

ONCOSEC MEDICAL Inc  
Form 10-K  
September 27, 2013  
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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**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 July 31, 2013

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 000-54318

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# ONCOSEC MEDICAL INCORPORATED

(Exact name of registrant as specified in its charter)

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**Nevada**  
(State or other jurisdiction of  
incorporation or organization)

**98-0573252**  
(I.R.S. Employer  
Identification Number)

**9810 Summers Ridge Road, Suite 110**

**San Diego, CA 92121**

(Address of Principal Executive Offices)(Zip Code)

**(855) 662-6732**

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: **None**

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

**Common Stock, par value \$0.0001 per share**

(Title of Class)

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes o 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 o

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Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§229.405 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>
Non-accelerated filer <input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company <input checked="" type="checkbox"/>

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

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant as of January 31, 2013 totaled approximately \$23,000,000 based on the closing price of \$0.22. As of September 27, 2013, there were 170,838,526 shares of the Company's common stock (\$0.0001 par value) outstanding.

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This Annual Report in Form 10-K contains forward-looking statements that involve risks, uncertainties and assumptions. In some cases, you can identify forward-looking statements by terminology such as *may*, *should*, *expects*, *plans*, *anticipates*, *believes*, *estimates*, *predicts*, *continue* or the negative of these terms or other comparable terminology. All statements made in this Annual Report on Form 10-K other than statements of historical fact could be deemed forward-looking statements.

By their nature, forward-looking statements speak only as of the date they are made, are neither statements of historical fact nor guarantees of future performance and are subject to risks, uncertainties, assumptions and changes in circumstances that are difficult to predict or quantify. These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including the risks identified in the section entitled *Risk Factors* in Part I, Item IA of this Annual Report, and similar discussions in our other filings with the Securities and Exchange Commission (the *SEC*). If such risks or uncertainties materialize or such assumptions prove incorrect, our results could differ materially from those expressed or implied by such forward-looking statements and assumptions. Risks that could cause actual results to differ from those contained in the forward-looking statements include but are not limited to risks related to: uncertainties inherent in pre-clinical studies and clinical trials; our need to raise additional capital and our ability to obtain financing; general economic and business conditions; our ability to continue as a going concern; our limited operating history; our ability to recruit and retain qualified personnel; our ability to manage future growth; our ability to develop our planned products; and our ability to protect our intellectual property.

You should not place undue reliance on forward-looking statements. Unless required to do so by law, we do not intend to update or revise any forward-looking statement, because of new information or future developments or otherwise.

As used in this Annual Report on Form 10-K and unless otherwise indicated, the terms *the Company*, *we*, *us* and *our* refer to OncoSec Medical Incorporated.

OncoSec Medical Incorporated has filed applications to register the following trademarks: ImmunoPulse and NeoPulse. Other registered trademarks used in this Annual Report are the property of their respective owners.

## **PART I**

### **ITEM 1. BUSINESS**

The following discussion should be read in conjunction with our consolidated financial statements and the related notes and other financial information appearing elsewhere in this Annual Report on Form 10-K.

#### **Overview**

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We are an emerging drug-medical device and therapeutic company focused on designing, developing and commercializing innovative and proprietary medical approaches for the treatment of solid tumors that have unmet medical needs or where currently approved therapies are inadequate based on their efficacy or side-effects. Our company was incorporated under the laws of Nevada on February 8, 2008 as Netventory Solutions Inc. Initially, we provided online inventory services to small and medium sized companies. In March 2011, we changed our name to OncoSec Medical Incorporated and acquired from Inovio Pharmaceuticals, Inc. ( Inovio ) certain assets related to the use of drug-medical device combination products for the treatment of various cancers. With this acquisition, we have abandoned our efforts in the online inventory services industry and are focusing our efforts in the biomedical industry.

### **Our Strategy**

The assets we acquired include intellectual property relating to certain delivery technologies, which we refer to as the OncoSec Medical System ( OMS ), a therapeutic approach which is based on the use of an electroporation delivery device in combination with an approved chemotherapeutic drug and a DNA-based cytokine to treat solid tumors. These two different approaches represent unique therapeutic modalities, ImmunoPulse and NeoPulse. Our ImmunoPulse approach is based on the use of electroporation to enhance the local delivery of DNA plasmids which, upon uptake into cells, direct the production of immunostimulatory cytokines to generate a local, regional and systemic immune response for the treatment of various cutaneous cancers. NeoPulse utilizes our electroporation technologies for the local delivery of the chemotherapeutic drug bleomycin to treat solid tumors. OMS consists of an electrical pulse generator console and various disposable applicators specific to the individual tumor size, type and location and is designed to increase the permeability of cancer cell membranes and, as a result, increases the intracellular delivery of selected therapeutic agents. Using either ImmunoPulse, a DNA-based immunotherapy or NeoPulse, a therapy to treat solid tumors, our mission is to enable people with cancer to live longer with a better quality of life than otherwise possible or available with existing therapies.

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Cancer is a disease of uncontrolled cell growth. The primary front line treatment of solid tumors involves surgical resection and/or radiation to eliminate or debulk tumor growth prior to initiating systemic therapy with chemotherapeutic agents. In the case of invasive surgical procedures, surgeons will often remove or resect an area outside of the obvious tumor mass to ensure that they have excised all of the cancerous tissue because of the difficulty in determining the border, or margin, between healthy and diseased tissue. This treatment can result in the loss of function and appearance of the surrounding tissues, significantly reducing the patient's quality of life. Although there have been recent advances in non-surgical forms of tumor ablation, such as cryoablation, stereotactic, microwave and high frequency radio ablation therapy, we believe they fail to fully satisfy the clinical need to preserve normal healthy tissue. Given the desire for improved outcomes in the surgical resection of solid tumors, we believe that there can be significant demand for our NeoPulse technology from patients, dermatologists and surgical oncologists.

The NeoPulse approach has been developed up to Phase III clinical trials in the United States for the treatment of recurrent head and neck cancer and Phase I/II for the treatment of recurrent breast cancer. NeoPulse has potential application in a wide range of solid tumors, including basal cell carcinoma, squamous cell carcinoma, melanoma, breast, prostate, and pancreatic cancers. In addition, Phase IV pre-marketing studies to support the commercialization of NeoPulse in Europe have also been performed for the treatment of primary and recurrent head and neck cancers and cutaneous skin cancers. We are actively pursuing opportunities primarily focused in Europe, Asia and North America to partner NeoPulse for further clinical development and commercialization.

When detected early and still confined to a single location, cancer may be cured by surgery or radiation and potentially, by promising new technologies such as NeoPulse. However, neither surgery nor radiation can cure cancer that has spread throughout the body. Although chemotherapy can sometimes effectively treat cancer that has spread throughout the body, a number of non-cancerous cells, such as bone marrow cells, are also highly susceptible to chemotherapy. As a result, chemotherapy often has fairly significant side effects. In addition, it is common to see cancer return after apparently successful treatment by each of these means. We hope that ImmunoPulse can offer a solution for systemic diseases with an improvement in safety and quality of life for patients over conventional systemic treatments such as chemotherapy.

Immunotherapy, a process which uses the patient's own immune system to treat cancer, may have advantages over surgery, radiation, and chemotherapy. Many cancers appear to have developed the ability to hide from the immune system. A treatment that can augment the immune response against tumor cells by making the cancer more visible to the immune system would likely represent a significant improvement in cancer therapy. Immune-enhancing proteins such as interleukin-2, or IL-2, and interferon-alpha, or IFN- $\alpha$ , have shown encouraging results. However, these agents often require frequent doses that may result in severe side effects.

Two recent drugs for metastatic melanoma were approved in 2011, both on the basis of increased survival. Yervoy<sup>®</sup>, a monoclonal antibody marketed by Bristol-Myers Squibb Co., stops the suppression of T-cells that can seek out and destroy melanoma cells. Zelboraf<sup>®</sup>, a B-Raf inhibitor marketed by Roche and Daiichi Sankyo, interrupts a key process in melanoma growth in patients with a particular melanoma mutation. Both drugs are associated with significant side effects, and neither is considered a cure for melanoma.

In May 2013, two new drugs for metastatic melanoma were approved. Tafinlar<sup>®</sup> and Mekinist<sup>®</sup> are single-agent oral treatments for the treatment of unresectable metastatic melanoma. Like Zelboraf<sup>®</sup>, both of these new agents interrupt a key process in melanoma growth by inhibiting the MAP Kinase signaling pathway. Also, like Zelboraf, these agents can cause significant side effects and long-term use may lead to drug resistance by tumor cells.

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Our current ImmunoPulse clinical-stage approach consists of directly injecting solid tumors with a DNA plasmid which, upon uptake into cells, direct the production of the encoded immunostimulatory cytokine to generate a loco-regional immune response against the tumor, which potentially may result in a systemic immune response. The ease of manufacture, convenience, and ability to repeat administration may offer advantages over current modalities of therapy. In addition, cancer therapies using non-viral DNA delivery may offer an added margin of safety compared with viral-based delivery, as no viral particles or other potentially infectious agents are contained in the formulation. A Phase I clinical trial using our ImmunoPulse approach has been completed and three Phase II clinical trials focused on melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma have been initiated.

Our business model is based on a development strategy that leverages previous in-depth clinical experiences, previous approvals for the electroporation-based devices and late stage clinical studies in the United States and Europe. We may seek regulatory approvals to initiate specific studies in target markets to collect safety, clinical, reimbursement, and pharmaco-economic data as part of our development strategy. Our clinical development strategy includes completing the necessary additional clinical trials in accordance with FDA guidelines for cutaneous cancers including select rare cancers that have limited, adverse or no therapeutic



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alternatives. Our strategy also includes expanding the applications of our technologies through strategic collaborations or evaluation of other opportunities such as in-licensing and strategic acquisitions. We may collaborate with major pharmaceutical and biotechnology companies and government agencies, providing us access to complementary technologies or greater resources. These business activities are intended to provide us with mutually beneficial opportunities to expand or advance our product pipeline and serve significant unmet medical needs. We may license our intellectual property to other companies to leverage our technologies for applications that may not be appropriate for our independent product development.

**Asset Acquisition**

On March 14, 2011, we entered into an Asset Purchase Agreement (as amended, the Asset Purchase Agreement ) with Inovio to acquire certain assets from Inovio related to certain non-DNA vaccine technology and intellectual property relating to selective electrochemical tumor ablation (that we refer to as the OMS). The asset purchase was completed on March 24, 2011. On September 28, 2011 and March 24, 2012, we entered into amendments to the Asset Purchase Agreement to amend certain of the payment terms. We acquired various assets from Inovio related to the OMS technology.

We did not assume any of the liabilities of Inovio except liabilities under the assigned contracts and assigned intellectual property arising after the closing date of the Asset Purchase Agreement. We agreed to pay Inovio \$3,000,000 in scheduled payments beginning on the closing date as well as certain royalties in the event we commercialize our OMS technology. We have entered into amendments to the Asset Purchase Agreement with Inovio in September 2011 (the First Amendment ) and in March 2012 (the Second Amendment ) to modify the terms of our payment obligations (among other modifications). We recently made a payment of \$1 million to Inovio in May 2013 and we are required to make a final payment to Inovio of \$1 million on December 31, 2013. In consideration for the First Amendment, we issued to Inovio a warrant to purchase 1,000,000 shares of common stock with an exercise price of \$1.20 per share. In consideration for the Second Amendment, we issued to Inovio a warrant to purchase 3,000,000 shares of our common stock with an exercise price of \$1.00 per share. Each of the warrants is subject to a five year term. Each of the warrants also contains a mandatory exercise provision allowing us to request the exercise of the warrant in whole provided that our daily market price (as defined in the warrant) is equal to or greater than \$2.40 for twenty consecutive trading days. We completed an evaluation of the warrants issued to Inovio and determined the warrants should be classified as equity within our consolidated balance sheet.

We are also party to a cross-license agreement with Inovio, which we entered into concurrently with the closing of our asset acquisition. This agreement provides for the exclusive license to Inovio of rights related to certain OMS technology patents in the field of gene or nucleic acids, outside of those encoding cytokines, delivered by electroporation and for the non-exclusive cross-license by Inovio to us of rights related to certain non-OMS technology patents in the OMS field in exchange for specified sublicensing and other licensing fees and royalties.

**University of South Florida License**

On August 24, 2012, we secured an exclusive license for specific patented technology from the University of South Florida Research Foundation relating to the delivery of gene-based therapeutics via intratumoral and intramuscular electroporation. This patent directly supports our clinical development focus in solid tumor applications and specifically metastatic melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma using our ImmunoPulse therapy, and extends patent protection for the ImmunoPulse technology to the year 2024.

**The OncoSec Medical System**

Many drugs and DNA-based therapeutics must enter the target cell through its membrane in order to perform their intended function. However, the effectiveness of these medicines is limited since gaining entry into target cells through the outer membrane can be a significant challenge. In the 1970s, it was discovered that the brief application of high-intensity, pulsed electric fields to the cell resulted in a temporary and reversible increase in the permeability of the cell membrane. As a consequence, it was also demonstrated that there was a subsequent increase in the ability of both small and large molecules to move between the cell exterior and interior via the newly formed membrane pores.

The transient, reversible nature of the electrical permeabilization of cell membranes and the resulting increase in intracellular delivery of therapeutic agents is the underlying basis of our OMS therapeutic approach. OMS consists of an electrical pulse generator console and various disposable applicators specific to the individual tumor size, type and location. While the extent of membrane permeabilization depends on various electrical, physical, chemical, and biological parameters, research with OMS has demonstrated an increase of cellular uptake of chemical molecules from 1,000-8,000 fold above baseline. Once inside of the cell, the membrane permeability decreased thereby trapping the molecules within the cell and allowing them to perform their function. The enhanced delivery of these agents may result in the ability to not only improve cytotoxicity and therapeutic value but also to lower the required doses and thereby providing a potentially safer treatment.

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*DNA Delivery With Electroporation ImmunoPulse*

The greatest obstacles to making conventional immunotherapy and DNA-based immunotherapies a reality has been the limited data supporting safe, efficient, and economical delivery and expression of plasmid-DNA constructs into the target cells. We are leveraging off the past history and experience of certain managers and advisors in developing the methods and devices that optimize the use of electroporation for the efficient and effective delivery of DNA-based therapeutics. The use of OMS in this approach has been validated from multiple clinical studies assessing DNA-based immunotherapies against cancers. Together with our partners and collaborators, we plan to be the leader in establishing electroporation-delivered DNA immunotherapies. We believe that electroporation should become the method of choice for plasmid-DNA delivery into cells in many clinical applications.

The immunotherapy approach of our OMS therapy uses an electroporation system that is calibrated and designed to create optimal conditions to deliver plasmid DNA encoding immunotherapeutic cytokines into tumor cells that in turn promote anti-cancer responses. The cytokine-encoding plasmid is first injected with a syringe/needle into the selected tumor. Using a remote control, the pulse generator is switched on and electrical pulses are generated and delivered through an attached electrical cord into the injected tissue through an electrode-needle array on the applicator. When DNA injection is followed by electroporation of the target tissue, transfection is significantly greater with resultant gene expression generally enhanced from 100 to 1000-fold. This increase makes many DNA-based candidates potentially feasible without unduly compromising safety or cost.

A Phase I clinical trial in metastatic melanoma has been completed using ImmunoPulse to deliver plasmid-DNA encoding for the IL-12 cytokine. The study was designed to assess both the adaptive and innate immunity responses from the targeted delivery of the IL-12 into melanoma tumor cells. Published data have suggested that gene transfer utilizing *in vivo* DNA electroporation in metastatic melanoma showed that it was safe, effective, reproducible, and titratable. The findings also demonstrated not only regression of treated melanoma skin lesions, but also regression of distant untreated lesions, suggesting a systemic immune response to the localized treatment. These results are significant and thus we are now planning to further develop of OMS for the delivery of plasmid-DNA encoding for the IL-12 cytokine in a Phase II clinical trial that has been initiated.

