



I M M U N O V A C C I N E

**Management's Report on Financial Position and Operating Results**

**For the six months ended June 30, 2017**

## LETTER TO SHAREHOLDERS

Dear Fellow Shareholder,

Having closed another active three months at Immunovaccine, our key accomplishments in the second quarter of 2017 included:

- Realizing several milestones with our partners Dana-Farber Cancer Institute (DFCI) and Merck
- Advancing a second immuno-oncology candidate into clinical testing
- Achieving two clinical milestones for DPX-Survivac as a combination therapy for recurrent ovarian cancer and some forms of recurrent lymphoma
- Announcing groundbreaking immunogenicity results for our DPX-RSV vaccine candidate
- Closing a \$10M CAN bought deal financing

We continued to expand and accelerate the progress within our immuno-oncology program. First, our second anti-cancer clinical candidate, DPX-E7, formally entered clinical testing in a study led by DFCI. The first study participant was treated in the Phase 1b/2 clinical study, which is evaluating DPX-E7, in combination with low-dose cyclophosphamide, in patients with incurable cancers related to the human papillomavirus (HPV).

In addition, we achieved two clinical milestones for our lead product candidate, DPX-Survivac:

- Health Canada granted regulatory clearance to the Princess Margaret Cancer Centre for a Phase 2 clinical study. This trial will evaluate the safety and efficacy of Merck's checkpoint inhibitor, pembrolizumab, in combination with DPX-Survivac and low-dose cyclophosphamide in patients with recurrent ovarian cancer.
- We also announced the initiation of another triple combination, investigator-sponsored Phase 2 clinical trial. This study will evaluate the efficacy and safety of DPX-Survivac, along with a checkpoint inhibitor drug currently marketed by a large pharmaceutical company, and low-dose cyclophosphamide, in patients with recurrent diffuse large B cell lymphoma (DLBCL).

With regard to our work in infectious disease, in a follow-up to our Phase 1 study evaluating our vaccine candidate in respiratory syncytial virus (RSV), researchers found that 100 percent of volunteers who responded initially to our DPX-RSV vaccine sustained that response one year post-vaccination. We believe that the strength and duration of the immune response are very significant, particularly for a small B cell epitope agent. In addition, these findings indicate the potential for DPX-RSV to address a significant unmet medical need in the elderly population and market opportunity: to provide protection against RSV for an entire season.

Finally, we completed a \$10M CAN bought deal prospectus offering during the quarter. With this financing in place, we are well positioned for a Phase 1 clinical trial aimed at expanding the application of DPX-Survivac across multiple indications. With DPX-Survivac's clinically demonstrated ability to target survivin, which has been implicated in over 20 types of cancer, we believe that we have only begin to exploit the potential of our lead candidate.

To read our press release on our 2017 Q2 Financial Results, please click [here](#).

Thank you for your continued support, and we look forward to a productive second half of 2017.



Frederic Ors  
Chief Executive Officer

## **MANAGEMENT DISCUSSION AND ANALYSIS (“MD&A”)**

The following analysis provides a review of the unaudited interim condensed consolidated results of operations, financial condition and cash flows for the three and six months ended June 30, 2017 (“Q2 2017”), with information compared to the three and six months ended June 30, 2016 (“Q2 2016”), for Immunovaccine Inc. (“Immunovaccine” or the “Corporation”). This analysis should also be read in conjunction with the information contained in the audited consolidated financial statements and related notes for the years ended December 31, 2016 and December 31, 2015.

The Corporation prepares its unaudited interim condensed consolidated financial statements in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (IASB). Management is responsible for the preparation of the consolidated financial statements and other financial information relating to the Corporation included in this report. The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting. In furtherance of the foregoing, the Board of Directors has appointed an Audit Committee comprised of independent directors. The Audit Committee meets with management and the auditors in order to discuss results of operations and the financial condition of the Corporation prior to making recommendations and submitting the consolidated financial statements to the Board of Directors for its consideration and approval prior to their publication. The information included in this MD&A is as at August 8, 2017, the date when the Board of Directors approved the Corporation's unaudited condensed interim consolidated financial statements for the six months ended June 30, 2017 following the positive recommendation of the Audit Committee.

Amounts presented in this MD&A are approximate and have been rounded to the nearest thousand except for per share data. Unless specified otherwise, all amounts are presented in Canadian dollars.

Additional information regarding the business of the Corporation, including the Annual Information Form of the Corporation for the year ended December 31, 2016 (the “AIF”), is available on SEDAR at [www.sedar.com](http://www.sedar.com).

## **FORWARD-LOOKING STATEMENTS**

Certain statements in this MD&A may constitute “forward-looking” statements which involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Corporation, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. When used in this MD&A, such statements use such words as “will”, “may”, “could”, “intends”, “potential”, “plans”, “believes”, “expects”, “projects”, “estimates”, “anticipates”, “continue”, “potential”, “predicts” or “should” and other similar terminology. These statements reflect current expectations of management regarding future events and operating performance and speak only as of the date of this MD&A.

Forward-looking statements involve significant risks and uncertainties, should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements, including, but not limited to, the factors discussed in the AIF, under the heading “Risk Factors and Uncertainties”. Although the forward-looking statements contained in this MD&A are based upon what management of the Corporation believes are reasonable assumptions, the Corporation cannot provide any assurance to investors that actual results will be consistent with these forward-looking statements and should not be unduly relied upon by investors.

Actual results and developments are likely to differ, and may differ materially, from those expressed or implied by the forward-looking statements contained in this MD&A. Such statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, assumptions about:

- obtaining additional funding on reasonable terms when necessary;
- positive results of pre-clinical and clinical tests;
- the Corporation's ability to successfully develop existing and new products;

- the Corporation's ability to hire and retain skilled staff;
- the products and technology offered by the Corporation's competitors;
- general business and economic conditions;
- the Corporation's ability to protect its intellectual property;
- the Corporation's ability to manufacture its products and to meet demand; and
- regulatory approvals.

These statements reflect management's current beliefs and are based on information currently available to management. The information contained herein is dated as of August 8, 2017, the date of the Board's approval of the Q2 2017 unaudited interim condensed consolidated financial statements and of the MD&A. For additional information on risks, uncertainties and assumptions, please refer to the AIF of Immunovaccine filed on SEDAR at [www.sedar.com](http://www.sedar.com).

## **CORPORATE OVERVIEW**

Immunovaccine is a clinical-stage company that develops products based on its proprietary platform and products with a primary focus on T-cell activating therapies for cancer. The Corporation intends to capitalize on licensing opportunities of its platform for other applications, including infectious diseases. The Corporation's proprietary DepoVax™ delivery platform is believed to produce a strong, high-quality immune response that has a specific and sustained immune effect and enables the Corporation to pursue vaccine candidates in cancer, infectious diseases and other applications.

