

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

For the three and nine-months ended September 30, 2019

#### LETTER TO SHAREHOLDERS

Dear Fellow Shareholders,

In the third quarter and recently, we have continued to advance our pipeline. In particular, we were pleased to report preliminary data at the European Society of Medical Oncology (ESMO) annual congress highlighting DPX-Survivac's potential to treat numerous solid tumors beyond our lead indications.

Additionally, we launched a collaboration with The Wistar Institute, which applies our DPX technology to the common BRAF mutation – another prevalent target across a range of tumor types.

These recent achievements support our belief in the novel class of immunotherapy we are developing thanks to our versatile DPX platform. Our technology generates cancer-targeted T cells that elicit a more rapid, robust and sustained immune response with a good safety profile when compared to immunotherapy products.

Looking ahead, we await key readouts from DPX-Survivac, including updated data from our Phase 2 study in r/r DLBCL at the American Society of Hematology (ASH) meeting in December and Topline interim data from our Phase 1b/2 study in advanced ovarian cancer are expected by the first quarter of next year.

As we close in on proof-of-concept in these indications of high unmet need, we continue to believe that both represent fast-to-market opportunities and we are preparing ourselves to launch potential pivotal studies in 2020.

#### **DPX-Survivac Clinical Program Updates:**

- Reported preliminary data from our Phase 2 basket study of the DPX-Survivac targeted T cell therapy in multiple solid tumors at ESMO, showing treatment was safe, well-tolerated and exhibited signs of clinical activity
- Entered into research collaboration with The Wistar Institute, leveraging DPX technology to develop targeted T cell therapy against the BRAF mutation
- Multiple near-term readouts from Phase 2 studies of the DPX-Survivac targeted T cell therapy, including updated data from the SPiReL trial in recurrent/refractory DLBCL to be presented at ASH 2019 on December 8, 2019 and topline interim results from DeCidE1 in advanced ovarian cancer expected during Q1 2020

## Phase 1b/2 DeCidE1 Study in Advanced Recurrent Ovarian Cancer

DeCidE1, the Company's Phase 1b/2 open-label study evaluating the safety and efficacy of the DPX-Survivac targeted therapy with and without Epadacostat, in advanced recurrent ovarian cancer, is ongoing.

Enrollment is complete in this study and the Company intends to report topline interim data during Q1 2020.

#### Phase 2 SPiReL Study in Recurrent/Refractory Diffuse Large B-Cell Lymphoma (DLBCL)

SPiReL, an investigator-sponsored Phase 2 study evaluating the DPX-Survivac targeted therapy in combination with Keytruda® (pembrolizumab) in recurrent/refractory DLBCL is ongoing.

Neil Berinstein, M.D. FRCPC, ABIM, Hematologist at the Sunnybrook Health Science Centre will deliver a poster presentation at the American Society of Hematology (ASH) Annual Meeting on December 8, 2019, including updated data from the study.

As of November 7, 2019, 17 patients have been enrolled across five different clinical sites in Canada. The non-randomized, open label study is expected to enroll 25 evaluable participants in Canada. Additional patients are being screened and topline data are expected from this study in the first half of 2020.

## Phase 2 Basket Trial in Multiple Advanced and Metastatic Solid Tumors

In September 2019, at the European Society for Medical Oncology (ESMO) 2019 Congress in Barcelona, Spain, IMV presented preliminary results from its ongoing Phase 2 basket trial, evaluating the DPX-Survivac targeted T cell therapy in combination with Keytruda® (pembrolizumab) in patients with advanced and metastatic solid tumors.

As of the data cut-off, 23 patients had been treated across all five patient cohorts with bladder, hepatocellular carcinoma (liver), ovarian, or non-small cell lung (NSCLC) cancers, as well as tumors shown to be positive for the microsatellite instability high (MSI-H) biomarker. Preliminary results from the first on-study scan exhibited signs of clinical activity with tumor regressions observed in patients with ovarian, non-small cell lung and bladder cancer, including two partial responses, and a consistent safety profile including no grade 3-4 immune-related adverse events. The preliminary data are available on IMV's website here.