*Drug Delivery With Electroporation NeoPulse*

The chemotherapeutic approach of our NeoPulse platform was formerly described as Selective Electrochemical Tumor Ablation (SECTA). NeoPulse utilizes electroporation technologies for the local delivery of the chemotherapeutic drug bleomycin to treat solid tumors. The approach has demonstrated safety and efficacy in a wide range of solid tumors including, basal cell, squamous cell, melanoma, breast, prostate, and pancreatic cancers. NeoPulse has been developed up to Phase III clinical trials in the United States for the treatment of recurrent head and neck cancer and in Phase I/II for the treatment of recurrent breast cancer. In addition, Phase IV pre-marketing studies to support the commercialization of the OMS system in Europe were also performed for the treatment of primary and recurrent head and neck cancers and cutaneous skin cancers. The previous sponsor of these studies (Inovio Pharmaceuticals, Inc.) elected not to conclude the clinical testing but rather monetize certain SECTA assets in order to pursue a more focused strategy for development of DNA vaccines.

**Clinical Program**

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We initiated three Phase II clinical trials to assess the cancer-destroying and tissue-sparing properties of the ImmunoPulse technology in patients with melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma during calendar year 2012. Our lead ImmunoPulse candidate for these trials is a DNA plasmid coding for IL-12 that is delivered using our OMS electroporation device. While the DNA IL-12 immunotherapy is administered locally, results from preclinical and Phase I clinical trials indicated that the therapy was safe and without toxic side effects. Although Phase I trials are designed to study only safety and tolerability, our Phase I trial suggested that our ImmunoPulse produced both a local and systemic effect against cancerous cells. All three Phase II clinical trials were initially physician-sponsored open label, multi-center trials. As of the date of this filing, all three physician sponsored Investigational New Drug (IND) applications have been transferred to the Company.

### *Phase II Melanoma Trial (OMS-1100)*

Our melanoma trial, entitled Phase II trial of intratumoral pIL-12 electroporation in advanced stage cutaneous and in transit malignant melanoma, is a single dose trial treating approximately 25 patients. The primary endpoint is objective response rate (local and distant) at six months. Secondary trial endpoints include time to objective response (complete and partial responses), duration of distant response and overall survival. We are building on positive Phase I dose escalation trial results in 24 patients with metastatic melanoma treated with pIL-12 in combination with electroporation. That study established safety and tolerability and suggested a systemic objective response in more than half of the subjects; 15% of patients showed 100% clearance of distant, non-treated tumors. Based on historical data, less than 0.25% of patients would have been expected to see regression in their untreated tumors.

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*Phase II Merkel Cell Carcinoma Trial (OMS-1110)*

Merkel cell carcinoma is a rare but lethal skin cancer affecting about 1,500 people each year with 33% mortality rate. Current outcomes to chemotherapy treatment have demonstrated short-lived responses with no clear impact on overall survival. Our clinical trial, entitled "A Phase II study of intratumoral injection of interleukin-12 plasmid and in vivo electroporation in patients with Merkel cell carcinoma," is a single dose, open label trial in 15 patients. The study's endpoints are IL-12 gene expression in tumor tissue at three to four weeks post-treatment and secondary endpoints will evaluate objective response rates (both local and distant) at six months post-treatment, time to relapse or progression and overall survival. This study will evaluate the safety and tolerability of DNA IL-12 as a treatment for Merkel cell carcinoma and aims to further validate the findings from the Phase I dose escalation trial carried out in 24 metastatic melanoma patients.

*Phase II Cutaneous T-Cell Lymphoma (OMS-1120)*

Cutaneous T-cell lymphoma, or CTCL, is a rare disease affecting approximately 3,000 people each year with current therapies requiring life-long management and treatment. Today's treatment methods delivered either locally or systemically all result in systemic toxicities. Cytokine therapies have shown some therapeutic benefit, however, the requirement for high dose systemic concentrations results in unwanted toxicities and eventual resistance to the therapy. In contrast, our ImmunoPulse treatment uses locally delivered low dose plasmid-DNA coding for IL-12, which induces a local immune response designed to target and destroy cancerous cells, which may potentially result in a systemic response against distant untreated tumors. A previous Phase I clinical trial in 24 melanoma patients demonstrated a strong safety profile for this mode of treatment. The planned clinical trial, entitled "Phase II trial of intratumoral IL-12 plasmid electroporation in cutaneous lymphoma," is an open label, multi-center study and is expected to enroll 27 patients. The trial's primary endpoint is to assess the objective response rate (both local and distant) at six months post-treatment, with safety and progression-free survival as secondary endpoint measures. ImmunoPulse is a potentially new treatment being evaluated for patients suffering from CTCL, who currently have few options to treat this chronic life-altering disease.

**Scientific Advisory Panel**

We have consulted with senior and respected oncology researchers to provide counsel as part of our scientific advisory panel for our ImmunoPulse clinical program, each of whom is employed elsewhere on a full-time basis. As a result, they can only spend a limited amount of time on our affairs. We expect to access scientific and medical experts in academia, as needed, to support our scientific advisory panel. The scientific advisory panel assists us on issues related to potential product applications, product development and clinical testing.

**Commercialization**

We plan to continue our clinical development strategy for the ImmunoPulse program with Phase II and subsequent pivotal clinical trials focused on cutaneous cancers including select rare cancers that have limited, adverse or no therapeutic alternatives. We expect our current studies to validate data from previous Phase I clinical experience, which will be used to further develop the Company's development strategy for this program.

Our business model for the NeoPulse program is based on a partnering and commercialization strategy that leverages previous in-depth clinical experiences, and late stage clinical studies in the United States (Phase III) and Europe (Phase IV). Our near term plan will be to identify and engage potential partner(s) who are established industry leaders in the field of surgical oncology, or who are seeking to expand their portfolio into this space with the purpose of partnering the NeoPulse asset in select geographic regions, such as Europe and Asia. Once a partner is engaged, we may plan to seek regulatory approvals to initiate specific studies in target markets to collect clinical, reimbursement, and pharmacoeconomic data in order to advance a joint commercialization strategy.

### **Competition**

We are in a highly competitive industry. We are in competition with traditional and alternative therapies for the indications we are targeting, as well as pharmaceutical and biotechnology companies, hospitals, research organizations, individual scientists and nonprofit organizations engaged in the development of drugs and other therapies for these indications. Our competitors may succeed, and many have already succeeded, in developing competing products, obtaining FDA approval for products or gaining patient and physician acceptance of products before us for the same markets and indications that we are targeting. Many of these companies, and large pharmaceutical companies in particular, have greater research and development, regulatory, manufacturing, marketing, financial and managerial resources and experience than we have and many of these companies may have products and product candidates that are in a more advanced stage of development than our product candidates. If we are not first to market for a particular indication, it may be more difficult for us or our collaborators to effectively enter markets unless we can demonstrate our products are clearly superior to existing therapies (see also Intellectual Property below).

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Examples of competitive therapies include the following:

- Surgical Resection. In most cases, the primary treatment for localized and operable tumors or lesions is surgical resection alone or in combination with other modalities such as radiation therapy. Given the ability to cut an appropriate margin around the tumor in order to avoid recurrence from microscopic disease populating the periphery of the tumor mass makes surgery highly effective for early stage cancers. Recent advances in robotic surgical technology have provided more minimally invasive surgical options. However, accessibility of a tumor at times prevents the use of surgery or limits the margin that can be removed especially at sites such as the tongue where the loss of tissue results in the loss of critical function such as speech. The drawback to resecting tissue is potential disfigurement or debilitating effects on organ function. Surgery also requires additional cost in the form of hospitalization and post-operative care.

- Radiation Therapy. Radiation therapy is the use of high-energy rays generated by an external machine or by radioactive materials placed directly into or near the tumor and used to damage and stop growth of malignant cells, which are more sensitive to the effects of radiation. Radiation is often used in combination with surgery and chemotherapy. In cases where a tumor is inoperable or unresponsive to chemotherapy, radiation is often used palliatively to limit the complications of disease progression. Radiation therapy has a number of significant side effects, in that it damages healthy cells surrounding the target area and takes several weeks to administer. It may also be costly due to the number of procedures and cost of administration.

- Chemotherapy. Post-surgery or in cases where surgery is contraindicated, chemotherapy is often used to treat systemic disease and may frequently be combined with radiation therapy. Typically it is used under the following circumstances:

- When cancer is disseminated requiring treatment of systemic or metastatic disease;
- Where the prognosis for local regional disease is poor due to the likelihood of disease progression;
- Where surgery is contraindicated, e.g. certain liver or pancreatic carcinoma or as a result of the patient's overall health condition; and
- For palliation, to achieve tumor shrinkage to ameliorate tumor symptoms or complications.

The cytotoxicity of many existing anti-cancer drugs is well proven, but with many undesirable proven side effects including immunosuppression alopecia (loss of hair), nausea, vomiting, and in some cases drug resistance. Surgery and radiation cannot be used where treatment poses a risk to nearby nerves, blood vessels, or vital organs. All of these practices have limited efficacy in treating cancers of certain organs, such as the pancreas.

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- Alternative treatments. Competitive therapies also include alternative treatments, such as radio frequency ablation, photodynamic therapy, cryoablation, brachytherapy and biologic or immunotherapy:
  
- Radio Frequency Ablation ( RFA ) This modality uses radio frequency energy to heat tissue to a high enough temperature to cause ablation or cell death. An RFA ablation probe is placed directly into the target tissue. An array of several small, curved electrodes is deployed from the end of the probe. Once sufficient temperatures are reached, the heat kills the target tissue within a few minutes. This treatment has been proven efficacious in treating some solid tumors but suffers from not being tumor specific by destroying healthy as well as malignant tissue.
  
- Photodynamic Therapy. Photodynamic therapy ( PDT ) uses intravenous administration of a light-activated drug that accumulates in malignant cells. A non-thermal laser is used to activate the drug, producing free radical oxygen molecules that destroy the cancer. PDT has low risk of damage to adjacent normal tissue, the ability to retreat, and can be used concurrently with other treatment modalities. A major side effect of PDT is patient photosensitivity that can last for as long as six to eight weeks following treatment. Other side effects include nausea and vomiting. This method is limited by the shallow depth of penetration of the laser light which makes it more applicable to surface lesions on the skin or esophagus.
  
- Cryoablation. Cryoablation is a technique being used to treat lesions in liver, kidney, prostate, and breast cancer. This method uses liquid nitrogen filled probes inserted into the tumor mass with image guided surgery to freeze cancer cells. Necrosis (cell death) occurs and the dead cells are naturally sloughed off into the body. Cryoablation has been most commonly adopted for use in treating prostate carcinoma where surgery can often lead to impotence. The technology is claimed to limit nerve damage in the prostate allowing for the retention of bladder and sexual function. Therefore, it may afford advantages over surgery and brachytherapy (see below).



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- **Brachytherapy.** Brachytherapy involves the local implantation of radioactive seeds into or near a tumor mass. It has been most widely used in prostate and breast carcinoma in situ. The seeds decay over time resulting in the local destruction of malignant cells. The difficulty with brachytherapy, in addition to the concomitant destruction of nascent healthy tissue, is the investment and training required to administer the therapy. Recent reports also suggest that the therapy may not produce durable responses (i.e. long term cures). Consequently, brachytherapy does not appear to be growing in acceptance in the marketplace.
- **Immunotherapy.** This therapeutic approach stimulates the patient's own immune system to attack malignant tumor cells, which have managed to circumvent the body's natural immune processes that would normally recognize and destroy these cells before they are able to form growing cancerous tumors. Several methods have been employed to evoke this immune response, including monoclonal antibodies and autologous cell-based vaccines, as well as viral and non-viral targeted delivery of immunotherapeutic agents.

Yervoy® is a monoclonal antibody that acts to block the CTLA-4 receptor (an immune checkpoint receptor) on T-cells. In the presence of CTLA-4 receptor it is believed tumors are able to suppress the immune system from recognizing cancerous cells, however, blockade of this receptor with Yervoy® (an anti-CTLA-4 antibody) appears to allow the immune system to generate an antitumor T-cell response. Yervoy® was the first approved immunotherapy in melanoma, and current research is evaluating the use of other anti-checkpoint monoclonal antibodies. Despite these therapies showing benefit to some patients by extending life beyond traditional therapeutic options, safety and tolerance to these drugs, as well as ease of administration of the therapies, may be a deterrent for some patients. As a result, emerging therapies continue to be developed to improve upon the safety, efficacy and ease-of-use problems currently encountered by immunotherapies.

Like Provenge®, a product developed and marketed by Dendreon Corporation, many emerging therapies continue to employ an autologous cell-based mode of delivery, which involves the harvesting of a patient's own cells, growing them in a lab, incubating with a vaccine or immune stimulating agent, and re-administering the resulting product to the patient. This autologous cell-based approach has shown safety and efficacy, however, the significant cost and time involved in preparing this therapeutic treatment for each individual patient has been unattractive for many patients and clinicians.

Viral vectors, such as adenoviruses and oncolytic viruses, have also been used to deliver immunotherapeutic payloads to fight against cancerous cells, either systemically or through direct injection into the tumor. Clinical trials for this therapeutic delivery method are on-going with no approved therapies yet to be available in the clinic, however, questions still remain about efficacy of viral vectors as a delivery method, since the patient may mobilize an immune reaction against the virus itself resulting in neutralization of the virus and clearance from the body before an effectual response is elicited. Since viral vectors are occasionally created from pathogenic viruses, involving a deletion of a part of the viral genome critical for viral replication, safety has also been a concern to avoid production of new virions.

Other non-viral vector methods, including liposome-based delivery systems, are also currently being developed and employed in on-going clinical trials. The impact of all these emerging cancer immunotherapies will ultimately be determined by their ability to improve upon the safety, efficacy, utility and cost of currently available therapies.

- **Vaccination.** The use of vaccination has long held interest as another potential modality that could prove beneficial in treating and limiting systemic disease. The challenge has been that many tumors do not display antigens unique to the tumor cell that the immune system can use to specifically target for selective destruction of the malignant tissue. Even though tumors over-express normal cellular products that the immune system ignores, due to a process called tolerization, the immune system is educated not to recognize self antigens early in development. As a result of the lack of immune system detection, it has proven difficult to use conventional vaccination strategies to break or overcome

tolerance and generate immunity against tumor cells.

- Targeted Small Molecule Therapy. Mutations that drive signaling pathways critical to tumor growth and survival have recently been identified. One such mutation of the mitogen activated protein (MAP) kinase pathway has been shown to be important in the proliferation of approximately 50% of all cutaneous melanomas. The introduction of BRAF inhibitors, that block the BRAF V600E mutation, has greatly improved the short term prospects of some patients with these tumors, but the tumors tend to become resistant to therapy with time by activating alternative signaling pathways.

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**Research and Development Expenditures**

Prior to our asset purchase from Inovio in March 2011, we did not engage in any research and development activities. We incurred \$3,159,209 and \$2,368,481 in research and development expenses during our fiscal years ended July 31, 2013 ( Fiscal 2013 ) and July 31, 2012 ( Fiscal 2012 ), respectively. We expect research and development to account for a significant portion of our total expenses in the future as we continue to focus on designing and developing our therapies. Our expenditures will be primarily related to the advancement of three Phase II clinical trials to assess the ImmunoPulse technology in patients with melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma. Expenditures related to these studies began during calendar year 2011 and we expect to ramp up expenditures based on enrollment in the trials and subsequent analysis of patient data from the separate studies.

**Employees**

Concurrent with the asset acquisition, we assembled a senior management team with many years of experience and success in biotech/pharma operations, business and commercial development and capital markets. In addition, we have assembled a clinical and regulatory team that has had many years of experience in developing and advancing novel therapeutic approaches through clinical testing and regulatory approvals. As of September 25, 2013, we have a total of twelve full-time employees.