The Corporation's cancer immunotherapy, DPX-Survivac, is currently being tested in a co-funded Phase 1b trial with Incyte Corporation ("Incyte"), which will evaluate the combination of DPX-Survivac with Incyte's investigational oral indoleamine 2,3-dioxygenase 1 ("IDO1") inhibitor, epacadostat, in ovarian cancer patients. DPX-Survivac is also being tested in an investigator-sponsored Phase 2 clinical trial in ovarian cancer in combination with checkpoint inhibitor pembrolizumab of Merck ("Merck") in patients with recurrent, platinum-resistant cancer and in an investigator sponsored Phase 2 clinical trial which will evaluate the use of a triple combination immunotherapy in patients with measurable or recurrent diffuse large B cell lymphoma ("DLBCL") along with a checkpoint inhibitor drug currently marketed by a large pharmaceutical company. The Corporation's infectious disease vaccine against respiratory syncytial virus ("RSV") has completed a Phase 1 clinical trial. The Corporation is also conducting several research and clinical collaborations, including ones with the Dana Farber Cancer Institute ("Dana Farber") for Human Papillomavirus ("HPV") related cancers and Leidos, Inc. ("Leidos") in the United States for the development of vaccine candidates for malaria and the Zika virus.

The common shares of the Corporation are listed on the Toronto Stock Exchange under the symbol "IMV" and trade on the OTCQX under the symbol "IMMVF".

## **BUSINESS MODEL AND STRATEGY**

Immunovaccine is dedicated to making immunotherapy more effective, more broadly applicable and more widely available to people facing cancer. The Corporation's lead product, DPX-Survivac has demonstrated the ability to induce robust immune responses with the potential of tumor shrinkage in advanced ovarian cancer and is currently being used in clinical trials in combination with checkpoint inhibitors from the Corporation's collaborators, Incyte and Merck. The target of this T-cell stimulating therapeutic cancer vaccine is broadly applicable to many different cancers. The novel mechanism of action of the underlying delivery platform, DepoVax, is to promote uptake and extend exposure of antigens to cells of the immune system, which enhances and sustains immune responses. This allows Immunovaccine to leverage this technology to become a preferred partner in combination trials in hard to treat cancers, and to explore additional immuno-oncology targets, such as HPV related cancers and neoepitopes. In addition, this platform is being used in other market indications, such as infectious disease vaccines, where the Corporation has demonstrated safety and immunogenicity with a novel proprietary vaccine to prevent RSV infections. The Corporation is currently collaborating with partners such as Incyte, Merck, Leidos and the Dana Farber Cancer Institute to explore novel applications for the DepoVax platform.

The Corporation has a clinical-stage cancer immunotherapy, DPX-Survivac. Immunovaccine believes the principles behind a successful cancer immunotherapy should include a targeted antigen and an effective formulation and delivery technology, combined with a complementary therapeutic strategy. Antigens used in DPX-Survivac are believed to

specifically target tumor cells without harming normal, healthy cells. These antigens are combined with the Corporation's DepoVax platform in an effort to optimize the presentation of these antigens to the immune system, resulting in an enhanced immune response. To be successful against cancer, the Corporation believes the vaccine must be administered in the right therapeutic setting, which includes a combination of therapies that help target various aspects of cancer. Immunovaccine believes that the effect of the therapy may be enhanced if an immune modulator is used simultaneously to prevent a patient's immune system from overriding the positive response to the antigen. The Corporation's goal in immuno-oncology is to advance its proprietary vaccines in combination trials with pharmaceutical and large biotechnology companies to establish strategic partnerships and support further development and commercialization.

In collaboration with commercial and academic partners, the Corporation is also expanding the application of DepoVax as a delivery platform for vaccines targeted against infectious diseases. Pre-clinical and clinical studies have indicated that the platform may allow for the development of enhanced vaccines for a wide range of infectious diseases by generating a stronger and more durable immune response more quickly than is possible with existing delivery methods. For vaccine targets that are poorly immunogenic, the platform may significantly reduce the number of immunizations required. The Corporation's goal in infectious diseases is to out-license the DepoVax platform to selected partners. The Corporation is also exploring new applications of the DepoVax platform on its own and with partners.

The Corporation intends to be opportunistic in the development of products by exploring a variety of avenues, including co-development through potential collaborations, strategic partnerships or other transactions with third parties. The Corporation may seek additional equity and non-dilutive funding and partnerships to advance the development of its vaccine product candidates.

## **PLATFORM AND PRODUCTS IN DEVELOPMENT**

### ***DepoVax Vaccine Enhancement Platform***

The DepoVax platform is a unique and patented formulation providing a new way to present active ingredients to the immune system. Antigens are formulated in lipid nanoparticles and, after freeze drying, suspended directly into oil. DepoVax has a novel mechanism of action whereby it promotes uptake and extends exposure of active antigens, which enhances and sustains the body's own immune system responses. The DepoVax platform forms the basis of Immunovaccine's therapeutic cancer and infectious diseases vaccine candidates.

The Corporation believes the ability of DepoVax to induce robust cellular immune responses makes the platform uniquely suitable for cancer immunotherapies, which are designed to target tumor cells. DepoVax can induce antigen-specific and polyfunctional cellular responses, which are postulated to be required for effective tumor control.

DepoVax-formulated vaccines have shown an ability to induce rapid and robust immune responses that may protect against disease agents with as little as one dose. The single-dose capability could be a key factor for developing rapid response vaccines for pandemics and infectious disease outbreaks. The DepoVax platform can be combined with a variety of antigens, including recombinant proteins, synthetic peptides and nucleic acids, viruses and a wide range of adjuvants, which provides both versatility and flexibility to develop many different vaccine products using a single platform.

This unique formulation provides extended chemical stability. DepoVax-based products are lyophilized and stored in a dry format, which provides the added benefit of an extended shelf life. The DepoVax formulation is designed to be easy to re-suspend and administer.

The ongoing clinical studies with DepoVax-based vaccines for the treatment of cancer and for protection from infectious diseases are expected by the Corporation to demonstrate the competitive advantages of this platform.

## **IMMUNO-ONCOLOGY**

### ***DPX-Survivac***

#### *Product Overview*

DPX-Survivac uses survivin-based antigens licensed from Merck KGaA, on a world-wide exclusive basis, formulated in DepoVax. Survivin is a major tumor-associated antigen over-expressed in many cancers, making it a viable target for a broadly applicable immunotherapy. DepoVax delivers the survivin-based antigens in a lipid depot-based format designed to generate a strong and prolonged immune response.

Survivin is essential for the survival of cancer cells and functions as an inhibitor of cell death, known as apoptosis. The presence of high levels of survivin in cancer cells is believed to make them susceptible to a survivin-targeted vaccine therapy. The Corporation's survivin-based therapeutic vaccine candidate, DPX-Survivac, aims to train the immune system to recognize and kill survivin-containing cancer cells. This could provide a clinical benefit to patients by delaying cancer progression and/or increasing overall survival. The United States National Cancer Institute has recognized survivin as a promising antigen for cancer treatment based on its specificity, over-expression in cancer cells and immunogenicity potential.

The Corporation believes DPX-Survivac could have broad commercial potential as a cancer immunotherapy because it may be applicable for the treatment of multiple solid tumors and hematological cancers, including ovarian, glioblastoma, breast, pancreatic, multiple myeloma, B-cell lymphoma, and melanoma, among other cancers. The Corporation intends to continue the development of DPX-Survivac in a broader range of cancer indications to evaluate additional opportunities.

