forms S-8 (File No. 333-193513) and (File No. 333-206133) of our report dated March 14, 2017, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, with respect to our audits of the consolidated financial statements of Alliqua BioMedical, Inc. and Subsidiaries as of December 31, 2016 and 2015 and for the years then ended, which report is included in this Annual Report on Form 10-K of Alliqua BioMedical, Inc. for the year ended December 31, 2016.

/s/ Marcum llp

Marcum llp
New York, NY
March 14, 2017

EXHIBIT 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO RULES 13a-14(A) AND 15d-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934

I, David Johnson, certify that:

1. I have reviewed this Annual Report on Form 10-K of Alliqua BioMedical, Inc. (the "registrant");

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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (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 that 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(s) 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: March 14, 2017

By: /s/ David Johnson
David Johnson
Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULES 13a-14(A) AND 15d-14(A)
OF THE SECURITIES EXCHANGE ACT OF 1934

I, Brian M. Posner, certify that:

1. I have reviewed this Annual Report on Form 10-K of Alliqua BioMedical, 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(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (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 that 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(s) 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: March 14, 2017

By: /s/ Brian M. Posner
Brian M. Posner
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

This certification is furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. 1350) and accompanies the Annual Report on Form 10-K (the "Form 10-K") for the year ended December 31, 2016, of Alliqua BioMedical, Inc. (the "Company"). I, David Johnson, the Chief Executive Officer and Principal Executive Officer of the Company, certify that, based on my knowledge:

(1) The Form 10-K fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company as of and for the periods covered in this report.

Date: March 14, 2017

By: /s/ David Johnson
Name: David Johnson
Title: Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished as an exhibit to the Form 10-K pursuant to Item 601(b)(32) of Regulation S-K and Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) and, accordingly, is not being filed as part of the Form 10-K for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

This certification is furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (18 U.S.C. 1350) and accompanies the Annual Report on Form 10-K (the "Form 10-K") for the year ended December 31, 2016 of Alliqua BioMedical, Inc. (the "Company"). I, Brian M. Posner, the Chief Financial Officer and Principal Financial Officer of the Company, certify that, based on my knowledge:

(1) The Form 10-K fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Form 10-K fairly presents, in all material respects, the financial condition and results of operations of the Company as of and for the periods covered in this report.

Date: March 14, 2017

By: /s/ Brian M. Posner
Name: Brian M. Posner
Title: Chief Financial Officer
(Principal Financial Officer)

The foregoing certification is being furnished as an exhibit to the Form 10-K pursuant to Item 601(b)(32) of Regulation S-K and Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) and, accordingly, is not being filed as part of the Form 10-K for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.