We expect to hire additional staff and to engage consultants in regulatory, compliance, investor and public relations, and general administration as necessary. We also expect to engage experts in healthcare and in general business to advise us in various capacities.

**Intellectual Property**

Our success and ability to compete depends upon our intellectual property. We have acquired and have been issued 27 U.S. patents and have two U.S. patent applications pending. We expect to file additional patent applications. We have a total of 18 issued patents and patent applications in other jurisdictions. The bulk of our patents, including fundamental patents directed toward our proprietary technology, expire between 2014 and 2027. In addition, we have licensed intellectual property rights to use certain electroporation technology and intellectual property for delivering DNA-based cytokines as an immunotherapy.

**Government Regulation**

*United States*

In the United States, our product candidates are subject to extensive regulation by the Food and Drug Administration (the FDA). Federal and state statutes and regulations, many of which are administered by the FDA, govern, among other things, the research, development, testing,

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manufacture, storage, recordkeeping, approval, labeling, promotion and marketing, distribution, post-approval monitoring and reporting, sampling, and import and export of pharmaceutical products. Failure to comply with applicable FDA or other requirements may subject a company to a variety of administrative or judicial sanctions, such as the FDA's refusal to approve pending applications, a clinical hold, warning letters, recall or seizure of products, partial or total suspension of production, withdrawal of the product from the market, injunctions, fines, civil penalties or criminal prosecution.

FDA approval is required before any new unapproved drug or dosage form, including a new use of a previously approved drug, can be marketed in the United States. The process required by the FDA before a drug may be marketed in the United States generally involves, among other things:

- completion of pre-clinical testing and formulation studies in compliance with the FDA's good laboratory practice regulations;
- submission to the FDA of an investigational new drug application, or IND, for human clinical testing, which must become effective before human clinical trials may begin in the United States;
- performance of adequate human clinical trials in accordance with good clinical practices to establish the safety and efficacy of the proposed drug product for each intended use; and
- submission to the FDA of a new drug application, or NDA, which the FDA must review and approve.

The pre-clinical and clinical testing and approval process requires substantial time, effort and financial resources, and the receipt and timing of approval, if any, is highly uncertain. The results of pre-clinical tests, together with certain manufacturing information, analytical data and a proposed clinical trial protocol and other information, are submitted as part of an IND to the FDA. Once an IND is in effect, the protocol for each clinical trial to be conducted under the IND must be submitted to the FDA, which may or may not allow the trial to proceed. A separate submission to an existing IND must also be made for each successive clinical trial conducted during product development.

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Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of qualified investigators in accordance with good clinical practice requirements. For purposes of an NDA submission and approval, human clinical trials are typically conducted in the following sequential phases, which may overlap or be combined:

- *Phase I:* The drug is initially introduced into healthy human subjects or patients and tested for safety, dose tolerance, absorption, metabolism, distribution and excretion and, if possible, to gain an early indication of its effectiveness.
- *Phase II:* The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted indications and to determine dose tolerance and optimal dosage. Multiple Phase II clinical trials may be conducted.
- *Phase III:* The drug is administered in large patient populations to obtain additional evidence of clinical efficacy and safety in an expanded patient population at multiple, geographically-dispersed clinical trial sites and to establish the overall risk-benefit relationship of the drug.
- *Phase IV:* In some cases, the FDA may condition approval of an NDA for a product candidate on the sponsor's agreement to conduct additional clinical trials to further assess the drug's safety and effectiveness after NDA approval.

The results of product development, pre-clinical studies and clinical trials are submitted to the FDA as part of an NDA requesting approval to market the product. NDAs must also contain extensive information relating to the product's pharmacology, chemistry, manufacture, controls and proposed labeling, among other things.

Once the submission has been accepted for filing, the FDA begins an in-depth substantive review. Pursuant to the FDA's performance goals, NDA reviews are to be completed within ten months, subject to extensions by the FDA. Before approving an NDA, the FDA often inspects the facility or facilities where the product is manufactured and will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with good manufacturing practices. Additionally, the FDA will typically inspect one or more clinical sites to assure compliance with good clinical practices before approving an NDA. If the FDA determines that the NDA is not acceptable, then the FDA may outline the deficiencies in the NDA and often will request additional information or additional clinical trials. Notwithstanding the submission of any requested additional testing or information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

Even if regulatory approval of a product candidate is obtained, such approval will usually entail limitations on the indicated uses for which the product may be marketed. Additionally, the FDA may require post-approval testing, such as Phase IV studies, or surveillance programs to monitor the effect of approved products, and the FDA has the power to prevent or limit further marketing of a product based on the results of these post-marketing programs.

After FDA approval, a product will be subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to drug/device listing, recordkeeping, periodic reporting, product sampling and distribution, manufacturing practices, labeling, advertising and promotion, and reporting of adverse experiences with the product. The FDA may withdraw its approval of a product if compliance with regulatory requirements and manufacturing standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things: restrictions on the marketing or manufacturing of the product; complete withdrawal of the product from the market or product recalls; fines, warning letters or

holds on post-approval clinical trials; or injunctions or the imposition of civil or criminal penalties.

***International Regulation***

If we pursue research and/or commercialization of our product candidates in countries other than the United States, then we would need to obtain the necessary approvals by the regulatory authorities of such foreign countries comparable to the FDA before we could commence clinical trials or marketing of our product candidates in those countries, and we would be subject to a variety of foreign regulations regarding safety and efficacy and governing, among other things, clinical trials and commercial sales and distribution of our products. The approval process and requirements vary by country and can involve additional product testing and additional review periods, and the time may be longer or shorter than that required to obtain FDA approval.

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***Other Regulatory Requirements and Environmental Matters***

We are or may become subject to various laws and regulations regarding laboratory practices and the experimental use of animals, as well as environmental laws and regulations governing, among other things, any use and disposal by us of hazardous or potentially hazardous substances in connection with our research. In each of these areas, as above, the FDA and other government agencies have broad regulatory and enforcement powers, including, among other things, the ability to levy fines and civil penalties, suspend or delay issuance of approvals, seize or recall products, and withdraw approvals, any one or more of which could have a material adverse effect on us. Additionally, if we are able to successfully obtain approvals for and commercialize our product candidates, then we may become subject to various federal, state and local laws targeting fraud, abuse, privacy and security in the healthcare industry.

**ITEM 1A. RISK FACTORS**

*Investment in our common stock involves a high degree of risk. The risk factors described below summarize some of the material risks inherent in and affecting our business. You should consider each of the following factors as well as the other information in this Annual Report in evaluating our business and our prospects. Our business, financial condition, results of operations and stock price could be materially adversely affected by a wide range of factors. Additional risks not presently known to us or that we currently deem immaterial may also impair our business financial condition, results of operations and stock price.*

***We will need to raise additional capital in future periods to continue operating our business, and such additional funds may not be available on acceptable terms or at all.***

We do not generate, and may never generate, any cash from operations and must raise additional funds in order to continue operating our business. We estimate our cash requirements for the next 12 months to be approximately \$9.1 million, which is inclusive of our \$1 million payment to be made in December 2013 to Inovio under the Asset Purchase Agreement. As of July 31, 2013, we had cash and cash equivalents of approximately \$4.9 million. On September 18, 2013, we closed a public offering and issued an aggregate of 47,792,000 shares of our common stock plus warrants to purchase an aggregate of 23,896,000 additional shares of our common stock, at a per share price of \$0.25, resulting in net proceeds to us of approximately \$11.1 million.

We have a history of raising funds through offerings of our common stock, and we may in the future raise additional funds through public or private equity offerings, debt financings or corporate collaborations and licensing arrangements. We expect to continue to fund our operations primarily through equity and debt financings in the future. If additional capital is not available, we may not be able to continue to operate our business pursuant to our business plan or we may have to discontinue our operations entirely. We will require additional financing to fund our planned operations, including developing and commercializing our intellectual property, seeking to license or acquire new assets, researching and developing any potential patents, related compounds and other intellectual property, funding potential acquisitions, and supporting clinical trials and seeking regulatory approval relating to our assets and any assets we may acquire in the future. Additional financing may not be available to us when needed or, if available, may not be available on commercially reasonable terms. If we issue equity or convertible debt securities to raise additional funds, our existing stockholders may experience substantial dilution, and the new equity or debt securities may have rights, preferences and privileges senior to those of our existing stockholders. If we incur additional debt, it may increase our leverage relative to our earnings or to our equity capitalization, requiring us to pay additional interest expenses. Obtaining commercial loans, assuming those loans would be available, would increase our liabilities and future cash commitments.

We may not be able to obtain additional financing if the volatile conditions in the capital and financial markets, and more particularly the market for early development stage biomedical company stocks, persist. Weak economic and capital markets conditions could result in increased difficulties in raising capital for our operations. We may not be able to raise money through the sale of our equity securities or through borrowing funds on terms we find acceptable. If we cannot raise the funds that we need, we will be unable to continue our operations, and our stockholders could lose their entire investment in our company.



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***We have never generated revenue from our operations.***

We have not generated any revenue from operations since our inception. During Fiscal 2013, we incurred a net loss of approximately \$7.2 million. From inception through July 31, 2013, we incurred an aggregate loss of approximately \$13.4 million. We expect that our operating expenses will continue to increase as we continue to pursue FDA approval for our product candidates.

***We are an early-stage company with a limited operating history, which may hinder our ability to successfully meet our objectives.***

We are an early-stage company with only a limited operating history upon which to base an evaluation of our current business and future prospects and how we will respond to competitive, financial or technological challenges. Only recently have we explored opportunities in the biomedical industry. As a result, the revenue and income potential of our business is unproven. In addition, because of our limited operating history, we have limited insight into trends that may emerge and affect our business. Errors may be made in predicting and reacting to relevant business trends and we will be subject to the risks, uncertainties and difficulties frequently encountered by early-stage companies in evolving markets. We may not be able to successfully address any or all of these risks and uncertainties. Failure to adequately do so could cause our business, results of operations and financial condition to suffer or fail.

***We have not commercialized any of our potential product candidates and we cannot predict if or when we will become profitable.***

We have not commercialized any product candidate relating to our current assets in the biomedical industry. Our ability to generate revenues from any of our product candidates will depend on a number of factors, including our ability to successfully complete clinical trials, obtain necessary regulatory approvals and negotiate arrangements with third parties to help finance the development of, and market and distribute, any product candidate that receives regulatory approval. In addition, we will be subject to the risk that the marketplace will not accept our products.

Because of the numerous risks and uncertainties associated with our product development and commercialization efforts, we are unable to predict the extent of our future losses or when or if we will become profitable, and it is possible we will never commercialize any of our product candidates or become profitable. Our failure to obtain regulatory approval and successfully commercialize any of our product candidates would have a material adverse effect on our business, results of operations, financial condition and prospects and could result in our inability to continue operations.

***If we are unable to successfully recruit and retain qualified personnel, we may not be able to continue our operations.***

In order to successfully implement and manage our business plan, we will depend upon, among other things, successfully recruiting and retaining qualified personnel having experience in the biomedical industry. Competition for qualified individuals is intense. If we are not able to find, attract and retain qualified personnel on acceptable terms, our business operations could suffer.

Additionally, although we have employment agreements with each of our executive officers, these agreements are terminable by them at will and we may not be able to retain their services. The loss of the services of any members of our senior management team could delay or prevent the development and commercialization of any other product candidates and our business could be harmed to the extent that we are not able to find suitable replacements.

***Future growth could strain our resources, and if we are unable to manage our growth, we may not be able to successfully implement our business plan.***

We hope to experience rapid growth in our operations, which will place a significant strain on our management, administrative, operational and financial infrastructure. Our future success will depend in part upon the ability of our executive officers to manage growth effectively. This will require that we hire and train additional personnel to manage our expanding operations. In addition, we must continue to improve our operational, financial and management controls and our reporting systems and procedures. If we fail to successfully manage our growth, we may be unable to execute upon our business plan.

***We may be unable to successfully develop and commercialize the assets we have acquired, or acquire, or develop and commercialize new assets and product candidates.***

Our future results of operations will depend to a significant extent upon our ability to successfully develop and commercialize in a timely manner the assets we acquired from Inovio related to certain non-DNA vaccine technology and intellectual property relating to selective electrochemical tumor ablation, which we refer to as the OncoSec Medical System ( OMS ). In addition, we may acquire new assets or product candidates in the future. There are numerous difficulties inherent in acquiring, developing and commercializing new products and product candidates, including difficulties related to:

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- successfully identifying potential product candidates;
- developing potential product candidates;
- difficulties in conducting or completing clinical trials, including receiving incomplete, unconvincing or equivocal clinical trials data;
- obtaining requisite regulatory approvals for such products in a timely manner or at all;
- acquiring, developing, testing and manufacturing products in compliance with regulatory standards in a timely manner or at all;
- being subject to legal actions brought by our competitors, which may delay or prevent the development and commercialization of new products;
- delays or unanticipated costs; and
- significant and unpredictable changes in the payer landscape, coverage and reimbursement for any products we develop.

As a result of these and other difficulties, we may be unable to develop potential product candidates using our intellectual property, and potential products in development by us may not receive timely regulatory approvals, or approvals at all, necessary for marketing by us or our third-party partners. If we do not acquire or develop product candidates, any of our product candidates are not approved in a timely fashion or at all or, when acquired or developed and approved, cannot be successfully manufactured and commercialized, our operating results would be adversely affected. In addition, we may not recoup our investment in developing products, even if we are successful in commercializing those products. Our business expenditures may not result in the successful acquisition, development or commercialization of products that will prove to be commercially successful or result in the long-term profitability of our business.

*Certain of our intellectual property is licensed from Inovio pursuant to a non-exclusive license.*

As we describe elsewhere in this Annual Report, we have acquired certain technology and related assets from Inovio pursuant to the Asset Purchase Agreement. In connection with the closing of the Asset Purchase Agreement, we entered into a cross-license agreement with Inovio. Under the terms of the cross-license agreement, Inovio granted to us a non-exclusive, worldwide license to certain non-SECTA technology

patents held by Inovio, and we granted to Inovio a limited, exclusive license to our acquired SECTA technology. While we do not currently rely on the intellectual property we have licensed from Inovio pursuant to this non-exclusive license, our product candidates may in the future utilize this intellectual property. Because the license is non-exclusive, Inovio may use its technology to compete with us. In addition, there are no restrictions on Inovio's ability to license their technology to others. As a result Inovio could license to others, including our competitors, the intellectual property rights covered by their license to us, including any of our improvements to the licensed intellectual property. In addition, either party may terminate the cross-license agreement with 30 days' notice if they no longer utilize or sublicense the patent rights they have acquired pursuant to the cross-license. If either party were to terminate the cross-license agreement, they would no longer have the right to use intellectual property that is subject to the cross license.

***Regulatory authorities may not approve our product candidates or the approvals we secure may be too limited for us to earn sufficient revenues.***

The FDA and other foreign regulatory agencies can delay approval of or refuse to approve our product candidates for a variety of reasons, including failure to meet safety and efficacy endpoints in our clinical trials. Our product candidates may not be approved even if they achieve their endpoints in clinical trials. Regulatory agencies, including the FDA, may disagree with our trial design and our interpretation of data from preclinical studies and clinical trials. Clinical trials of our product candidates may not demonstrate that they are safe and effective to the extent necessary to obtain regulatory approvals. We have initiated three Phase II clinical trials to assess our ImmunoPulse technology in patients with metastatic melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma. If we cannot adequately demonstrate through the clinical trial process that a therapeutic product we are developing is safe and effective, regulatory approval of that product would be delayed or prevented, which would impair our reputation, increase our costs and prevent us from earning revenues. Even if a product candidate is approved, it may be approved for fewer or more limited indications than requested or the approval may be subject to the performance of significant post-marketing studies. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our product candidates. Any limitation, condition or denial of approval would have an adverse effect on our business, reputation and results of operations.