#### *Phase 2 clinical trial in ovarian cancer with Merck*

In February 2017, the Corporation announced an Investigator-Sponsored Phase 2 Clinical Trial in ovarian cancer in combination with Merck's checkpoint inhibitor pembrolizumab in patients with recurrent, platinum-resistant ovarian cancer. University Health Network's ("UHN") Princess Margaret Cancer Centre will conduct the Phase 2 non-randomized, open-label trial designed to evaluate the potential anti-tumor activity of the combination of pembrolizumab, DPX-Survivac, and low-dose cyclophosphamide. It is expected to enroll 42 subjects with advanced epithelial ovarian, fallopian tube or primary peritoneal cancer. The study's primary objective is to assess overall response rate. Secondary study objectives include progression free survival rate, overall survival rate, and potential side effects, over a five-year period.

#### *Phase 1b Clinical trial in ovarian cancer with Incyte*

In June 2015, the Corporation announced it had entered into a non-exclusive clinical trial collaboration with Incyte to evaluate the combination of Immunovaccine's novel T cell activating immunotherapy, DPX-Survivac, with Incyte's investigational oral IDO1 inhibitor, epacadostat. Immunovaccine and Incyte are co-funding and conducting a multicenter, open-label, Phase 1b study to evaluate the safety, tolerability and efficacy of the novel combination in platinum resistant or sensitive ovarian cancer patients who are at high risk of recurrence. The investigational new drug (IND) application for the study, which will test the triple combination of DPX-Survivac, epacadostat and low dose oral cyclophosphamide, was approved by the U.S. Food and Drug Administration ("FDA") and Health Canada in January 2016. The study was initiated on September 8, 2016 and is anticipated to enroll up to 40 patients. Results from this study may lead to an expansion of the clinical collaboration to investigate other cancers. The Corporation announced in March 2017 the first interim data analysis from this clinical study. The analysis included the results of blood tests, tumor biopsies and CT scans to assess safety, disease progression and T cell response for the first four evaluable patients in the trial. All patients enrolled in the trial have recurrent ovarian cancer with evidence of progressive disease. Based on the interim analysis, the combination therapy appears to have an acceptable tolerable safety profile, with a single grade 3 and single grade 4 event reported and no serious adverse events ("SAEs"). At the time of the interim analysis, three of four patients exhibited stable disease, while a fourth patient progressed and exited the trial. In addition, researchers observed an increased T cell activity in tumors in three of the four patients based on

RNA sequencing and indications of early tumor shrinkage in the patient who has been in trial for the longest duration thus far (based on CT scan at day 140).

#### *Phase 2 clinical trial in DLBCL with a large pharma partner*

On May 16, 2017, the Corporation announced that an investigator sponsored Phase 2 clinical trial will evaluate the use of a triple combination immunotherapy in patients with measurable or recurrent DLBCL. Investigators will assess the efficacy and safety of Immunovaccine's lead candidate, DPX Survivac, along with a checkpoint inhibitor drug currently marketed by a large pharmaceutical company, and low dose cyclophosphamide. Immunovaccine expects the trial to begin enrolling patients following receipt of regulatory clearance from Health Canada.

Researchers conducting the investigator sponsored study will test the novel immunotherapy combination in patients whose DLBCL expresses survivin, a tumor antigen highly expressed in 60 percent of DLBCL patients. DPX Survivac stimulates the immune system to produce T cell responses targeting survivin. The non-randomized, open label study is expected to enroll 25 evaluable participants at five centers in Canada.

#### *Phase 2 clinical trial in DLBCL (concluded)*

The Corporation initiated a Phase 2 clinical trial in 2015, in DLBCL at the Ottawa Hospital Research Institute and the Odette-Sunnybrook Cancer Centre. The first patient was dosed in March 2015. The open label study was designed to determine the objective response rate of patients with recurrent survivin-expressing DLBCL when treated with DPX-Survivac in combination with low dose oral cyclophosphamide. The initial results announced in November 2015 demonstrated that DPX-Survivac can induce an immune response in DLBCL tumors. This early result demonstrates that DPX-Survivac can induce immune responses in hematologic cancers, such as DLBCL. Researchers observed changes in tumor-infiltrating T cells following administration of the DPX-Survivac therapy, which correlated with an immune response detected in the blood and produced by DPX-Survivac.

Advanced analysis of one of the patients provided a strong rationale for a novel triple combination. Early data indicated that there was a correlation between immune response and tumour changes following administration of DPX-Survivac. Specifically:

- The patient experienced changes in tumour-infiltrating T cells, which correlated with an immune response detected in the blood and produced by DPX-Survivac.
- Tumour cells showed significant PD-L1 expression, which indicates the likely suppression of the anti-tumour activity of their T cells. This effect may be alleviated with anti-PD-1 or anti-PD-L1 agents.

Based on these findings and to bring the clinical program in line with Immunovaccine's strategy of focusing its immuno-oncology pipeline on combinations with checkpoint inhibitors, Immunovaccine has elected to conclude operations on its initial phase 2 DLBCL study, opting to replace it with the triple-combination trial with a large pharma partner as described above.

#### *Orphan Drug Status and Fast Track Designation*

The Corporation announced in November 2016 that the European Medicines Agency (EMA) granted orphan drug designation status to Immunovaccine's DPX-Survivac in ovarian cancer and in July 2015 the FDA also granted orphan drug status to DPX-Survivac for the treatment of ovarian cancer. This designation is valid for all applications of DPX-Survivac in ovarian cancer without restriction to a specific stage of disease.

Immunovaccine had previously received FDA fast track designation for DPX-Survivac. The designation is intended for patients with no measurable disease after their initial surgery and chemotherapy.

## ***DPX-E7***

On April 17, 2017, the Corporation announced that the first study participant has been treated in a Phase 1b/2 clinical study evaluating Immunovaccine's investigational cancer vaccine, DPX-E7, in combination with low-dose cyclophosphamide in patients with incurable oropharyngeal, cervical and anal cancers related to HPV.

Dana-Farber Cancer Institute ("Dana-Farber") is leading the DPX-E7 study through a \$1.5 million research grant from Stand Up To Cancer and the Farrah Fawcett Foundation to clinically evaluate collaborative translational research that addresses critical problems in HPV-related cancers.

The Dana-Farber study is a single center, open label, non-randomized clinical trial that will investigate the safety and clinical efficacy of DPX-E7 in combination with low-dose metronomic oral cyclophosphamide in a total of 44 treated participants. Its primary objectives are to evaluate changes in CD8+ T cells in peripheral blood and tumor tissue, and to evaluate the safety of DPX-E7 vaccination in HLA-A2 positive patients with incurable HPV-related head and neck, cervical or anal cancers. DPX-E7 targets an HPV viral protein known as E7. Immunovaccine has the option to produce the DPX-E7 vaccine if it proves successful in the clinical trials.

## **INFECTIOUS DISEASES**

### ***DPX-RSV***

#### *Product Overview*

A significant component of the Corporation's business strategy is licensing the DepoVax platform within infectious and other diseases. The DepoVax platform has the potential to generate a rapid and robust immune response, often in a single dose. The unique vaccine enhancement and single-dose capability could prove to be beneficial in targeting difficult infectious and other disease candidates.