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Acquisition of the OMS technology included an extensive clinical database from two Phase III clinical trials that were halted before enrollment was completed. In 2007, these two Phase III clinical trials, HNBE-01 and HNBE-02, which were designed to evaluate the use of the NeoPulse technology as a treatment for resectable recurrent and second primary squamous cell carcinomas of the head and neck were halted as a result of a recommendation from the Data Monitoring Committee (DMC). The DMC cited concerns regarding efficacy and safety, including mortality rates and enrollment futility. In the DMC's opinion, although no single parameter was sufficient to warrant recommending a review of the trial, the totality of data for these recurrent head and neck cancer studies suggested an unfavorable benefit-to-risk profile for the NeoPulse arm relative to the surgery arm. Without conducting further analysis, enrollment for both studies were halted, however the treated patients were followed up to two years to further evaluate safety and efficacy, as per the protocol, and the clinical trials were not reinitiated. We are continuing to analyze the available data from 214 patients treated in both Phase III studies. If we are unable to partner, initiate or complete new Phase III or pivotal clinical studies, we will be unable to commercialize the NeoPulse technology.

***Delays in the commencement or completion of clinical testing for product candidates based on our OMS technology could result in increased costs to us and delay or limit our ability to pursue regulatory approval or generate revenues.***

Clinical trials are very expensive, time consuming and difficult to design and implement. Even if the results of our proposed clinical trials are favorable, clinical trials for product candidates based on our OMS technology will continue for several years and may take significantly longer than expected to complete. Delays in the commencement or completion of clinical testing could significantly affect our product development costs and business plan. We do not know whether our Phase II clinical trials will be completed on schedule, if at all. In addition, we do not know whether any other pre-clinical or clinical trials will begin on time or be completed on schedule, if at all. The commencement and completion of clinical trials can be delayed for a number of reasons, including delays related to:

- obtaining clearance from the FDA or respective international regulatory equivalent to commence a clinical trial;
  
- reaching agreement on acceptable terms with prospective clinical research organizations, or CROs, clinical investigators and trial sites;
  
- obtaining institutional review board, or IRB, approval to initiate and conduct a clinical trial at a prospective site;
  
- identifying, recruiting and training suitable clinical investigators;
  
- identifying, recruiting and enrolling subjects to participate in clinical trials for a variety of reasons, including competition from other clinical trial programs for similar indications; and
  
- retaining patients who have initiated a clinical trial but may be prone to withdraw due to side effects from the therapy, lack of efficacy, personal issues, or for any other reason they choose, or who are lost to further follow-up.

We believe that we have planned and designed an adequate clinical trial program for our product candidates based on our OMS technology. However, the FDA could determine that it is not satisfied with our plan or the details of our pivotal clinical trial protocols and designs.

Additionally, changes in applicable regulatory requirements and guidance may occur and we may need to amend clinical trial protocols to reflect these changes. Amendments may require us to resubmit our clinical trial protocols to IRBs for reexamination, which may impact the costs, timing or successful completion of a clinical trial. If we experience delays in completion of, or if we terminate, any of our clinical trials, the commercial prospects for our product candidates may be harmed, which may have a material adverse effect on our business, results of operations, financial condition and prospects.

***We must rely on third parties to conduct our clinical trials. If these third parties do not successfully carry out their duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our product candidates and our business could be substantially harmed.***

We expect to enter into agreements with third-party CROs to conduct our planned clinical trials and anticipate that we may enter into other such agreements in the future regarding any future product candidates. We currently rely on these parties for the execution of our clinical and pre-clinical studies, and control only certain aspects of their activities. We, and our CROs, are required to comply with the current FDA Code of Federal Regulations for Conducting Clinical Trials and GCP and ICH guidelines. The FDA

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enforces these GCP regulations through periodic inspections of trial sponsors, principal investigators, CRO trial sites, laboratories, and any entity having to do with the completion of the study protocol and processing of data. If we, or our CROs, fail to comply with applicable GCP regulations, the data generated in our clinical trials may be deemed unreliable and the FDA may require us to perform additional clinical trials before approving our marketing applications. Upon inspection, the FDA and similar foreign regulators may determine that our clinical trials are not compliant with GCP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

If any of our relationships with third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs on commercially reasonable terms, or at all. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates could be harmed, our costs could increase and our ability to generate additional revenues could be delayed.

***We may participate in clinical trials conducted under an approved investigator sponsored investigational new drug (IND) application and correspondence and communication with the FDA pertaining to these trials will strictly be between the investigator and the FDA.***

We have in the past, and may in the future, participate in clinical trials conducted under an approved investigator sponsored investigational new drug (IND) application. Regulations and guidelines imposed by the FDA with respect to IND applications include a requirement that the sponsor of a clinical trial provide ongoing communication with the agency as it pertains to safety of the treatment. This communication can be relayed to the agency in the form of safety reports, annual reports or verbal communication at the request of the FDA. Accordingly, it is the responsibility of each investigator (as the sponsor of the trial) to be the point of contact with the FDA. The communication and information provided by the investigator may not be appropriate and accurate, and the investigator has the ultimate responsibility and final decision-making authority with respect to submissions to the FDA. This may result in reviews, audits, delays or clinical holds by the FDA ultimately affecting the timelines for these studies and potentially risking the completion of these trials.

***We may incur liability if our promotions of product candidates are determined, or are perceived, to be inconsistent with regulatory guidelines.***

The FDA provides guidelines with respect to appropriate product promotion and continuing medical and health education activities. Although we endeavor to follow these guidelines, the FDA or the Office of the Inspector General: U.S. Department of Health and Human Services may disagree, and we may be subject to significant liability, including civil and administrative remedies as well as criminal sanctions. In addition, management's attention could be diverted and our reputation could be damaged.

***If we and the contract manufacturers upon whom we rely fail to produce our systems and product candidates in the volumes that we require on a timely basis, or fail to comply with stringent regulations, we may face delays in the development and commercialization of our electroporation equipment and product candidates.***

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We currently assemble certain components of our electroporation systems and utilize the services of contract manufacturers to manufacture the remaining components of these systems and our product supplies for clinical trials. We expect to increase our reliance on third party manufacturers if and when we commercialize our products and systems. The manufacture of our systems and product supplies requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers often encounter difficulties in production, particularly in scaling up for commercial production. These problems include difficulties with production costs and yields, quality control, including stability of the equipment and product candidates and quality assurance testing, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. If we or our manufacturers were to encounter any of these difficulties or our manufacturers otherwise fail to comply with their obligations to us, our ability to provide our electroporation equipment to our partners and products to patients in our clinical trials or to commercially launch a product would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of our clinical trials, increase the costs associated with maintaining our clinical trial program and, depending upon the period of delay, require us to commence new trials at significant additional expense or terminate the trials completely.

In addition, all manufacturers of our products must comply with cGMP requirements enforced by the FDA through its facilities inspection program. These requirements include, among other things, quality control, quality assurance and the generation and maintenance of records and documentation. Manufacturers of our products may be unable to comply with these cGMP requirements and with other FDA, state and foreign regulatory requirements. We have little control over our manufacturers' compliance with these regulations and standards. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. If the



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safety of any product is compromised due to our or our manufacturers' failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products, and we may be held liable for any injuries sustained as a result. Any of these factors could cause a delay of clinical trials, regulatory submissions, approvals or commercialization of our products, entail higher costs or result in our being unable to effectively commercialize our products. Furthermore, if our manufacturers fail to deliver the required commercial quantities on a timely basis, pursuant to provided specifications and at commercially reasonable prices, we may be unable to meet demand for our products and would lose potential revenues.

*If any product candidate for which we receive regulatory approval does not achieve broad market acceptance or coverage by third-party payors, our revenues may be limited.*

The commercial success of any potential product candidates for which we obtain marketing approval from the FDA or other regulatory authorities will depend upon the acceptance of these products by physicians, patients, healthcare payors and the medical community. Coverage and reimbursement of our approved product by third-party payors is also necessary for commercial success. The degree of market acceptance of any potential product candidates for which we may receive regulatory approval will depend on a number of factors, including:

- our ability to provide acceptable evidence of safety and efficacy;
- acceptance by physicians and patients of the product as a safe and effective treatment;
- the prevalence and severity of adverse side effects;
- limitations or warnings contained in a product's FDA-approved labeling;
- the clinical indications for which the product is approved;
- availability and perceived advantages of alternative treatments;
- any negative publicity related to our or our competitors' products;
- the effectiveness of our or any current or future collaborators' sales, marketing and distribution strategies;

- pricing and cost effectiveness;
- our ability to obtain sufficient third-party payor coverage or reimbursement; and
- the willingness of patients to pay out of pocket in the absence of third-party payor coverage.

Our efforts to educate the medical community and third-party payors on the benefits of any of our potential product candidates for which we obtain marketing approval from the FDA or other regulatory authorities may require significant resources and may never be successful. If our potential products do not achieve an adequate level of acceptance by physicians, third-party payors and patients, we may not generate sufficient revenue from these products to become or remain profitable.

***We may not be successful in executing our strategy for the commercialization of our product candidates. If we are unable to successfully execute our commercialization strategy, we may not be able to generate significant revenue.***

We intend to advance a commercialization strategy that leverages previous in-depth clinical experiences, previous CE (Conformité Européene) approvals for the electroporation-based devices and late stage clinical studies in the United States (Phase III) and Europe (Phase IV). This strategy includes seeking approval from the FDA to initiate pivotal registration studies in the United States for select rare cancers that have limited, adverse or no therapeutic alternatives. This strategy also includes expanding the addressable markets for the OMS therapies through the addition of relevant indications. Our commercialization plan also includes partnering and/or co-developing OMS in developing geographic locations, such as Eastern Europe and Asia, where local resources are best leveraged and appropriate collaborators can be secured.

We may not be able to implement our commercialization strategy as we have planned. Further, we have little experience and have not proven our ability to succeed in the biomedical industry and are not certain that our implementation strategy, if implemented correctly, would lead to significant revenue. If we are unable to successfully implement our commercialization plans and drive adoption by patients and physicians of our potential future products through our sales, marketing and commercialization efforts, then we will not be able to generate significant revenue which will have a material adverse effect on our business, results of operations, financial condition and prospects.

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***In order to market our proprietary products, we may choose to establish our own sales, marketing and distribution capabilities. We have no experience in these areas, and if we have problems establishing these capabilities, the commercialization of our products would be impaired.***

We may choose to establish our own sales, marketing and distribution capabilities to market products to our target markets. We have no experience in these areas, and developing these capabilities will require significant expenditures on personnel and infrastructure. While we intend to market products that are aimed at a small patient population, we may not be able to create an effective sales force around even a niche market. In addition, some of our product candidates may require a large sales force to call on, educate and support physicians and patients. We may desire in the future to enter into collaborations with one or more pharmaceutical companies to sell, market and distribute such products, but we may not be able to enter into any such arrangement on acceptable terms, if at all. Any collaboration we do enter into may not be effective in generating meaningful product royalties or other revenues for us.

***Our success depends in part on our ability to protect our intellectual property. Because of the difficulties of protecting our proprietary rights and technology, we may not be able to ensure their protection.***

Our commercial success will depend in large part on obtaining and maintaining patent, trademark and trade secret protection of our product candidates and their respective components, formulations, manufacturing methods and methods of treatment, as well as successfully defending these patents against third-party challenges. Our ability to stop third parties from making, using, selling, offering to sell or importing our product candidates is dependent upon the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities.

The coverage claimed in a patent application typically is significantly reduced before a patent is issued, either in the United States or abroad. Consequently, any of our pending or future patent applications may not result in the issuance of patents and any patents issued may be subjected to further proceedings limiting their scope and may in any event not contain claims broad enough to provide meaningful protection. Any patents that are issued to us or our future collaborators may not provide significant proprietary protection or competitive advantage, and may be circumvented or invalidated. In addition, unpatented proprietary rights, including trade secrets and know-how, can be difficult to protect and may lose their value if they are independently developed by a third party or if their secrecy is lost. Further, because development and commercialization of our potential product candidates can be subject to substantial delays, our patents may expire and provide only a short period of protection, if any, following any future commercialization of products. Moreover, obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements. If any of our patents are found to be invalid or unenforceable, or if we are otherwise unable to adequately protect our rights, it could have a material adverse impact on our business and our ability to commercialize or license our technology and products.

***We may incur substantial costs as a result of litigation or other proceedings relating to protection of our patent and other intellectual property rights, and we may be unable to successfully protect our rights to our potential products and technology.***

If we choose to go to court to stop a third party from using the inventions claimed by our patents, that third party may ask the court to rule that the patents are invalid and/or should not be enforced. These lawsuits are expensive and could consume time and other resources even if we were successful in stopping the infringing activity. In addition, the court could decide that our patents are not valid and that we do not have the right to stop others from using the inventions claimed by the patents.

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Additionally, even if the validity of these patents is upheld, the court could refuse to stop a third party's infringing activity on the ground that such activities do not infringe our patents. The U.S. Supreme Court has recently revised certain tests regarding granting patents and assessing the validity of patents to make it more difficult to obtain patents. As a consequence, issued patents may be found to contain invalid claims according to the newly revised standards. Some of our patents may be subject to challenge and subsequent invalidation or significant narrowing of claim scope in a reexamination proceeding, or during litigation, under the revised criteria.

*Third parties may claim that we infringe their proprietary rights and may prevent us from manufacturing and selling some of our products.*

The manufacture, use and sale of new products that are the subject of conflicting patent rights have been the subject of substantial litigation in the biomedical industry. These lawsuits relate to the validity and infringement of patents or proprietary rights of third parties. Litigation may be costly and time-consuming, and could divert the attention of our management and technical personnel. In addition, if we infringe on the rights of others, we could lose our right to develop, manufacture or market products or

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could be required to pay monetary damages or royalties to license proprietary rights from third parties. Although the parties to patent and intellectual property disputes in the biomedical industry have often settled their disputes through licensing or similar arrangements, the costs associated with these arrangements may be substantial and could include ongoing royalties. Furthermore, we cannot be certain that the necessary licenses would be available to us on commercially reasonable terms or at all. As a result, an adverse determination in a judicial or administrative proceeding or failure to obtain necessary licenses could prevent us from manufacturing and selling our products, and could have a material adverse effect on our business, results of operations, financial condition and cash flows.

***Extensive industry regulation has had, and will continue to have, a significant impact on our business, especially our product development, manufacturing and distribution capabilities.***

All biomedical companies are subject to extensive, complex, costly and evolving government regulation. For the U.S., these regulations are principally administered by the FDA and to a lesser extent by the United States Drug Enforcement Agency (the DEA) and state government agencies, as well as by various regulatory agencies in foreign countries where products or product candidates are being manufactured and/or marketed. The Federal Food, Drug and Cosmetic Act, the Controlled Substances Act and other federal statutes and regulations, and similar foreign statutes and regulations, govern or influence the testing, manufacturing, packing, labeling, storing, record keeping, safety, approval, advertising, promotion, sale and distribution of our products. Under these regulations, we may become subject to periodic inspection of our facilities, procedures and operations and/or the testing of our product candidates and products by the FDA, the DEA and other authorities, which conduct periodic inspections to confirm that we are in compliance with all applicable regulations. In addition, the FDA and foreign regulatory agencies conduct pre-approval and post-approval reviews and plant inspections to determine whether our systems and processes are in compliance with cGMP and other regulations. Following such inspections, the FDA or other agency may issue observations, notices, citations and/or warning letters that could cause us to modify certain activities identified during the inspection. To the extent that we successfully commercialize any product, we may also be subject to ongoing FDA obligations and continued regulatory review with respect to manufacturing, processing, labeling, packaging, distribution, storage, advertising, promotion and recordkeeping for the product. Additionally, we may be required to conduct potentially costly post-approval studies and report adverse events associated with our products to FDA and other regulatory authorities. Unexpected or serious health or safety concerns would result in labeling changes, recalls, market withdrawals or other regulatory actions.