The Corporation has performed pre-clinical research activities for a vaccine targeting RSV, which is the second leading cause of respiratory illness in infants, the elderly and the immunosuppressed. Currently, there is no vaccine available for this virus and Immunovaccine is seeking to develop a novel vaccine formulation to be used in elderly and healthy adults, including women of child-bearing age. Immunovaccine has in-licensed the RSV antigen exclusively from VIB, a non-profit life sciences research institute funded by the Flemish government, to expand its pipeline of vaccine candidates. The novel RSV antigen being evaluated in DepoVax is based on the short hydrophobic protein present at low levels on the surface of the RSV virion but more importantly also present on the surface of RSV-infected cells. This vaccine has a unique mechanism of action, in that the resultant antibodies bind to and destroy infected cells rather than directly bind to and neutralize free virus.

#### *Phase 1 clinical trial in RSV*

A Phase 1 clinical study has been conducted in Canada with the Corporation's RSV vaccine in healthy adults. The RSV vaccine is formulated in Immunovaccine's proprietary DepoVax platform and is initially being developed to protect the elderly population from infection. The Phase 1 study, which is the first clinical trial of a DepoVax-based vaccine in an infectious disease indication, has evaluated the safety and immune response profile of the RSV vaccine candidate in 40 healthy adults. The first patient was enrolled on June 30, 2015, at the Canadian Center for Vaccinology in Halifax. The trial was co-funded by Immunovaccine.

On July 6, 2016, the Corporation announced positive interim results from this trial. The DPX-RSV trial included 40 healthy older adult volunteers (age 50-64 years) and two dose cohorts, with 20 subjects in each cohort. Investigators analyzed the safety and immune response data of all participants up to study day 84. The safety analysis indicates that the DPX-RSV was well tolerated among all study participants, with no SAEs recorded. Furthermore, immunogenicity data supported DPX-RSV's ability to generate a relevant immune response; the vaccine candidate obtained antigen-specific antibody responses in 75 percent of subjects vaccinated with the lower dose and 100 percent of those vaccinated with the higher dose.



On October 13, 2016, the Corporation announced positive topline results from this trial. The report outlined that more than six months after the last vaccination, 15 of 16 participants (93%) who received DPX-RSV demonstrated antigen-specific immune responses. The vaccine candidate also continued to have a positive safety profile and was well tolerated with no SAEs among all study participants.

On April 12, 2017, the Corporation announced additional positive data from an extended evaluation of patients in this trial. An amendment had been submitted to Health Canada to test subjects who received the higher dose of vaccine out to one year after the booster vaccination. In the 25 µg dose cohort, which was the only dose tested out to one year, 100 percent of older adults (7/7 immune responders) vaccinated with DPX-RSV maintained the antigen-specific immune responses one year after receiving the booster dose. At one year, the antibody levels measured were still at peak with no sign of decrease.

Immunovaccine has exclusive worldwide licenses on applications that target the SH ectodomain antigen in RSV. The Corporation intends to explore opportunities to out-license this product to potential partners.

### ***Zika Virus Vaccine Antigen***

Immunovaccine and Leidos, a health, national security and infrastructure solutions company, are collaborating on developing a vaccine against the mosquito-borne Zika virus and infection, which may be linked to neurological birth defects. This collaboration, amended on June 23, 2016, is the first to expand on Immunovaccine's research project in which the Corporation will apply its DepoVax platform to development of a Zika virus vaccine candidate. Under the terms of the agreement, Leidos will utilize its Virtual Pharmaceutical Development Program to lead an antigen discovery and development team to identify the best candidate antigens for protecting against infection by the Zika virus. Immunovaccine will then formulate new antigens in its DepoVax delivery system for pre-clinical testing. The parties expect that this project could serve as a replicable model for expediting the development and manufacture of vaccines to address current and future health emergencies.

### ***Licensing Agreements***

While the Corporation is focused on developing a pipeline of cancer immunotherapies, it is also pursuing opportunities to license the Corporation's platform technology to other parties interested in creating enhanced vaccines on an application-by-application basis.

## **MARKET OVERVIEW**

### ***Cancer Immunotherapies***

Cancer is considered one of the most widespread and prevalent diseases globally. According to Global Cancer Facts & Figures, 3rd edition (released February 2015 by the American Cancer Society), it is predicted that new cancer cases will rise to 21.7 million and the number of cancer deaths to 13 million by 2030. Conventional cancer treatment involves surgery to remove the tumor when possible, as well as chemotherapy and radiation. Chemotherapies are widely used despite their associated toxicities because they interfere with the ability of cancer cells to grow and spread. However, tumors often develop resistance to chemotherapies, limiting their efficacy in preventing tumor recurrence. Despite recent advances, independent sources note a high unmet medical need in cancer therapy, noting the median survival rate remains poor. Cancer immunotherapies, including therapeutic cancer vaccines, may provide a new and effective treatment. According to a Market & Markets report released on January 2017, the global immunotherapy drugs market is projected to reach USD \$201.52 Billion by 2021 from USD \$108.41 Billion in 2016, growing at a compound annual growth rate ("CAGR") of 13.5% during the forecast period of 2016 to 2021. The major players operating in the immunotherapy drugs market include F. Hoffmann-La Roche AG (Switzerland), GlaxoSmithKline (U.K.), AbbVie, Inc. (U.S.), Amgen, Inc. (U.S.), Merck & Co., Inc. (U.S.), Bristol-Myers Squibb (U.S.), Novartis International AG (Switzerland), Eli Lilly and Corporation (U.S.), Johnson & Johnson (U.S.), and AstraZeneca plc (U.K.).

Cancer immunotherapy seeks to harness the immune system to assist in the destruction of tumors and to prevent their recurrence. There has been significant interest in the field of cancer immunotherapy stemming from recent clinical success in prolonging patient survival with novel compounds. The ability to apply these appropriately has resulted

from a greater understanding of the immune dysfunction that is characteristic of cancer. One area in which there have been breakthroughs has been in the area of checkpoint inhibitors, compounds that target key regulatory molecules of the immune system. Yervoy (anti-CTLA-4, or ipilimumab, developed by Bristol-Myers Squibb) was the first compound in this class to be approved for use in advanced metastatic melanoma. In cancer, these regulators (CTLA-4, PD-1 and its ligand PD-L1) act to inhibit CD8 T cell mediated anti-tumor immune responses that are crucial for tumor control. Monoclonal antibodies that target PD-1 and PD-L1 have shown unusual efficacy in cancer patients, with a significant percentage of patients experiencing durable response to these therapies. Several of these compounds are in advanced clinical trials, with one compound, Merck's Keytruda (pembrolizumab), having received FDA approval in September of 2014 for advanced melanoma patients who have stopped responding to other therapies. Bristol-Myers Squibb's compound nivolumab (Opdivo) has also been approved in the United States and Japan.

Key opinion leaders in the field have indicated that the ideal combination, with checkpoint inhibitors, is likely to be a therapy that drives tumor specific immune responses. These include novel cancer vaccines and T cell based therapies. These therapies fit well with checkpoint inhibition therapy because they simultaneously activate strong tumor specific immune responses, while releasing the brakes on immune suppression. The success of such combinations should allow pharmaceutical companies to significantly expand the market of their checkpoint inhibitors, which are currently effective in approximately 10% to 30% of patients.

The Corporation believes that cancer vaccines will become an important component of these novel combination immunotherapies, the synergistic benefits with other T cell activation therapies could become an essential part of a multi-pronged approach for the treatment of cancer.

### *Infectious Diseases*

Vaccines are credited with saving millions of lives since their introduction into medical practice and the healthcare system. The reduction in morbidity and mortality caused by many infectious diseases world-wide can be directly correlated to currently available vaccines. According to data from the U.S. Centers for Disease Control and Prevention, ten infectious diseases have been at least 90% eradicated in the United States thanks to vaccines.

However, during the past decade, diseases thought to be under control or retreating, such as measles, mumps and pertussis have re-emerged, mostly due to decline in childhood vaccination rates. In addition, infectious diseases such as influenza, meningitis and yellow fever continue to be a significant public health concern, despite the availability of vaccines. Other diseases without a suitable vaccine, such as dengue and malaria have extended their geographical reach, due to expansion of the insects which carry them. While the effort to control these known infectious diseases continues, more than 30 additional emerging diseases have been identified in humans for the first time over the past two decades, such as severe acute respiratory syndrome (SARS) and Middle East respiratory virus (MERS) coronaviruses.

There is an increased awareness of the impact of current and emerging infectious diseases. Demand for newer treatments and vaccines are growing globally. The global market for infectious diseases treatment was valued in January 2016 by analyst Peggy Lehr of BCC Research at USD\$108.4 billion in 2015, should reach USD\$126.2 billion in 2016 and USD\$183.2 billion in 2021, demonstrating a CAGR of 7.7% from 2016 to 2021. According to TechNavio's analysts, the global human vaccines market is expected to grow at a CAGR of 11.69% during the period 2016-2020.

Many infectious diseases lack effective prophylactic vaccines, and the industry faces a variety of challenges in vaccine design and production. Adjuvants and delivery methods are viewed as key technologies for the success of future vaccines. Efforts to decrease treatment duration and develop single-dose vaccines are a strong focus at the research level to improve patient compliance and decrease monitoring of therapy by the healthcare provider. Better diagnostics are being sought for many infectious diseases. This advance could result in additional market expansion by increasing the number of patients identified for vaccine treatment. The Corporation believes this current market landscape offers significant commercial opportunities for both its technology platform and vaccines.

Pharmaceutical companies dominating the infectious diseases vaccine market include Sanofi Pasteur, GSK, Merck and Pfizer. Additionally, government and non-profit institutions play a significant role in vaccine development in both

industrialized and developing markets. Support for infectious disease vaccine development and commercialization is also available through government and non-profit funding and granting mechanisms.

### *Respiratory Syncytial Virus (RSV)*

RSV is a respiratory virus that infects the lungs and breathing passages. It can be severe in infants, the elderly, and patients with compromised immune systems. RSV is the single most common cause of severe respiratory illness in infants under the age of one and is more often being recognized as an important cause of respiratory illness in older adults. Globally, it is estimated that 64 million cases of RSV infection occur annually, with 160,000 deaths. A vaccine that strengthens the immunity of adults to this virus would lower their risk of contracting infection later in life. It would also create a cocoon of protection in the adult population (i.e. parents, grandparents and caregivers) to protect vulnerable infants from contracting this virus.

There is currently no vaccine available for the prevention of RSV.

The World Health Organization (WHO) has designated RSV as a high-priority target for vaccine development. RSV is a significant problem in the elderly, particularly if they reside in a long-term care facility or participate in other senior day-care programs. RSV attack rates in nursing homes in the United States are approximately 5% to 10% per year with a 2% to 8% case fatality rate, amounting to approximately 10,000 deaths per year among persons greater than 64 years of age.

A vaccine would likely provide patients with a stronger efficacy profile and a more sustained immune response. The Corporation expects that the development of a vaccine with these improved characteristics could expand the market potential, adding the elderly and immunocompromised patients. With these patient populations, the Corporation believes that the market has a multi-billion dollar revenue potential.

Although there have been relatively few developments related to RSV over the past decade, a renewed interest in the area due to new technologies and early research into new methods of addressing immunity, such as maternal immunity transfer for pediatric RSV, could result in new transactions or alliances over the next several years. Most transactions and alliances that have taken place in this sector have minimized the risk with a relatively modest upfront payment, followed by larger milestone payments subject to successful progression through clinical development and commercialization.

## **INTELLECTUAL PROPERTY**

The Corporation strives to protect its intellectual property in established, as well as emerging, markets around the world. The Corporation's intellectual property portfolio relating to its vaccine platform technology includes nine patent families, the first of which contains eight patents issued in five jurisdictions (United States, Europe, Canada, Japan and Australia). The eight other families collectively contain twenty patents issued in nine jurisdictions (United States, Europe, Canada, Australia, Japan, India, Singapore, China and separately Hong Kong) and thirty-nine pending patent applications in eleven jurisdictions. More details on the Corporation intellectual property strategy and patents can be found in the Annual Information Form filed on SEDAR at [www.sedar.com](http://www.sedar.com).

The platform name is protected by trademarks in the United States, Canada and Europe.

## **RECENT AND QUARTERLY DEVELOPMENTS**

### *Key developments and achievements*

- On July 12, 2017, the Corporation announced a significant achievement in its personalized cancer medicine program. Immunovaccine scientists have successfully formulated 14 neoepitope cancer peptides into one single DepoVax formulation. In preclinical testing, the resulting personalized cancer vaccine demonstrated the ability to generate specific killer T-cell responses against cancer peptides. Immunovaccine has filed a patent application covering this novel DepoVax-based rapid formulation process. The supporting data for the

patent include what the Corporation believes to be one of the first documented reports of 14 different neoepitope peptides synthesized into a single formulation.

This breakthrough evolved as part of the Corporation's DPX-NEO program, which aims to develop patient-specific immunotherapies targeting neoepitopes (the mutated proteins and potential targets of an immune response that are produced by a patient's own tumours). The methodology under this patent application can include peptides with a wide range of physical and chemical characteristics -- including those that are insoluble. Immunovaccine believes that this novel process combines the ease and speed of manufacturing with other advantages inherent in DepoVax formulations, including long-term formulation stability, as well as the potential to elicit a strong and specific T-cell response maintained for a year or more.

Neoepitope vaccines have demonstrated significant potential in the realm of personalized medicines. However, the complexity and potential expense of advancing these patient-specific vaccines include substantial challenges for development and large-scale deployment. Intensive work is required to identify patient-specific peptide epitopes and synthesize them rapidly into a single formulation. In addition, when the neoepitope peptides are selected from patients, investigators have not always been able to include many optimal candidates due to manufacturing limitations of the technology required to synthesize a single formulation.

Immunovaccine believes that the DepoVax-based formulations demonstrate the ability to address these limitations as they do not limit the target peptides to highly soluble peptides. This flexibility should enable investigators to optimize the choices of immunogenic targets access a broader range of candidates.