The range of possible sanctions includes, among others, FDA issuance of adverse publicity, product recalls or seizures, fines, total or partial suspension of production and/or distribution, suspension of the FDA's review of product applications, enforcement actions, injunctions, and civil or criminal prosecution. Any such sanctions, if imposed, could have a material adverse effect on our business, operating results, financial condition and cash flows. Under certain circumstances, the FDA also has the authority to revoke previously granted drug approvals. Similar sanctions as detailed above may be available to the FDA under a consent decree, depending upon the actual terms of such decree. If internal compliance programs do not meet regulatory agency standards or if compliance is deemed deficient in any significant way, it could materially harm our business.

Moreover, the regulations, policies or guidance of the FDA or other regulatory agencies may change and new or additional statutes or government regulations may be enacted that could prevent or delay regulatory approval of our product candidates or further restrict or regulate post-approval activities. If we are not able to achieve and maintain regulatory compliance, we may not be permitted to market our potential product candidates, which would adversely affect our ability to generate revenue and achieve or maintain profitability.

***We face potential product liability exposure and if successful claims are brought against us, we may incur substantial liability.***

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The clinical use of our product candidates exposes us to the risk of product liability claims. Any side effects, manufacturing defects, misuse or abuse associated with our product candidates could result in injury to a patient or even death. In addition, a liability claim may be brought against us even if our product candidates merely appear to have caused an injury. Product liability claims may be brought against us by consumers, healthcare providers, pharmaceutical companies or others coming into contact with our product candidates, among others.

Regardless of merit or potential outcome, product liability claims against us may result in, among other effects, the inability to commercialize our product candidates, impairment of our business reputation, withdrawal of clinical trial participants and distraction of management's attention from our primary business. If we cannot successfully defend ourselves against product liability claims we could incur substantial liabilities.

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***The biomedical industry is highly competitive.***

The biomedical industry has an intensely competitive environment that will require an ongoing, extensive search for technological innovations and the ability to market products effectively, including the ability to communicate the effectiveness, safety and value of products to healthcare professionals in private practice, group practices and payers in managed care organizations, group purchasing organizations and Medicare & Medicaid services. We face competition from a number of sources, including large pharmaceutical companies, biotechnology companies, academic institutions, government agencies and private and public research institutions. We are smaller than almost all of our competitors. Most of our competitors have been in business for a longer period of time than us, have a greater number of products on the market and have greater financial and other resources than we do. Furthermore, recent trends in this industry are that large drug companies are consolidating into a smaller number of very large entities, which further concentrates financial, technical and market strength and increases competitive pressure in the industry. If we directly compete with these very large entities for the same markets and/or products, their financial strength could prevent us from capturing a share of those markets. It is possible that developments by our competitors will make any products or technologies that we develop or acquire noncompetitive or obsolete.

***If our competitors market and/or develop competing product candidates that are marketed more effectively, approved more quickly or demonstrated to be safer or more effective than our product candidates, then our commercial opportunities may be reduced or eliminated.***

The biomedical industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary therapeutics. If we are able to obtain regulatory approval of our product candidates related to our OMS technology or any assets we may acquire in the future, we will face competition from products currently marketed by companies much larger than us that address our targeted indications.

In addition to already marketed products, we also face competition from product candidates that are or could be under development. We expect our product candidates, if approved and commercialized, to compete on the basis of, among other things, product efficacy and safety, time to market, price, patient reimbursement by third-party payors, extent of adverse side effects and convenience of treatment procedures. We may not be able to effectively compete in one or more of these areas. We also may not be able to differentiate any products that we are able to market from those of our competitors or successfully develop or introduce new products that are less costly or offer better results than those of our competitors.

Additionally, our competitors may obtain regulatory approval of their products more rapidly than we are able to or may obtain patent protection or other intellectual property rights that limit or block us from developing or commercializing our product candidates. Our competitors may also develop products that are more effective, more useful, better tolerated, subject to fewer or less severe side effects, more widely prescribed or accepted or less costly than ours and may also be more successful than us in manufacturing and marketing their products. If we are unable to compete effectively with the marketed therapeutics of our competitors or if such competitors are successful in developing products that compete with our potential product candidates that are approved, our business, results of operations, financial condition and prospects may be materially adversely affected.

***If we fail to comply with federal and state healthcare laws, including fraud and abuse and health information privacy and security laws, we could face substantial penalties and our business, results of operations, financial condition and prospects could be adversely affected.***

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Even though we do not and will not control referrals of healthcare services or bill directly to third-party payors, certain federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights may be applicable to our business. We could be subject to healthcare fraud and abuse and patient privacy regulation by both the federal government and the states in which we conduct our business. To the extent that any product we make is sold in a foreign country, we also may be subject to foreign laws and regulations. If we or our operations are found to be in violation of any of these laws or any other governmental regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from participation in U.S. federal or state health care programs, and the curtailment or restructuring of our operations. Any penalties, damages, fines, curtailment or restructuring of our operations could materially adversely affect our ability to operate our business and our financial results. Further, any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Moreover, achieving and sustaining compliance with applicable federal and state privacy, security and fraud laws may prove costly.



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***We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.***

From time to time we may consider engaging in strategic transactions, such as acquisitions of companies, asset purchases and out-licensing or in-licensing of products, product candidates or technologies. Any such transaction may require us to incur non-recurring or other charges, may increase our near and long-term expenditures and may pose significant integration challenges or disrupt our management or business, which could adversely affect our operations and financial results. For example, these transactions may entail numerous operational and financial risks, including, among others, exposure to unknown liabilities, disruption of our business and diversion of our management's time and attention in order to develop acquired products, product candidates or technologies, difficulty and cost in combining the operations and personnel of any acquired businesses with our operations and personnel, and inability to retain key employees of any acquired businesses. Accordingly, although we may not choose to undertake or may not be able to successfully complete any transactions of the nature described above, any transactions that we do complete could have a material adverse effect on our business, results of operations, financial condition and prospects.

***Our business and operations would suffer in the event of system failures.***

Despite the implementation of security measures, our internal computer systems and those of our current and any future partners, contractors and consultants are vulnerable to damage from cyber-attacks, computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. System failures, accidents or security breaches could cause interruptions in our operations, and could result in a material disruption of our commercialization activities, development programs and our business operations, in addition to possibly requiring substantial expenditures of resources to remedy. The loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the commercialization of any potential product candidate could be delayed.

***If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results. As a result, current and potential stockholders could lose confidence in our financial reporting, which would harm our business.***

Effective internal controls are necessary for us to provide reliable financial reports. If we cannot provide reliable financial reports, our operating results could be misstated, our reputation may be harmed and the trading price of our stock could be negatively affected. Our controls over financial processes and reporting may not continue to be effective, or we may identify additional material weaknesses or significant deficiencies in our internal controls in the future. Any failure to remediate any future material weaknesses or implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results, cause us to fail to meet our reporting obligations or result in material misstatements in our financial statements or other public disclosures. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock.

***Maintaining compliance with our obligations as a public company may strain our resources and distract management, and if we do not remain compliant our stock price may be adversely affected.***

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We are required to evaluate our internal control systems in order to allow management to report on our internal controls as required by Section 404 of the Sarbanes-Oxley Act of 2002, and our management is required to attest to the adequacy of our internal controls. Recent SEC pronouncements suggest that in the next several years we may be required to report our financial results using new International Financial Reporting Standards, replacing GAAP, which would require us to make significant investments in training, hiring, consulting and information technology, among other investments. All of these and other reporting requirements and heightened corporate governance obligations that we face, or will face, will further increase the cost to us, perhaps substantially, of remaining compliant with our obligations under the Securities Exchange Act of 1934, as amended (the Exchange Act ) and other applicable laws, including the Sarbanes-Oxley Act and the Dodd-Frank Act of 2010. In order to meet these incremental obligations, we will need to invest in our corporate and accounting infrastructure and systems, and acquire additional services from third party auditors and advisors. As a result of these requirements and investments, we may incur significant additional expenses and may suffer a significant diversion of management's time. There is no guarantee that we will be able to continue to meet these obligations in a timely manner, and we could therefore be subject to sanctions or investigation by regulatory authorities such as the SEC. Any such actions could adversely affect the market price of our common stock, perhaps significantly.

### **Risks Related to our Common Stock**

*We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.*

The continued operation and expansion of our business will require substantial funding. Investors seeking cash dividends in the foreseeable future should not purchase our common stock. We have paid no cash dividends on any of our capital stock to date and we currently intend to retain our available cash to fund the development and growth of our business. Any determination to pay dividends in the future will be at the discretion of our Board of Directors and will depend upon results of operations, financial condition, contractual restrictions, restrictions imposed by applicable law and other factors our Board of Directors deems relevant. We do not anticipate paying any cash dividends on our common stock in the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock, which may never occur.

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***If we issue additional shares in the future, our existing stockholders will be diluted.***

Our articles of incorporation authorize the issuance of up to 3,200,000,000 shares of common stock with a par value of \$0.0001 per share. In addition to capital raising activities, other possible business and financial uses for our authorized common stock include, without limitation, future stock splits, acquiring other companies, businesses or products in exchange for shares of common stock, issuing shares of our common stock to partners in connection with strategic alliances, attracting and retaining employees by the issuance of additional securities under our various equity compensation plans, or other transactions and corporate purposes that our Board of Directors deems are in the Company's best interest. Additionally, shares of common stock could be used for anti-takeover purposes or to delay or prevent changes in control or management of the Company. We cannot provide assurances that any issuances of common stock will be consummated on favorable terms or at all, that they will enhance stockholder value, or that they will not adversely affect our business or the trading price of our common stock. The issuance of any such shares will reduce the book value per share and may contribute to a reduction in the market price of the outstanding shares of our common stock. If we issue any such additional shares, such issuance will reduce the proportionate ownership and voting power of all current stockholders. Further, such issuance may result in a change of control of our corporation.

***Sales of common stock by our stockholders, or the perception that such sales may occur, could depress our stock price.***

Sales of our common stock in the public market following this offering could lower the market price of our common stock. Sales may also make it more difficult for us to sell equity securities or equity-related securities in the future at a time and price that our management deems acceptable or at all.

In addition, the market price of our common stock could decline as a result of sales by, or the perceived possibility of sales by, our existing stockholders. Since March 2011, we have completed a number of offerings of our common stock and warrants and as of September 25, 2013, have issued an aggregate of 201,419,600 shares of our common stock, including common stock underlying warrants. Future sales of common stock by significant stockholders, including by those who acquired their shares in our prior offerings or who are affiliates, or the perception that such sales may occur, could depress the price of our common stock.

***If outstanding options and warrants to purchase shares of our common stock are exercised, the interests of our stockholders could be diluted.***

As of September 25, 2013 in addition to 170,838,526 shares of common stock issued and outstanding, we currently have 9,000,000 shares reserved for issuance under equity compensation plan for vested and unvested stock options. We also have 53,111,974 shares reserved for issuance on the exercise of outstanding warrants as of such date. We may elect to reduce the exercise price of outstanding warrants as a means of providing additional financing to us. The exercise of options and warrants, and the sale of shares underlying such options or warrants, could have an adverse effect on the market for our common stock, including the price that an investor could obtain for their shares. Investors may experience dilution in the net tangible book value of their investment upon the exercise of outstanding options and warrants granted under our stock option plans, and options and warrants that may be granted or issued in the future.

***Trading of our stock is restricted by the SEC's penny stock regulations and certain FINRA rules, which may limit a stockholder's ability to buy and sell our common stock.***

Our securities are covered by certain penny stock rules, which impose additional sales practice requirements on broker-dealers who sell low-priced securities to persons other than established customers and accredited investors. For transactions covered by these rules, a broker-dealer must make a special suitability determination for the purchaser and have received the purchaser's written consent to the transaction prior to sale, among other things. In addition, the penny stock rules require a broker-dealer, before effecting a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document prepared by the SEC that provides information about penny stocks and the nature and level of risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer's account. The bid and offer quotations, and the broker-dealer and salesperson compensation information, must be given to the customer orally or in writing before effecting the transaction, and must be given to the customer in writing before or with the customer's confirmation. These rules may affect the ability of broker-dealers and holders to sell our common stock and may negatively impact the level of trading activity for our common stock. To the extent our common stock remains subject to the penny stock regulations, such regulations may discourage investor interest in and adversely affect the market liquidity of our common stock.

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The Financial Industry Regulatory Authority (known as FINRA) has adopted rules that require that in recommending an investment to a customer, a broker-dealer must have reasonable grounds for believing that the investment is suitable for that customer. Prior to recommending speculative low priced securities to their non-institutional customers, broker-dealers must make reasonable efforts to obtain information about the customer's financial status, tax status, investment objectives and other information. Under interpretations of these rules, FINRA believes that there is a high probability that speculative low priced securities will not be suitable for at least some customers. FINRA requirements make it more difficult for broker-dealers to recommend that their customers buy our common stock, which may limit your ability to buy and sell our stock and have an adverse effect on the market for our shares.

***Our common stock is illiquid and the price of our common stock may be negatively impacted by factors which are unrelated to our operations.***

Our common stock only recently began quoting on the OTC Markets Group, Inc.'s OTCQB tier (OTCQB), and has a limited trading history on that market. Trading of securities quoted on OTCQB is frequently highly volatile, with low trading volume. Since our common stock became available for trading on the OTCQB, we have experienced significant fluctuations in the stock price and trading volume of our common stock. There is no assurance that a sufficient market will develop in our stock, in which case it could be difficult for stockholders to sell their stock. The market price of our common stock could continue to fluctuate substantially.

Factors affecting the trading price of our common stock may include:

- adverse research and development or clinical trial results;
- our inability to obtain additional capital;
- announcement that the FDA denied our request to approve our products for commercialization in the United States, or similar denial by other regulatory bodies which make independent decisions outside the United States;
- potential negative market reaction to the terms or volume of any issuance of shares of our stock to new investors or service providers;
- sales of substantial amounts of our common stock, or the perception that substantial amounts of our common stock will be sold, by our stockholders in the public market;
- declining working capital to fund operations, or other signs of apparent financial uncertainty;

- significant advances made by competitors that adversely affect our potential market position; and
- the loss of key personnel and the inability to attract and retain additional highly-skilled personnel.

Additionally, our clinical trials will be open-ended and, therefore, there is the possibility that information regarding the success (or setbacks) of our clinical trials may be obtained by the public prior to a formal announcement by us.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS**

Not applicable.

#### **ITEM 2. PROPERTIES**

##### **Description of Property**

We do not own any real property. On May 31, 2013, we entered into a thirty-eight month lease agreement for office space for our headquarters in San Diego, California that commenced on July 1, 2013, with an initial base monthly rent of approximately \$8,000. The lease calls for annual increases to the base rent of three percent. We believe our current and future facilities are adequate for our immediate and near-term needs. Additional space may be required as we expand our activities. We do not currently foresee any significant difficulties in obtaining any required additional facilities.

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**ITEM 3. LEGAL PROCEEDINGS**

In the ordinary course of business, we may become a party to lawsuits involving various matters. The impact and outcome of litigation, if any, is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may harm our business. We are not currently a party to any proceedings the adverse outcome of which individually or in the aggregate, would have a material adverse effect on our financial condition or results of operations.

**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**

**Trading Information**

Our common stock has been quoted on OTCQB under the symbol ONCS since March 2011. Prior to March 2011, our common stock traded on the OTCQB and the OTC Bulletin Board under the symbol NTVS. As soon as practicable, and assuming we satisfy all necessary initial listing requirements, we intend to apply to have our common stock listed for trading on a national securities exchange, although we cannot be certain that any application would be approved or that we will ever be able to satisfy the qualitative or quantitative listing requirements for our common stock to be listed on an exchange.

The transfer agent for our common stock is Nevada Agency and Transfer Company at 50 West Liberty Street, Suite 880, Reno, Nevada 89501.

The following table sets forth the range of reported high and low closing bid quotations for our common stock for the fiscal quarters indicated as reported on the OTCQB. The quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not represent actual transactions.

**High**

**Low**

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**Fiscal 2012**

First Quarter ended October 31, 2011	\$	1.00	\$	0.31
Second Quarter ended January 31, 2012	\$	0.81	\$	0.12
Third Quarter ended April 30, 2012	\$	1.00	\$	0.18
Fourth Quarter ended July 31, 2012	\$	0.30	\$	0.15

**Fiscal 2013**

First Quarter ended October 31, 2012	\$	0.49	\$	0.18
Second Quarter ended January 31, 2013	\$	0.41	\$	0.20
Third Quarter ended April 30, 2013	\$	0.29	\$	0.18
Fourth Quarter ended July 31, 2013	\$	0.34	\$	0.23

**Fiscal 2014**

First Quarter ending October 31, 2013 (through September 25, 2013)	\$	0.36	\$	0.25
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Our common stock is thinly traded and any reported sale prices may not be a true market-based valuation of our common stock.

As of September 25, 2013, there were 39 holders of record of our common stock, not including stockholders whose shares are held in street name.



Table of Contents**Dividends**

We have never declared or paid any cash dividends or distributions on our capital stock. We currently intend to retain our future earnings, if any, to support operations and to finance expansion and therefore we do not anticipate paying any cash dividends on our common stock in the foreseeable future.

**Securities Authorized for Issuance under Equity Compensation Plans**

In May 2011, our Board of Directors adopted the OncoSec Medical Incorporated 2011 Stock Incentive Plan (the 2011 Plan ). The 2011 Plan was approved by our stockholders in March 2012 and originally authorized the Board of Directors to grant equity awards to employees, directors, and consultants for up to 5,200,000 shares of our common stock. On April 15, 2013, our stockholders approved an amendment to the 2011 Plan to authorize the issuance of an additional 3,800,000 shares of our common stock under the 2011 Plan, increasing the total number of shares reserved for issuance under the 2011 Plan to 9,000,000 shares. The 2011 Plan provides for the issuance of a variety of forms of awards, including stock options, stock appreciation rights, restricted stock and restricted stock units. The following table provides information as of July 31, 2013, with respect to our equity compensation plans:

**Equity Compensation Plan Information**

<b>Plan category</b>	<b>Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)</b>	<b>Weighted-average exercise price of outstanding options, warrants and rights (b)</b>	<b>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)</b>
Equity compensation plans approved by security holders	5,150,000 \$	0.23	3,083,500
Equity compensation plans not approved by security holders			
<b>Total</b>	<b>5,150,000 \$</b>	<b>0.23</b>	<b>3,083,500</b>

**ITEM 6. SELECTED FINANCIAL DATA**

Not applicable.

**ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

*The following discussion of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and the related notes and other financial information appearing elsewhere in this Annual Report. Readers are also urged to carefully review and consider the various disclosures made by us which attempt to advise interested parties of the factors which affect our business, including without limitation the disclosures made in Item 1A of Part I of this Annual Report under the caption Risk Factors . The following discussion and other sections of this report contain forward looking statements. We make forward-looking statements, as defined by the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, and in some cases, you can identify these statements by forward-looking words such as if, shall, may, might, will likely result, should, expect, plan, anticipate, believe, estimate, project, intend, goal, objective, predict, potential or continue, or the negative of these terms and other comparable terminology. These forward-looking statements, which are based on various underlying assumptions and expectations and are subject to risks, uncertainties and other unknown factors, may include projections of our future financial performance based on our growth strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events that we believe to be reasonable. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the historical or future results, level of activity, performance or achievements expressed or implied by such forward-looking statements. These factors include, but are not limited to, those discussed under the caption Risk Factors in this report. We undertake no duty to update any of these forward-looking statements after the date of filing of this report to conform such forward-looking statements to actual results or revised expectations, except as otherwise required by law.*

## **Company Overview**

We were incorporated under the laws of the State of Nevada on February 8, 2008 under the name Netventory Solutions Inc. to pursue the business of inventory management solutions. Effective March 1, 2011, we effected a 32 for one forward stock split of our common stock and completed a merger with our subsidiary, OncoSec Medical Incorporated, a Nevada corporation which was incorporated solely to effect the change in our name to OncoSec Medical Incorporated .

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*Recent Events September 2013 Public Offering*

On September 18, 2013, we closed a registered public offering and issued an aggregate of 47,792,000 shares of our common stock and warrants to purchase an aggregate of 23,896,000 shares of common stock for gross proceeds of approximately \$11.95 million (the September 2013 Public Offering ). The warrants have an exercise price of \$0.35 per share, are exercisable immediately upon issuance and have a term of exercise equal to four years from the date of issuance of the warrants. After deducting for fees and expenses, the aggregate net proceeds to us from the sale of the common stock and the warrants in the September 2013 Public Offering were approximately \$11.1 million.

In connection with the offering, we paid placement agent fees consisting of (i) a cash fee equal to 6% of the gross proceeds of the offering, as well as a non-accountable expense allowance equal to 1% of the gross proceeds and (ii) warrants to purchase up to an aggregate of 5% of the aggregate number of shares of common stock sold in the offering, or 2,389,600 shares of our common stock (the September 2013 Placement Agent Warrants ). The September 2013 Placement Agent Warrants have substantially the same terms as the warrants issued to the purchasers in the offering, except that such warrants have an exercise price of \$0.3125 and expire on September 13, 2018. We intend to use the net proceeds from the September 2013 Public Offering for general corporate purposes, including clinical trial expenses and research and development expenses. As described below, we are obligated to make a final payment of \$1 million to Inovio on December 31, 2013.

*Asset Purchase Agreement*

We have acquired certain assets pursuant to our Asset Purchase Agreement with Inovio Pharmaceuticals, Inc. ( Inovio ), dated March 14, 2011 (as amended, the Asset Purchase Agreement ). The acquired assets relate to certain non-DNA vaccine technology and intellectual property relating to selective tumor ablation technologies, which we now refer to as the OncoSec Medical System ( OMS ), a therapy which uses an electroporation device to facilitate delivery of chemotherapy agents, or nucleic acids encoding cytokines, into tumors and/or surrounding tissue for the treatment and diagnosis of various cancers. The acquired assets included various assets related to the OMS technology.

We did not assume any of the liabilities of Inovio except liabilities under the assigned contracts and assigned intellectual property arising after the closing date of the Asset Purchase Agreement. We agreed to pay Inovio \$3,000,000 in scheduled payments beginning on the closing date as well as certain royalties in the event we commercialize our OMS technology. We have entered into amendments to the Asset Purchase Agreement with Inovio in September 2011 (the First Amendment ) and in March 2012 (the Second Amendment ) to modify the terms of our payment obligations (among other modifications). We recently made a payment of \$1 million to Inovio in May 2013 and we are required to make a final payment to Inovio of \$1 million on December 31, 2013. In consideration for the First Amendment we issued to Inovio a warrant to purchase 1,000,000 shares of common stock with an exercise price of \$1.20 per share. In consideration for the Second Amendment, we issued to Inovio a warrant to purchase 3,000,000 shares of our common stock with an exercise price of \$1.00 per share. Each of the warrants is subject to a five year term. Each of the warrants also contains a mandatory exercise provision allowing us to request the exercise of the warrant in whole provided that our daily market price (as defined in the warrant) is equal to or greater than \$2.40 for twenty consecutive trading days. We completed an evaluation of the warrants issued to Inovio and determined the warrants should be classified as equity within our consolidated balance sheet.

We are also party to a cross-license agreement with Inovio, which we entered into concurrently with the closing of our asset acquisition. This agreement provides for the exclusive license to Inovio of rights related to certain OMS technology patents in the field of gene or nucleic acids, outside of those encoding cytokines, delivered by electroporation and for the non-exclusive cross-license by Inovio to us of rights related to certain non-OMS technology patents in the OMS field in exchange for specified sublicensing and other licensing fees and royalties.

We are focused on designing, developing and commercializing innovative and proprietary medical approaches for the treatment of solid tumors where currently approved therapies are inadequate based on their therapeutic benefit or side-effect profile. Our therapies are based on the use of electroporation to deliver either an approved chemotherapeutic agent ( NeoPulse ), or a DNA plasmid construct that encodes for a cytokine ( ImmunoPulse ) to treat solid tumors. NeoPulse and ImmunoPulse specifically target destruction of cancerous cells and not healthy normal tissues. Our goal is to improve the lives of people suffering from the life-altering effects of cancer through the development of our novel treatment approaches. We have initiated three Phase II clinical trials for the use of our therapies to treat metastatic melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma.

*University of South Florida License*

On August 24, 2012, we secured an exclusive license for specific patented technology from the University of South Florida Research Foundation relating to the delivery of gene-based therapeutics via intratumoral and intramuscular electroporation. This patent is directly supports our clinical development focus in solid tumor applications and specifically metastatic melanoma, Merkel cell carcinoma and cutaneous T-cell lymphoma using our ImmunoPulse therapy, and extends patent protection for the ImmunoPulse technology to the year 2024.

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*Facility Lease*

On May 31, 2013, we entered into a thirty-eight month lease agreement for office space to serve as our corporate headquarters. Our lease commenced on July 1, 2013 and is subject to an initial base monthly rent of approximately \$8,000. The lease calls for annual increases to the base rent of three percent.

**Recent Equity Financings**

*September 2013 Public Offering*

On September 18, 2013, we closed the September 2013 Public Offering, which is described above under the heading **Recent Events** **September 2013 Public Offering**

*December 2012 Public Offering*

On December 17, 2012, we completed a registered public offering of an aggregate of 28,800,000 shares of our common stock and warrants to purchase an aggregate of 14,400,000 shares of common stock for gross proceeds of \$7.2 million (the **December 2012 Public Offering** ). After deducting for fees and expenses, the aggregate net proceeds to us from the sale of the common stock and the warrants in the December 2012 Public Offering were approximately \$6.7 million. In connection with the offering, we paid placement agent fees consisting of (i) a cash fee equal to 6% of the gross proceeds of the offering, as well as a non-accountable expense allowance equal to 1% of the gross proceeds and (ii) warrants to purchase up to an aggregate of 5% of the aggregate number of shares of common stock sold in the offering, or 1,440,000 shares of our common stock (the **December 2012 Placement Agent Warrants** ). The December 2012 Placement Agent Warrants have substantially the same terms as the warrants issued to the purchasers in the offering, except that such warrants have an exercise price of \$0.3125 and expire on December 11, 2017.

*March 2012 Public Offering*

In March 2012, we completed a registered public offering of an aggregate of 31,000,000 shares of common stock and warrants to purchase an aggregate of 31,000,000 shares of common stock at an aggregate purchase price of \$7.75 million (the **March 2012 Public Offering** ). After deducting for fees and expenses, the aggregate net proceeds to us from the March 2012 Public Offering were approximately \$7.2 million. The warrants issued in the offering have an exercise price of \$0.35 per share, are exercisable immediately upon issuance and have a term of exercise equal to five years from the date of issuance of the warrants. In connection with the offering, we paid placement agent fees consisting of (i) a cash fee equal to 6% of the gross proceeds of the offering, as well as a non-accountable expense allowance equal to 1% of the gross proceeds of the offering and (ii) warrants to purchase up to an aggregate of 5% of the aggregate number of shares of common stock sold in the offering, or 1,550,000 shares of common stock (the **March 2012 Placement Agent Warrants** ). The March 2012 Placement Agent Warrants have substantially the same terms as the warrants issued to the purchasers in the offering, except that such warrants have an exercise price of \$0.3125 and expire on March 23, 2017.

We completed an evaluation of all of the warrants issued in connection with the December 2012 Public Offering and the March 2012 Public Offering and determined the warrants should be classified as equity within the consolidated balance sheet.

### **Critical Accounting Policies**

#### Accounting for Long-Lived Assets / Intangible Assets

We assess the impairment of long-lived assets, consisting of property and equipment, and finite-lived intangible assets, whenever events or circumstances indicate that the carry value may not be recoverable. Examples of such circumstances include: (1) loss of legal ownership or title to an asset; (2) significant changes in our strategic business objectives and utilization of the assets; and (3) the impact of significant negative industry or economic trends.

Recoverability of assets to be held and used in operations is measured by a comparison of the carrying amount of an asset to the future net cash flows expected to be generated by the assets. The factors used to evaluate the future net cash flows, while reasonable, require a high degree of judgment and the results could vary if the actual results are materially different than the forecasts. In addition, we base useful lives and amortization or depreciation expense on our subjective estimate of the period that the assets will generate revenue or otherwise be used by us. If such assets are considered impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less selling costs.

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We also periodically review the lives assigned to our intangible assets to ensure that our initial estimates do not exceed any revised estimated periods from which we expect to realize cash flows from the technologies. If a change were to occur in any of the above-mentioned factors or estimates, the likelihood of a material change in our reported results would increase.

Derivative Liabilities

In conjunction with the June 2011 Private Placement, we issued warrants that are accounted for as derivative liabilities. These derivative liabilities were determined to be ineligible for equity classification due to certain price protection and anti-dilution provisions.

These derivative liabilities were initially recorded at their estimated fair value on the date of issuance of the common stock and warrants, and are subsequently adjusted to reflect the estimated fair value at each period end, with any decrease or increase in the estimated fair value being recorded as other income or expense. The fair value of these liabilities is estimated using option pricing models that are based on the individual characteristics of the common stock, the derivative liabilities on the valuation date, probabilities related to future financings, as well as assumptions for volatility, remaining expected life, and risk-free interest rate. The option pricing models of our derivative liabilities are estimates and are sensitive to changes to inputs and assumptions used in the option pricing models.

Share-Based Compensation

We grant equity-based awards under our share-based compensation plan. We estimate the fair value of share-based payment awards using the Black-Scholes option valuation model. This fair value is then amortized over the requisite service periods of the awards. The Black-Scholes option valuation model requires the input of subjective assumptions, including price volatility of the underlying stock, risk-free interest rate, dividend yield, and expected life of the option. Share-based compensation expense is based on awards ultimately expected to vest, and therefore is reduced by expected forfeitures. Changes in assumptions used under the Black-Scholes option valuation model could materially affect our net loss and net loss per share.

**Results of Operations**

*Comparison of Fiscal Years Ended July 31, 2013 and 2012*

The audited consolidated financial data for the years ended July 31, 2013 and July 31, 2012 is presented in the following table and the results of these two periods are used in the discussion thereafter.

July 31, 2013 (\$)	July 31, 2012 (\$)	Increase/ (Decrease) (\$)	Increase/ (Decrease) %
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<b>Revenue</b>				
<b>Operating expenses</b>				
Research and development	3,159,209	2,368,481	790,728	33
General and administrative	3,905,763	3,158,693	747,070	24
<b>Loss from operations</b>	<b>(7,064,972)</b>	<b>(5,527,174)</b>	<b>1,537,798</b>	<b>28</b>
<b>Other income (expense)</b>				
Interest expense non-cash	(83,215)	(266,567)	(183,352)	(69)
Loss on extinguishment of debt		(761,492)	(761,492)	(100)
Adjustments to fair value of derivative liabilities		4,192,781	(4,192,781)	(100)
<b>Net loss before income taxes</b>	<b>(7,148,187)</b>	<b>(2,362,452)</b>	<b>(4,785,735)</b>	<b>**</b>
<b>Income tax provision</b>	<b>2,000</b>	<b>2,400</b>	<b>(400)</b>	<b>(17)</b>
<b>Net loss</b>	<b>(7,150,187)</b>	<b>(2,364,852)</b>	<b>(4,785,335)</b>	<b>**</b>

\*\* Percentage increase/(decrease) is greater than 100%.