- On June 21, 2017, the Corporation completed a bought deal public offering (the "Offering") of common shares of the Corporation, raising gross proceeds of approximately \$10 million. The Corporation intends to use the net proceeds of the Offering for the research and development and clinical advancement of its cancer and infectious disease vaccine candidates and for working capital and general corporate purposes.
- On May 16, 2017, the Corporation announced that an investigator-sponsored Phase 2 trial will evaluate the use of a triple-combination immunotherapy in patients with measurable or recurrent DLBCL. Investigators will assess the efficacy and safety of DPX-Survivac, along with a checkpoint inhibitor drug currently marketed by a large pharmaceutical company, and low-dose cyclophosphamide. The Corporation expects the trial to begin enrolling patients following the receipt of regulatory clearance from Health Canada. The Corporation has elected to conclude operations on its initial Phase 2 DLBCL study, opting to replace it with this triple-combination trial.
- On April 18, 2017, the Corporation announced that the first study participant has been treated in a Phase 1b/2 clinical study lead by the Dana-Farber Cancer Institute evaluating Immunovaccine's investigational cancer vaccine, DPX-E7, in combination with low-dose cyclophosphamide in patients with incurable oropharyngeal, cervical and anal cancers related to HPV.
- On April 12, 2017, the Corporation announced updated data on its investigator-sponsored Phase 1 clinical trial testing the safety and immunogenicity of its DepoVax-based, small B-cell epitope peptide vaccine candidate for RSV. In the 25 µg dose cohort, which was the only dose tested out to one year, 100 percent of older adults (7/7 immune responders) vaccinated with DPX-RSV maintained the antigen-specific immune responses one year after receiving the booster dose. At one year, the antibody levels measured were still at peak with no sign of decrease. The 25 µg dose was delivered in a volume of 50 microliters. A standard flu vaccine is typically 60 µg delivered in 10 times this volume.
- On April 11, 2017, the Corporation announced that UHN Princess Margaret Cancer Centre (PM) has received Health Canada clearance to initiate the Phase 2 non-randomized, open-label trial designed to evaluate the potential anti-tumor activity of the combination of Merck's pembrolizumab, Immunovaccine's DPX-Survivac, and low-dose cyclophosphamide.

- On April 5, 2017, the Corporation announced that new preclinical data presented at the 2017 American Association for Cancer Research (AACR) Annual Meeting demonstrated that phosphatidylserine targeting antibodies can enhance the anti-cancer activity of its DepoVax-based therapeutic vaccine platform

#### SELECTED FINANCIAL INFORMATION

	Three months ended June 30, 2017 \$	Three months ended June 30, 2016 \$	Six months ended June 30, 2017 \$	Six months ended June 30, 2016 \$
Loss for the period	(2,606,000)	(1,405,000)	(4,975,000)	(3,256,000)
Basic and diluted loss per share	(0.02)	(0.01)	(0.04)	(0.03)

	As at June 30, 2017 \$	As at December 31, 2016 \$
Cash and cash equivalents	19,273,000	13,547,000
Total assets	21,501,000	15,101,000
Long term debt (including current portion)	6,647,000	6,148,000

#### RESULTS FOR THE THREE AND SIX MONTHS PERIOD ENDED JUNE 30, 2017, COMPARED TO THE THREE AND SIX MONTHS PERIOD ENDED JUNE 30, 2016

	Q2 Fiscal 2017 \$	Q2 Fiscal 2016 \$	Six Months ended June 30, 2017 \$	Six Months ended June 30, 2016 \$
Revenue	-	(65,000)	-	(130,000)
Research and development	1,057,000	886,000	1,889,000	1,655,000
General and administrative	823,000	362,000	1,821,000	1,171,000
Business development and investor relations	454,000	140,000	725,000	351,000
Accreted interest	272,000	82,000	540,000	209,000
<b>Net loss and comprehensive loss for the period</b>	<b>2,606,000</b>	<b>1,405,000</b>	<b>4,975,000</b>	<b>3,256,000</b>

#### Revenue

In Fiscal 2015, the Corporation signed a license agreement with PharmAthene, Inc. which included a signing fee of USD\$200,000. This agreement was subsequently terminated in August 2016. The revenue amount was fully recognized during the first six months in 2016.

#### Operating expenses

Overall operating expenses increased by \$1,136,000 to \$2,606,000 during Q2 Fiscal 2017 compared to Q2 Fiscal 2016 and increased by \$1,589,000 for the six months ended June 30, 2017. Explanations of the nature of costs incurred, along with explanations for those changes in costs are discussed below:

### *Research and development expenses*

R&D expenses include salaries and benefits, expenses associated with the Phase 1b and Phase 2 clinical trials of DPX-Survivac, clinical research and manufacturing of DPX-RSV and DPX-Survivac, consulting fees paid to various independent contractors who possess specific expertise required by the Corporation, the cost of animal care facilities, laboratory supplies, peptides and other chemicals, rental of laboratory facilities, insurance, as well as other non-material R&D related expenses. These R&D costs are offset by government loans and assistance, recoveries of costs from collaborations and by investment tax credits received in relation to the R&D expenses incurred.

The Corporation's R&D efforts and related expenses for Q2 Fiscal 2017 and for the six months ended June 30, 2017 included costs surrounding the Corporation's clinical trials of DPX-Survivac namely the Phase 1b clinical trial collaboration with Incyte in ovarian cancer patients and costs related to the Corporation's ongoing R&D activities associated with the investigation, analysis and evaluation of other potential vaccine candidates and technologies.

Research and development expenses consist of the following:

	Q2 Fiscal 2017	Q2 Fiscal 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
	\$	\$	\$	\$
General research and development expenses	324,000	224,000	537,000	647,000
DPX-Survivac preclinical and clinical expenses	390,000	423,000	658,000	706,000
Salaries and benefits	471,000	274,000	916,000	625,000
Stock-based compensation	58,000	52,000	127,000	92,000
Depreciation of equipment and amortization of intangible	16,000	20,000	30,000	40,000
Government loans and assistance	(6,000)	(45,000)	(20,000)	(323,000)
Investment tax credits ("ITC")	(196,000)	(62,000)	(359,000)	(132,000)
<b>Total</b>	<b>1,057,000</b>	<b>886,000</b>	<b>1,889,000</b>	<b>1,655,000</b>

The increase in general R&D expenses from \$224,000 in Q2 Fiscal 2016 to \$324,000 in Q2 Fiscal 2017 is attributable mainly to an increase of \$40,000 in research based travel and conference attendance as well as a slight increase in animal care costs. The decrease of \$110,000 for the six months ended June 30, 2017 is explained by costs of approximately \$200,000 related to a research project the Corporation completed in 2016 to advance the DepoVax platform, which was mostly funded by government grant, as well as a \$65,000 decrease in DPX-RSV clinical costs. This is offset by a \$117,000 decrease in cost recoveries from collaborators and a \$40,000 increase in research based travel.

The increase in R&D salaries of \$197,000 in Q2 2017 (\$291,000 for the first six months of 2017) is mainly attributable to the hiring of a Chief Medical Officer late in 2016, a Senior Director of Quality Assurance in early 2017 and the appointment of three employees who held a title of director to the position of Vice President in August 2016.

The increase in investment tax credits for the quarter and since the beginning of the year is explained by the increase in R&D salaries and also includes an adjustment of \$65,000 to the estimated 2016 and Q1 2017 ITC receivable for changes in the expected recoverable amount.