Research and Development Expenses

The \$791,000 increase in research and development expenses for the year ended July 31, 2013 as compared to the year ended July 31, 2012 was mainly the result of increased clinical trial expenses of \$723,000. We expect research and development to account for a significant portion of our total expenses in the future as we continue to focus on designing and developing our therapies.



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The \$747,000 increase in general and administrative expenses for the year ended July 31, 2013 as compared to the year ended July 31, 2012 was primarily the result of increased corporate communications costs of \$160,000 consisting primarily of investor relation services, contract labor costs of \$40,000, rental expense of \$72,000, salaries and wage expense of \$67,000, information technology costs of \$53,000, conference registration fees of \$58,000, share based compensation expense of \$168,000 as well as other general corporate matters and increased travel and associated costs of \$29,000.

Other Income (Expense)

The \$3,082,000 decrease in other income for the year ended July 31, 2013 as compared to the year ended July 31, 2012 was primarily due to the recording of other income of \$4,193,000 as a result of the adjustment to fair value of the derivative liabilities as of April 30, 2012. In connection with the June 2011 Private Placement, we issued warrants to purchase 240,000 shares of our common stock to the co-placement agents and warrants to purchase 12,000,000 shares of our common stock to the investors in the private placement. As more fully described in Note 7 to our consolidated financial statements, certain warrants issued in connection with the June 2011 Private Placement were determined to be derivative liabilities as a result of the anti-dilution provisions contained in the warrant agreements. All of these warrants ceased to be classified as derivative liabilities as of March 28, 2012.

**Liquidity and Capital Resources***Working Capital*

Our working capital as of July 31, 2013 and 2012 is summarized as follows:

	<b>At July 31, 2013 (\$)</b>	<b>At July 31, 2012 (\$)</b>
Current assets	5,169,687	5,493,056
Current liabilities	1,770,604	2,023,156
Working capital (deficiency)	3,399,083	3,469,900

Current Assets

The decrease in our current assets was primarily due to a decrease in cash from \$5,142,000 as of July 31, 2012, to \$4,970,000 as of July 31, 2013, as a result cash used in operations during the year ended July 31, 2013.

Current Liabilities

Current liabilities as of July 31, 2013 decreased to \$1,771,000 from \$2,023,000 as of July 31, 2012. This decrease was primarily due to the \$500,000 payment made on September 24, 2012, in accordance with the Asset Purchase Agreement as more fully discussed in Note 6 to our consolidated financial statements.

*Cash Flow*

Cash Flow Used in Operating Activities

Cash used in operating activities for the year ended July 31, 2013 was \$5,533,000, as compared to \$4,219,000 for the year ended July 31, 2012. This increase was related to increased costs of operations, such as salary expense and associated costs, clinical trial costs, legal fees and professional fees, primarily.

Cash Flow Used in Investing Activities

Cash used in investing activities for the year ended July 31, 2013 was \$115,000, as compared to \$55,000 for the year ended July 31, 2012 and related to the acquisition of property and equipment for our new office location.

Cash Flow Provided by Financing Activities

Cash provided by financing activities was \$5,476,000 for the year ended July 31, 2013 and primarily related to cash received from the December 2012 Public Offering partially offset by the payment of offering costs and scheduled payments to Inovio in connection with the Asset Purchase Agreement. Cash provided by financing activities was \$6,958,000 for the year ended July 31, 2012, and was primarily related to proceeds we received from the March 2012 Public Offering.

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*Equity Financings Since March 2011*

In March 2011 we closed a private placement of 1,456,000 units at a purchase price of \$0.75 per unit for gross proceeds of \$1,092,000 (the March 2011 Private Placement ). Each unit consisted of one share of our common stock and one share purchase warrant entitling the holder to acquire one share of our common stock at a price of \$1.00 per share for a period of five years from the closing of the March 2011 Private Placement. The warrants were exercisable as of March 18, 2011 and any unexercised warrants will expire on March 18, 2016. We completed an evaluation of the warrants issued with this private placement and determined the warrants should be classified as equity within our consolidated balance sheet. We are not obligated to register any of the shares issued or issuable upon exercise of the warrants issued in the March 2011 Private Placement.

On June 24, 2011, we sold in a private placement an aggregate of 4,000,000 shares of our common stock and three series of warrants to purchase an aggregate of 12,000,000 shares of our common stock at a per unit purchase price of \$0.75 per unit, for gross proceeds of \$3.0 million (the June 2011 Private Placement ). We also issued warrants to purchase 240,000 shares of our common stock to the co-placement agents in the offering. After deducting for fees and expenses, the aggregate net cash proceeds from the June 2011 Private Placement were approximately \$2.79 million.

Pursuant to the terms of the Securities Purchase Agreement that we entered into with the purchasers in the June 2011 Private Placement, each purchaser was issued a Series A Warrant, a Series B Warrant and a Series C Warrant, each to purchase up to a number of shares of our common stock equal to 100% of the shares issued to such purchaser pursuant to the Securities Purchase Agreement. The Series A Warrants had an initial exercise price of \$1.20 per share, are exercisable immediately upon issuance and have a term of five years. On February 21, 2012, the Series B and Series C Warrants expired unexercised. On March 28, 2012, the exercise price of the Series A Warrants reset to \$0.50 upon the closing of the March 2012 Public Offering.

On March 28, 2012, in the March 2012 Public Offering, we sold an aggregate of 31,000,000 units, each consisting of one share of common stock and a warrant to purchase one share of common stock, at a purchase price of \$0.25 per unit. The warrants have an exercise price of \$0.35 per share, are exercisable immediately upon issuance and have a term of exercise equal to five years from the date of issuance. We paid fees and expenses of \$542,500 and issued warrants to purchase 1,550,000 shares of our common stock on terms substantially similar to the purchaser warrants to the placement agent and a financial advisor in the March 2012 Public Offering. After deducting for fees and expenses, our aggregate net proceeds from the offering were approximately \$7.2 million.

On December 17, 2012, in the December 2012 Public Offering, we sold an aggregate of 28,800,000 shares of our common stock and warrants to purchase an aggregate of 14,400,000 shares of common stock for an aggregate purchase price of \$7.2 million. The warrants have an exercise price of \$0.26 per share, are exercisable immediately upon issuance and have a term of exercise equal to four years from the date of issuance. We paid fees and expenses of \$504,000 and issued warrants to purchase 1,440,000 shares of our common stock on terms substantially similar to the purchaser warrants to the placement agent and our financial advisors in the December 2012 Public Offering. After deducting for fees and expenses, the aggregate net proceeds from the offering were approximately \$6.7 million.

On September 18, 2013, we closed the September 2013 Public Offering, in which we sold an aggregate of 47,792,000 shares of our common stock plus warrants to purchase an aggregate of 23,896,000 shares of common stock for a purchase price of \$0.25 per share, for gross proceeds of approximately \$11.95 million. The warrants have an exercise price of \$0.35 per share, are exercisable immediately upon issuance and have a term of exercise equal to four years from the date of issuance. We paid placement agent fees consisting of (i) \$836,000 in cash fees and expenses

and (ii) issued warrants to purchase 2,390,000 shares of our common stock on terms substantially similar to the purchaser warrants in the September 2013 Public Offering. After deducting for fees and expenses, the aggregate net proceeds from the September 2013 Public Offering were approximately \$11.1 million.

*Cash Requirements*

Our primary objectives for the next twelve-month period are to develop and pursue the commercialization of our planned products and to identify additional products for acquisition and development. We continuously search for industry experts to expand our management team and better position our company. In addition, we expect to pursue raising sufficient capital to fund our operations and to acquire and develop additional assets and technology consistent with our business objectives.

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We estimate our operating expenses and working capital requirements for the next 12 months to be approximately as follows:

Expense	Amount
Product development	\$ 4,900,000
Employee compensation	2,500,000
General and administration	1,300,000
Professional services fees	400,000
Total	\$ 9,100,000

As of July 31, 2013, we had cash and cash equivalents of approximately \$4,970,000. On September 18, 2013, we closed a public offering of our equity securities whereby we issued an aggregate of 47,792,000 shares of our common stock plus warrants to purchase an aggregate of 23,896,000 shares of our common stock, at a purchase price of \$0.25 per share, which resulted in net proceeds to us of approximately \$11.1 million. We expect these funds to be sufficient to allow us to continue to operate our business for at least the next twelve months.

If the investors in the June 2011 Private Placement, the March 2012 Public Offering, December 2012 Public Offering and the September 2013 Public Offering choose to exercise their remaining outstanding warrants in full on a cash basis, we would receive approximately \$2 million, \$11 million, \$4 million and \$8 million, respectively. However, the warrant holders may choose not to exercise any of the warrants they hold, may choose to net exercise their warrants as provided in such warrants under certain limited circumstances, or may choose to exercise only a portion of the warrants issued. The exercise prices of the outstanding warrants issued with each such offering currently exceed the current market price of our common stock on the OTCQB Marketplace. As a result, we may never receive proceeds from the exercise of such warrants.

Since inception we have funded our operations primarily through equity and debt financings and we expect to continue to do so in the future. If we obtain additional financing by issuing equity securities, our existing stockholders' ownership will be diluted. Obtaining commercial loans, assuming those loans would be available, will increase our liabilities and future cash commitments. We may be unable to maintain operations at a level sufficient for investors to obtain a return on their investments in our common stock. Further, we may continue to be unprofitable.

**Off-Balance Sheet Arrangements**

We have no significant off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to stockholders.

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK**

Not applicable.

**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The financial statements required by this item are set forth at the end of this Annual Report beginning on page 43 and are incorporated herein by reference. We are not required to provide the supplementary data required by this item as we are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act.

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

None.

**ITEM 9A. CONTROLS AND PROCEDURES**

**Evaluation of Disclosure Controls and Procedures**

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can

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provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

As required by Rule 13a-15(b) under the Exchange Act, our management conducted an evaluation, with the participation of our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of our disclosure controls and procedures as of July 31, 2013. Based on the foregoing evaluation, our principal executive officer and principal financial officer concluded that, as of July 31, 2013, our disclosure controls and procedures were effective.

**Management's Report on Internal Control over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) under the Exchange Act, for our company. With the participation of our Chief Executive Officer and Chief Financial Officer, our management conducted an evaluation of the effectiveness of our internal control over financial reporting as of July 31, 2013 based on the framework in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on its evaluation under this framework, our management concluded that our internal control over financial reporting was effective as of July 31, 2013.

**Changes in Internal Control Over Financial Reporting**

In May 2013, we implemented Microsoft Dynamics GP software as our new enterprise resource planning ( ERP ) system. The change in our ERP system was not made in response to any identified deficiency or weakness in our internal control over financial reporting. The new ERP software, which became operational during the quarter ended July 31 2013, now forms the basis of our computerized accounting and operational control systems and has been implemented with the intent of improving those systems. The new system has been fully tested and the effectiveness of its design and operation have been evaluated, and management will continue to monitor, test and evaluate the system as necessary during the post-implementation period to ensure our continued adequate internal control over financial reporting.

Other than as described above, there has been no change in our internal control over financial reporting during the quarter ended July 31, 2013 that has materially affected, or is 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**

Set forth below is certain information regarding our directors and executive officers:

<b>Name</b>	<b>Position</b>	<b>Age</b>	<b>Director / Officer Since</b>
Avtar Dhillon, M.D. (2)(3)(4)(5)	Chairman and Director	52	March 10, 2011
James DeMesa, M.D. (1)(2)(3)	Director	55	February 3, 2011
Anthony Maida, III, Ph.D (1)(3)(4)	Director	61	June 21, 2011
Punit Dhillon	President, Chief Executive Officer and Director	33	March 10, 2011
Veronica Vallejo	Chief Financial Officer	40	March 10, 2011

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(1) Member of Audit Committee

(2) Member of Compensation Committee

(3) Member of Nomination and Corporate Governance Committee

(4) Member of Clinical and Regulatory Affairs Committee

(5) Member of Financing Committee



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**Business Experience**

The following is a brief account of the education and business experience of our directors and executive officers during at least the past five years, indicating their principal occupation during the period, and the name and principal business of the organization by which they were employed.

***Avtar Dhillon, M.D., Chairman and Director***

Dr. Dhillon has served as our Chairman, since March 2011. Previously, Dr Dhillon was the President and Chief Executive Officer of Inovio Pharmaceuticals, Inc. (formerly Inovio Biomedical Corporation) (NYSE Euronext: INO) from October 2001 to June 2009, as President and Chairman of Inovio from June 2009 until October 2009, as Executive Chairman until August 2011, and as Chairman from September 2011. During his tenure at Inovio, Dr. Dhillon led the successful turnaround of the company through a restructuring, acquisition of technology from several European and North American companies, and a merger with VGX Pharmaceuticals to develop a vertically integrated DNA vaccine development company with one of the strongest development pipelines in the industry. Dr. Dhillon led multiple successful financings for Inovio and concluded several licensing deals that included global giants, Merck and Wyeth (now Pfizer). Prior to joining Inovio, Dr. Dhillon was vice president of MDS Capital Corp. (now Lumira Capital Corp.), one of North America's leading healthcare venture capital organizations. In July 1989, Dr. Dhillon started a medical clinic and subsequently practiced family medicine for over 12 years. Dr. Dhillon has been instrumental in successfully turning around struggling companies and influential as an active member in the biotech community. From March 1997 to July 1998, Dr. Dhillon was a consultant to Cardiome Pharma Corp. (NASDAQ: CRME), where he led a turnaround based on three pivotal financings, establishing a clinical development strategy, and procuring a new management team. In his role as a founder and board member of companies, Dr. Dhillon has been involved in several early stage healthcare focused companies listed on the USA or Canadian stock exchanges, which have successfully matured through advances in their development pipeline and subsequent M&A transactions. Most recently, he was a founding board member (May 2003) of Protox Therapeutics, Inc. (TSX-V: SHS) (now Sophiris Bio Inc.), a publicly traded specialty pharmaceutical company. Dr. Dhillon maintained his board position until the execution of a financing of up to \$35 million with Warburg Pincus in November 2010. Dr. Dhillon currently sits on the Board of Directors of BC Advantage Funds, a Venture Capital Corporation in British Columbia, and since March 2012 has been the Chairman of Stevia First Corp. (OTCQB: STVF), an agricultural biotechnology company engaged in the cultivation and harvest of stevia leaf and the development of stevia products. Since May 2011, Dr. Dhillon has also served as a Director and was appointed Chairman in April 2013 of Arch Therapeutics, Inc. (OTCBB: ARTH), a medical device company offering an innovative therapeutic approach to stasis and barrier applications. Dr. Dhillon plays a key role on our Board of Directors because of his extensive experience with pharmaceutical and biotech companies, including based on his tenure as President and CEO of Inovio where he was responsible for developing and executing on the clinical programs that provide the extensive clinical database supporting the Company's current clinical development plan and partnering efforts for treating solid tumors.

***James M. DeMesa, M.D., Director***

Dr. DeMesa has been a practicing physician and has served as a senior executive with several international pharmaceutical and biotech companies in the areas of corporate management, regulatory affairs, and pre-clinical and clinical pharmaceutical and medical device product development. In addition to OncoSec, Dr. DeMesa is currently on the Board of Directors of Induce Biologics and Stem Cell Therapeutics. In August 2008, Dr. DeMesa retired from his role as President, Chief Executive Officer and a director of Migenix Inc., a public biotechnology company focused on infectious and neurodegenerative diseases. From 1997 to 2001, he was President, Chief Executive Officer and a director of GenSci Regeneration Sciences Inc., a public biotech company involved in regenerative medicine (now part of Integra LifeSciences). From 1992 to 1997, he was Vice President, Medical and Regulatory Affairs at Biodynamics International, Inc. (now part of Regeneration Technologies), and from 1989 to 1992 was Vice President, Medical and Regulatory Affairs of Bentley Pharmaceuticals (now part of Teva Pharmaceuticals). Dr. DeMesa is a co-founder of CommGeniX, a medical communications company, and MedXcel, a medical education company. Dr. DeMesa

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attended the University of South Florida where he received his B.A. (Chemistry), M.D. and M.B.A. degrees and did his medical residency at the University of North Carolina. He is the author of two books and speaks regularly to companies and organizations throughout North America. Dr. DeMesa provides the Board with extensive experience with pharmaceutical and biotechnology companies.