### *General and administrative expenses*

G&A expenses consist of the following:

	Q2 Fiscal 2017	Q2 Fiscal 2016	Six Months Ended June 30, 2017	Six Months Ended June 30, 2016
	\$	\$	\$	\$
General and administrative expenses, excluding salaries	371,000	349,000	667,000	864,000
Government assistance	-	(314,000)	-	(314,000)
Salaries and benefits	291,000	142,000	537,000	315,000
Stock-based and deferred share unit compensation	149,000	181,000	597,000	299,000
Depreciation of equipment	12,000	4,000	20,000	7,000
<b>Total</b>	<b>823,000</b>	<b>362,000</b>	<b>1,821,000</b>	<b>1,171,000</b>

For the first six months of 2017 G&A expenses, excluding salaries, decreased by \$197,000 mainly due to a decrease of \$270,000 in management restructuring fees offset by a \$72,000 increase in legal fees for general and corporate matters.

The government assistance in 2016 relates entirely to the initial valuation of the fourth installment of the low -interest bearing government loan from the Province of Nova Scotia in the amount of \$1,250,000.

Salaries and benefits increased by \$149,000 in the quarter (\$222,000 for the six months ended June 30, 2017) due to new Human Resource, Project Management and Contract Management positions created in late 2016 as well as an overall increase in compensation for the senior executive team.

The increase in stock-based compensation since the beginning of the year is mainly attributable to the Deferred Share Units (“DSUs”). An amount of \$178,000 represents the value of the DSUs issued during the six months ended June 30, 2017 as part of the compensation of the non-executive members of the board of directors for the quarter and the remaining \$147,000 represents the variation of the fair value during the six months ended June 30, 2017.

#### *Business development and investor relations expenses*

The Corporation’s business development and investor relations activities increased in Q2 Fiscal 2017 by \$314,000, compared to Q2 Fiscal 2016, to a total of \$454,000. This is mainly due to an increase of \$116,000 in investor relations activities, a \$120,000 increase in marketing costs related to the rebranding of the Corporation and an \$82,000 increase related to an ongoing market study.

Since the beginning of the year business development and investor relations activities increased by \$374,000 compared to the first six months ended June 30, 2016. This variation is explained by an increase of \$180,000 in investor relations activities, a \$198,000 increase in marketing costs related to the rebranding of the Corporation, a \$34,000 increase in business development travel and a \$82,000 increase related to an ongoing market study. This was partly offset by offset by a \$59,000 and \$63,000 decrease in salary and benefits and stock-based compensation, respectively, relating to the Chief Business Officer being appointed Chief Executive Officer in April 2016.

#### *Accreted Interest*

Accreted interest relates entirely to the valuation of low-interest bearing government loans which are repayable based on a percentage of future gross revenue. The increase is a result of a change in assumptions about the expected timing and amount of future cash flows.

#### **Net loss and comprehensive loss**

The net loss and comprehensive loss was \$2,606,000 or \$0.02 per basic and diluted share for Q2 Fiscal 2017, \$1,201,000 higher than the net loss and comprehensive loss of \$1,405,000 or \$0.01 per basic and diluted share for Q2

Fiscal 2016. For the six months ended June 30, 2017 the net loss and comprehensive loss was \$4,975,000 or \$0.04 per basic and diluted share compared to \$3,256,000 or \$0.03 per basic and diluted share for the six months ended June 30, 2016.

## **CASH FLOWS, LIQUIDITY AND CAPITAL RESOURCES**

At June 30, 2017, the Corporation had cash and cash equivalents of \$19,273,000 and working capital of \$18,868,000, compared to \$13,547,000 and \$12,982,000, respectively as at December 31, 2016.

Since the Corporation's inception, operations have been financed through the issuance of equity securities, debt, revenue from licenses, cost recoveries from collaborations, interest income on funds available for investment, government assistance and tax credits.

During the period ended June 30, 2017, \$3,821,000 was used in operating activities. This included the reported net loss of \$4,975,000 prior to being decreased for non-cash DSU compensation, non-cash depreciation, non-cash accretion of long-term debt, and non-cash stock-based compensation. The Corporation had a net use of cash of \$160,000 as a result of changes in working capital balances.

Sources of cash included: funds raised through financing activities \$10,000,000 less cash issuance costs of \$986,000, \$774,000 through the exercise of warrants and \$109,000 through the exercise of stock options. The Corporation used \$41,000 to repay long-term debt during the period.

During the period ended June 30, 2017, the Corporation purchased equipment for ongoing research and operating activities for an aggregate amount of \$310,000.

The Corporation aims to maintain adequate cash and cash resources to support planned activities which include the Phase 1b combination trial with DPX-Survivac and Incyte's IDO1 inhibitor epacadostat, initiation of the Phase 2 investigator-sponsored combination trial with DPX-Survivac and Merck's checkpoint inhibitor, pembrolizumab, other research and development activities, business development efforts, administration costs, and intellectual property maintenance and expansion.

At June 30, 2017, the Corporation had approximately \$20.2 million of existing and identified potential sources of cash including:

- cash and equivalents of \$19.3 million; and
- amounts receivable and investment tax credits receivable of \$0.9 million.

For the first six-month ended June 30, 2017, the Corporation's "cash burn rate" (defined as net loss for the period adjusted for non-cash transactions including depreciation, non-cash DSU compensation, accretion of long-term debt, and stock-based compensation) was approximately \$3.7 million. Based on the current business plan, the Corporation forecasts the cash burn rate to be between \$2 million to \$3 million per quarter over the next 12 months, as it continues to execute the Phase 1b combination trial with DPX-Survivac and Incyte's IDO1 inhibitor epacadostat, and initiates the Phase 2 investigator-sponsored combination trial in ovarian cancer with DPX-Survivac and Merck's checkpoint inhibitor pembrolizumab and the investigator sponsored Phase 2 triple combination clinical trial in patients with measurable or recurrent DLBCL.

It is common for early-stage biotechnology companies to require additional funding to further develop product-candidates until successful commercialization of at least one product candidate. Immunovaccine's product candidates are still in the early-development stage of the product cycle and therefore are not generating revenue to fund operations. The Corporation continuously monitors its liquidity position, the status of its development programs including those of its partners, cash forecasts for completing various stages of development, the potential to license or co-develop each vaccine candidate, and continues to actively pursue alternatives to raise capital, including the sale of its equity securities, debt and non-dilutive funding.



Management believes that its cash resources of \$19.3 million and additional potential cash resources of \$0.9 million will be sufficient to fund operations for the next twelve months to continue to execute the Phase 1b combination trial with DPX-Survivac and Incyte's IDO1 inhibitor epacadostat, initiate the Phase 2 trials in ovarian cancer and recurrent DLBCL, and to explore opportunities for further combination trials with partners, while maintaining adequate working capital well into 2018. Management further believes there are discretionary expenditures within the current cash forecast which could be reduced in the event that the identified potential sources of cash are not realized or receipt is delayed. The Corporation continually reassesses the adequacy of its cash resources, evaluating existing research projects and/or potential collaboration opportunities, to determine when and how much additional funding is required.

## JUNE 2017 EQUITY OFFERING AND USE OF PROCEEDS

On June 21, 2017, the Corporation completed a public offering of common shares of the Corporation, issuing 7,692,308 shares at a price of \$1.30 per share for aggregate proceeds of \$10,000,000. The Corporation intends to use the net proceeds of the Offering for the research and development and clinical advancement of its cancer and infectious disease vaccine candidates and for working capital and general corporate purposes.

<b>Intended Use of Proceeds</b>	<b>Estimated amount \$</b>	<b>Actual Amount \$</b>	<b>Variations</b>
Phase 2 clinical trial in DLBCL with a large pharma partner	2,400,000	Nil	No variances anticipated
Phase 1 clinical trial for multiple indications	4,200,000	Nil	No variances anticipated
General Corporate Purposes	2,450,000	Nil	No variances anticipated

## SUMMARY OF QUARTERLY RESULTS

The following consolidated quarterly data was drawn from the audited annual consolidated financial statements and the unaudited interim condensed consolidated financial statements. All values discussed below are rounded to the nearest thousand. The information is reported on an IFRS basis.

<b>Quarter Ended In</b>	<b>Total Revenue \$</b>	<b>Total Expenses \$</b>	<b>Loss \$</b>	<b>Basic and Diluted Loss Per Share \$</b>
Q2 – June 30, 2017	-	2,606,000	(2,606,000)	(0.02)
Q1 – March 31, 2017	-	2,369,000	(2,369,000)	(0.02)
Q4 - December 31, 2016	-	3,741,000	(3,741,000)	(0.03)
Q3 - September 30, 2016	-	1,899,000	(1,899,000)	(0.02)
Q2 - June 30, 2016	65,000	1,470,000	(1,405,000)	(0.01)
Q1 - March 31, 2016	65,000	1,916,000	(1,852,000)	(0.02)
Q4 - December 31, 2015	65,000	2,514,000	(2,449,000)	(0.03)
Q3 - September 30, 2015	65,000	2,069,000	(2,004,000)	(0.02)
Q2 - June 30, 2015	-	2,553,000	(2,553,000)	(0.03)

Revenues from quarter to quarter may vary significantly. Revenues are non-recurring by nature and are generated by license agreements as well as contract research agreements. It is also important to note that historical patterns of expenses cannot be taken as an indication of future expenses. The amount and timing of expenses and availability of

capital resources vary substantially from quarter to quarter, depending on the level of R&D activities being undertaken at any time and the availability of funding from investors or collaboration partners.

## **OUTLOOK**

The Corporation has many clinical studies ongoing and expects to disclose results before the end of 2017 for the following studies:

<b>Product/study</b>	<b>Partner</b>	<b>Indication</b>	<b>Type of results</b>	<b>Expected Timing</b>
DPX-Survivac – Phase 1b	Incyte	Ovarian cancer	Top line clinical results	Q4-2017
DPX-Survivac – Phase 2	Merck	Ovarian cancer	Interim clinical results	Q4-2017
DPX-E7	Dana-Farber	HPV related cancers	Interim clinical results	Q4-2017

The exact timing of disclosure of the above results could differ from our expectations but is currently management's best estimate.

## **RELATED PARTY TRANSACTIONS**

During Q2 2017, there were no related party transactions (Q2 2016 - \$nil).

## **CONTRACTUAL OBLIGATIONS**

There is no material change in the contractual obligations of the Corporation since the beginning of the 2017 fiscal year. Details on the contractual obligations of the Corporation can be found in the in the audited consolidated financial statements and related notes for the year ended December 31, 2016.

## **OFF-BALANCE SHEET ARRANGEMENTS**

The Corporation was not party to any off-balance sheet arrangements as of June 30, 2017.

## **OUTSTANDING SECURITIES**

The number of issued and outstanding common shares on August 8, 2017 is 127,701,209. A total of 4,897,440 stock options, 7,966,721 warrants, and 477,287 deferred share units were outstanding on August 8, 2017.

## **RISKS AND UNCERTAINTIES**

The Corporation is a clinical-stage company that operates in an industry that is dependent on a number of factors that include the capacity to raise additional capital on reasonable terms, obtain positive results of clinical trials - including clinical trials on DPX-Survivac, obtain positive results of clinical trials without serious adverse or inappropriate side effects and obtain market acceptance of its product by physicians, patients, healthcare payers and others in the medical community for commercial success, etc. An investment in the Corporation's common shares is subject to a number of risks and uncertainties. An investor should carefully consider the risks described below and the other information filed with the Canadian securities regulators before investing in the Corporation's common shares. If any of the following risks occur, or if others occur, the Corporation's business, operating results and financial condition could be seriously harmed and investors may lose a significant proportion of their investment.

There are important risks which management believes could impact the Corporation's business. For information on risks and uncertainties, please also refer to the "Risk Factors" section of our most recent Annual Information Form filed with the Canadian securities regulatory authorities on SEDAR at [www.sedar.com](http://www.sedar.com).

## **DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROLS OVER FINANCIAL REPORTING**

Under applicable securities laws, the Corporation's Chief Executive Officer and Chief Financial Officer certify on the design of the disclosure controls and procedures ("DC&P") and the internal controls over financial reporting ("ICFR") of the Corporation. DC&P are intended to provide reasonable assurance that material information is gathered and reported to senior management to permit timely decisions regarding public disclosure and ICFR are intended to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with Canadian generally accepted accounting principles. The control framework used by the Chief Executive Officer and Chief Financial Officer of the Corporation to design the Corporation's ICFR is the Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission.

The Chief Executive Officer and Chief Financial Officer have evaluated the effectiveness of the Corporation's DC&P and ICFR. They concluded that as of June 30, 2017, the Corporation's design and operation of its DC&P and ICFR were effective in providing reasonable assurance that material information regarding this MD&A, and the annual consolidated financial statements and other disclosures was made known to them on a timely basis and reported as required and that the financial statements present fairly, in all material aspects, the financial position of the Corporation as of June 30, 2017. The Chief Executive Officer and Chief Financial Officer also concluded that no material weaknesses existed in the design of the ICFR.

There have been no changes in the Corporation's ICFR that occurred during the six months ended June 30, 2017 that have materially affected or are reasonably likely to materially affect the Corporation's ICFR.

## **SIGNIFICANT ACCOUNTING POLICIES**

The significant accounting policies of the Corporation are detailed in the notes to its audited consolidated financial statements for the year ended December 31, 2016 filed on SEDAR at [www.sedar.com](http://www.sedar.com)

## **CRITICAL ACCOUNTING ESTIMATES**

Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The determination of estimates requires the exercise of judgement based on various assumptions and other factors such as historical experience and current and expected economic conditions. Actual results could differ from those estimates.

Critical judgements in applying the Corporation's accounting policies are detailed in the audited consolidated financial statements for the year ended December 31, 2016 filed on SEDAR ([www.sedar.com](http://www.sedar.com)).

## **FINANCIAL INSTRUMENTS**

Financial instruments are defined as a contractual right or obligation to receive or deliver cash on another financial asset. The Corporation recognizes financial instruments based on their classification. Depending on the financial instrument's classification, changes in subsequent measurements are recognized in net loss or other comprehensive loss.

A description of the financial instruments, their fair value and risk management is included in the Corporation's audited consolidated financial statements for the year ended December 31, 2016 filed on SEDAR at [www.sedar.com](http://www.sedar.com).

*(Signed) Frédéric Ors*  
Frédéric Ors  
Chief Executive Officer

*(Signed) Pierre Labbé*  
Pierre Labbé  
Chief Financial Officer

**August 8, 2017**