### *Anthony Maida, III, Ph.D, MA, MBA, Director*

On June 21, 2011, Dr. Maida joined our Board of Directors. Dr. Maida has served as a director on the Board of Directors of Spectrum Pharmaceuticals, Inc. since December 2003 and currently serves as the Chair of its Audit Committee and a member of its Compensation Committee, Placement Committee, Nomination and Corporate Governance Committee and Product Acquisition Committee. He is currently Chief Operating Officer at Northwest Biotherapeutics, Inc., a company focused on the development of therapeutic DC cell-based vaccines to treat patients with cancer. Dr. Maida has been the acting Chairman of Dendri Therapeutics, Inc., a startup company focused on the clinical development of therapeutic vaccines for patients with cancer, since 2003 and as Principal of

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Anthony Maida Consulting International since 1999, providing consulting services to large and small biopharmaceutical firms in the clinical development of oncology products and product acquisitions and to venture capital firms evaluating life science investment opportunities. Recently Dr. Maida was Vice President of Clinical Research and General Manager, Oncology, world-wide for PharmaNet, Inc. He served as the President and Chief Executive Officer of Replicon NeuroTherapeutics, Inc., a biopharmaceutical company focused on the therapy of patients with tumors (both primary and metastatic) of the central nervous system, where he successfully raised financing from both venture capital and strategic investors and was responsible for all financial and operational aspects of the company, from June 2001 to July 2003. From 1999 to 2001, he held positions as Interim Chief Executive Officer for Trellis Bioscience, Inc., a privately held biotechnology company that addresses high clinical stage failure rates in pharmaceutical development, and President of CancerVax Corporation, a biotechnology company dedicated to the treatment of cancer. From 1992 until 1999, Dr. Maida served as President and CEO of Jenner Biotherapies, Inc., a biopharmaceutical company. From 1980 to 1992, he held senior management positions with various companies including Vice President Finance and Chief Financial Officer of Data Plan, Inc., a wholly owned subsidiary of Lockheed Corporation. Dr. Maida serves or has served as a consultant and technical analyst for several investment firms, including CMX Capital, LLC, Sagamore Bioventures, Roaring Fork Capital, North Sound Capital, The Bonnie J. Addario Lung Cancer Foundation and Pediatric BioScience, Inc. Additionally, he has been retained by Abraxis BioScience, Inc., Northwest Biotherapeutics, Inc., Takeda Chemical Industries, Ltd. (Osaka, Japan), and Toucan Capital to conduct corporate and technical due diligence on investment opportunities. Dr. Maida formerly served as a member of the board of directors of Sirion Therapeutics, Inc., a privately held ophthalmic- focused company, and GlycoMetrix, Inc., a startup company focused on the development of assays to identify carbohydrates that can indicate cancer. He is a speaker at industry conferences and is a member of the American Society of Clinical Oncology, the American Association for Cancer Research, the Society of Neuro-Oncology and the International Society for Biological Therapy of Cancer. Dr. Maida received a B.A. in History from Santa Clara University in 1975, a B.A. in Biology from San Jose State University in 1977, an M.B.A. from Santa Clara University in 1978, an M.A. in Toxicology from San Jose State University in 1986 and a Ph.D. in Immunology from the University of California in 2010. Dr. Maida brings to the Board extensive experience in our industry and significant expertise in clinical development and clinical trials. We believe that his financial and operational experience in our industry provide important resources to our Board.

***Punit Dhillon, President, Chief Executive Officer and Director***

On March 10, 2011, Mr. Punit Dhillon was appointed Chief Executive Officer. Mr. Dhillon was formerly Vice President of Finance and Operations at Inovio from September 2003 until March 2011. In his corporate finance role, Mr. Dhillon was pivotal to the company raising over \$125 million through multiple financings and several licensing deals including early stage deals with Merck and Wyeth. Mr. Dhillon was responsible for implementation of Inovio's corporate strategy, including achievement of annual budgets and milestones. He was also instrumental to the successful in-licensing of key intellectual property and a number of corporate transactions, including the acquisition and consolidation of Inovio AS, a Norwegian DNA delivery company, and the merger with VGX Pharmaceuticals ( VGX ), which solidified Inovio's position in the DNA vaccine industry. Mr. Dhillon played an effective role as head of operations for Inovio. He completed the integration of the VGX with Inovio, including achieving cost-cutting of over 30% through the synergy assessment of both companies, consolidating four operating locations into two bi-coastal offices, and managing the existing stockholders from both companies. Mr. Dhillon was a director of Auricle Biomedical, a capital pool company, from July 2007 to April 2010. Mr. Dhillon has also previously been a consultant and board member for several TSX Venture Exchange listed early stage life science companies, which matured through advances in their development pipelines and subsequent M&A transactions. Most recently, Mr. Dhillon was involved as a board member in the completion of a trilateral merger between three Capital Pool Companies listed on the TSX Venture Exchange, which completed a qualifying transaction in April 2010 with a company specializing in conservation and demand management accessories for the utilities industry. Prior to joining Inovio, Mr. Dhillon worked for a corporate finance law firm as a law clerk. Since September 1999 to July 2002, he worked with MDS Capital Corp. (now Lumira Capital Corp.) as an intern analyst. Mr. Dhillon is an active member in his community and co-founder of Inbalance Network Inc. an organization focused on promoting an active lifestyle and grass roots community involvement, including scholarships to support students pursuing post-secondary education. Mr. Dhillon has a Bachelor of Arts with honors in Political Science and a minor in Business Administration from Simon Fraser University. Mr. Dhillon's in depth knowledge of our business and operations as our Chief Executive Officer, his experience in the biotechnology and pharmaceutical industry, and his experience with publicly traded companies, position him well to serve as a member of our Board of Directors.

***Veronica Vallejo, Chief Financial Officer***

Ms. Vallejo serves as our Chief Financial Officer. Ms. Vallejo has been a corporate officer of OncoSec since February 2011, having previously served as our Controller, Secretary and Treasurer prior to being appointed as our Chief Financial Officer in February 2013. Prior to working for us, Ms. Vallejo worked in public accounting since 1997, most recently working as a Senior Manager with Mayer Hoffman McCann P.C., from January 2001 to December 2010. Ms. Vallejo holds a B.S. in Business Administration with an emphasis in accounting from San Diego State University. She is a certified public accountant and a member of the American Institute of Certified Public Accountants.

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**Term of Office**

Our directors are elected at each annual meeting of stockholders and serve until the next annual meeting of stockholders or until their successor has been duly elected and qualified, or until their earlier death, resignation or removal.

**Committees of the Board of Directors**

On June 30, 2011, our Board of Directors established an Audit Committee, a Compensation Committee, a Nomination and Corporate Governance Committee, a Clinical and Regulatory Affairs Committee and a Financing Committee, each of which has the composition and responsibilities described below.

***Audit Committee***

The Audit Committee of our Board of Directors consists of Dr. Anthony Maida and Dr. James DeMesa, with Dr. Maida serving as Chairman. Our Board of Directors has determined that each of the members of our Audit Committee is independent within the meaning of applicable Securities and Exchange Commission rules and Rule 803B of the NYSE MKT LLC Company Guide, and has determined that Dr. Maida is an audit committee financial expert, as such term is defined in the rules and regulations of the Securities and Exchange Commission and is financially sophisticated within the meaning of Rule 803B of the NYSE MKT LLC Company Guide. The Audit Committee has oversight responsibilities regarding, among other things: the preparation of our financial statements and our financial reporting and disclosure processes; the administration, maintenance and review of our system of internal controls regarding accounting compliance; our practices and processes relating to internal audits of our financial statements; the appointment of our independent registered public accounting firm and the review of its qualifications and independence; the review of reports, written statements and letters from our independent registered public accounting firm; and our compliance with legal and regulatory requirements in connection with the foregoing. Our Board of Directors has adopted a written charter for our Audit Committee, which is available on our website, [www.oncosec.com](http://www.oncosec.com), under the Investors tab.

***Compensation Committee***

The Compensation Committee of our Board of Directors consists of Dr. Avtar Dhillon and Dr. James DeMesa, with Dr. Dhillon serving as Chairman. Our Board of Directors has determined that each of the members of our Compensation Committee is independent within the meaning of applicable Securities and Exchange Commission rules and Rule 803A of the NYSE MKT LLC Company Guide. The duties of our Compensation Committee include, without limitation: reviewing, approving and administering compensation programs and arrangements to ensure that they are effective in attracting and retaining key employees and reinforcing business strategies and objectives; determining the objectives of our executive officer compensation programs and the specific objectives relating to CEO compensation, including evaluating the performance of the CEO in light of those objectives; approving the compensation of our other executive officers and our directors; administering our as-in-effect incentive-compensation and equity-based plans; and producing an annual report on executive officer compensation for inclusion in our proxy statement, when required and in accordance with applicable rules and regulations. Our Board of Directors has adopted a written charter for our Compensation Committee, which is available on our website, [www.oncosec.com](http://www.oncosec.com), under the Investors tab.

*Nomination and Corporate Governance Committee*

The Nomination and Corporate Governance Committee of our Board of Directors consists of Dr. James DeMesa, Dr. Avtar Dhillon and Dr. Anthony Maida, with Dr. DeMesa serving as Chairman. Our Board of Directors has determined that each of the members of our Nomination and Corporate Governance Committee is independent within the meaning of applicable Securities and Exchange Commission rules and Rule 803A of the NYSE MKT LLC Company Guide. The responsibilities of the Nomination and Corporate Governance Committee include, without limitation: assisting in the identification of nominees for election to our Board of Directors, consistent with approved qualifications and criteria; determining the composition of the Board of Directors and its committees; recommending to the Board of Directors the director nominees for the annual meeting of stockholders; establishing and monitoring a process of assessing the effectiveness of the Board of Directors; developing and overseeing a set of corporate governance guidelines and procedures; and overseeing the evaluation of our directors and executive officers. Our Board of Directors has adopted a written charter for our Nomination and Corporate Governance Committee, which is available on our website, [www.oncosec.com](http://www.oncosec.com), under the Investors tab.

*Clinical and Regulatory Affairs Committee*

The Clinical and Regulatory Affairs Committee of our Board of Directors consists of Dr. Anthony Maida and Dr. Avtar Dhillon, with Dr. Maida serving as Chairman. The Clinical and Regulatory Affairs Committee does not currently have a charter. The Clinical and Regulatory Affairs Committee has responsibilities relating to reviewing and providing comments on the clinical development plan for our OMS ImmunoPulse programs, including introducing the clinical team to established opinion leaders, potential doctors and investigators, regulatory contacts and other professionals in the clinical oncology field that could benefit us in executing our development plan.

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***Financing Committee***

Dr. Avtar Dhillon is the Chairman and sole member of our Financing Committee. The Financing Committee does not currently have a charter. The Financing Committee has responsibilities relating to our efforts to obtain adequate funding to finance our development programs and operations.

**Family Relationships**

Mr. Punit Dhillon, director, President and Chief Executive Officer, is the nephew of Dr. Avtar Dhillon, a director and our Chairman of the Board. No other family relationships exist between any of the directors or executive officers of our company.

**Section 16 Beneficial Ownership Reporting Compliance**

Section 16(a) of the Securities Exchange Act of 1934 requires our executive officers, directors and persons who beneficially own more than 10% of our common stock to file initial reports of ownership and reports of changes in ownership with the SEC. Such persons are required by SEC regulations to furnish us with copies of all Section 16(a) forms filed by such person.

Based solely on our review of such forms furnished to us from such reporting persons, we believe that all such filing requirements applicable to our executive officers, directors and more than 10% stockholders were met in a timely manner.

**Code of Business Conduct and Ethics**

Our Board of Directors has adopted a Code of Business Conduct and Ethics that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer and principal accounting officer and controller. The Code of Business Conduct and Ethics is available for review on our website at [www.oncosec.com](http://www.oncosec.com), under the Investors tab, and is also available in print, without charge, to any stockholder who requests a copy by writing to us at OncoSec Medical Incorporated, 9810 Summers Ridge Road, Suite 110, San Diego, CA 92121, Attention: Investor Relations. Each of our directors, employees and officers, including our Chief Executive Officer and Chief Financial Officer, and all of our other executive officers, are required to comply with the Code of Business Conduct and Ethics. There have not been any amendments or waivers from the Code of Business Conduct and Ethics relating to any of our executive officers or directors in the past year.

**Corporate Governance Documents**

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Our corporate governance documents, including the charters of each of the Audit Committee, Compensation Committee and Nomination and Corporate Governance Committee are available, free of charge, on our website at [www.oncosec.com](http://www.oncosec.com), under the Investors tab. Please note, however, that the information contained on the website is not incorporated by reference in, or considered part of, this Annual Report on Form 10-K. We will also provide copies of these documents, free of charge, to any stockholder upon written request to OncoSec Medical Incorporated, 9810 Summers Ridge Road, Suite 110, San Diego, CA 92121, Attention: Investor Relations.

### ITEM 11. EXECUTIVE COMPENSATION

The following table summarizes all compensation recorded by us in each of Fiscal 2013 and Fiscal 2012 for our named executive officers, consisting of (i) our principal executive officer, (ii) our principal financial officer, and (iii) our next most highly compensated executive officer whose total compensation exceeded \$100,000 in Fiscal 2013 (of which there were none).

#### Summary Compensation Table

Name	Fiscal Year	Salary (\$)	Bonus (\$)	Stock Awards (\$)	Option Awards (\$) (4)	Non-Equity Incentive Plan Compensation (\$)	Nonqualified Deferred Compensation Earnings (\$)	All Other Compensation (\$) (3)	Total (\$)
Punit Dhillon, President & CEO (1)	2013	\$ 293,958	96,000		30,128			20,250	\$ 440,336
	2012	\$ 247,500			34,699				\$ 282,199
Veronica Vallejo, CFO (2)	2013	\$ 199,167	48,000		10,813			3,894	\$ 261,874
	2012	\$ 165,000			10,410				\$ 175,410

(1) Mr. Dhillon was appointed our President and Chief Executive Officer on March 10, 2011.

(2) Ms. Vallejo was appointed our Secretary and Treasurer on March 10, 2011 and our Chief Financial Officer on February 8, 2013. Ms. Vallejo is also our Principal Financial and Accounting Officer.

(3) Amounts under the All Other Compensation column consist of the payment of accrued vacation benefits.

(4) The values listed in the above table represent the fair value of the option grants that was recognized during Fiscal 2013 and Fiscal 2012, as applicable, under Accounting Standards Codification Topic 718 and is calculated as of the grant date using a Black-Scholes option-pricing model. For information on the valuation assumptions with respect to the grants made during Fiscal 2013 and Fiscal 2012, refer to Note 9 Stock-Based Compensation in our consolidated financial statements for Fiscal 2013, included in this filing.



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**Outstanding Equity Awards At Fiscal Year-End**

The following table summarizes the aggregate number of option awards held by our named executive officers at July 31, 2013.

<b>Name</b>	<b>Number of Securities Underlying Unexercised Options (#) Exercisable</b>	<b>Number of Securities Underlying Unexercised Options (#) Unexercisable</b>	<b>Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)</b>	<b>Option Exercise Price (\$)</b>	<b>Option Expiration Date</b>
Punit Dhillon (1)	330,000	170,000		\$ 0.21	4/25/22
		250,000		0.23	2/8/23
Veronica Vallejo (2)	99,000	51,000			