As of November 7, 2019, 13 clinical sites have been activated, 64 patients are screened and 31 patients have been enrolled. The study continues to enroll patients towards a total enrollment target of 184 patients across all five cohorts. The Company expects to report topline data in the first half of 2020.

#### **Operational Highlights:**

**Appointment of Joanne Schindler, M.D., D.V.M. as Chief Medical Officer.** Dr. Schindler joined IMV in November 2019 with over 15 years of experience in the biopharmaceutical industry, primarily in early-stage oncology drug development. Most recently, she served as Vice President, Clinical Development and Executive Medical Director at H3 Biomedicine, where she oversaw clinical development strategy and execution.

Research collaboration with Meenhard Herlyn, D.V.M., D.Sc. and The Wistar Institute to develop a targeted T cell therapy against the BRAF mutation. Under this collaboration, IMV will optimize the DPX formulation with Wistar-identified peptides targeting BRAF, one of the most frequently identified cancer-causing mutations in melanoma and various other cancers, including non-Hodgkin's lymphoma, colorectal cancer, thyroid cancer, and non-small cell lung and ovarian carcinomas. IMV holds an exclusive option to in-license intellectual property related to the program.

## **Upcoming Milestones:**

Over the course of upcoming quarters, the Company expects to deliver the following milestones:

- Updated results from Phase 2 SPiReL trial (DLBCL) at ASH 2019 (December 8, 2019)
- Topline results from Phase 1b/2 DeCidE1 trial (ovarian) during Q1 2020
- Topline results from Phase 2 SPiReL trial (DLBCL) in 1H 2020
- Topline results from Phase 2 basket trial of DPX-Survivac in 1H 2020

With multiple phase 2 trials ongoing in six different indications we are successfully developing one of the most advanced and comprehensive clinical pipelines in immuno-oncology

So far in 2019, we have delivered promising preliminary clinical results highlighting the potential of our targeted T cell therapy in hard-to-treat solid and blood tumors. As we are approaching the phase 2 inflexion point, our teams are now focusing on preparation for the next stage of growth; to move into pivotal trials in 2020 to support our first market approvals. This is an intensive period of time operationally for manufacturing, clinical, regulatory/quality, pre-marketing and business development and our team is working enthusiastically to achieve these goals.

We believe our first-in-class targeted T cell therapy has the potential to offer an unprecedented combination of a favorable safety/tolerability profile with long-lasting clinical benefits and we are committed to bring this new treatment option to cancer patients with a sense of urgency.

We are grateful for the continued support of our shareholders and partners and look forward to a very productive remainder of 2019.

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 nine month periods ended September 30, 2019 ("Q3 2019"), with information compared to the three and nine months ended September 30, 2018 ("Q3 2018"), for IMV Inc. ("IMV" or the "Corporation"). This analysis should also be read in conjunction with the information contained in the annual audited consolidated financial statements and related notes for the years ended December 31, 2018 and December 31, 2017.

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 the 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 for issuance to shareholders. The information included in this MD&A is as of November 7, 2019, the date when the Board of Directors approved the Corporation's unaudited interim condensed consolidated financial statements for the three and nine months ended September 30, 2019, on the 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 thousands of Canadian dollars.

Additional information regarding the business of the Corporation, including the Annual Information Form of the Corporation for the year ended December 31, 2018 (the "AIF") and included in the Corporation's registration statement on Form 40-F filed with the U.S. Securities and Exchange Commission, is available on SEDAR at <a href="https://www.sec.gov/edgar.">www.sec.gov/edgar.</a> and on EDGAR at <a href="https://www.sec.gov/edgar.">www.sec.gov/edgar.</a>

#### FORWARD-LOOKING STATEMENTS

Certain statements in this MD&A may constitute "forward-looking" statements which involve known and unknown risks, uncertainties and other factors that 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", "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 include, among others:

- The Corporation's business strategy;
- Statements with respect to the sufficiency of the Corporation's financial resources to support its activities;
- Potential sources of funding:
- The Corporation's ability to obtain necessary funding on favorable terms or at all;
- The Corporation's expected expenditures and accumulated deficit level;
- The Corporation's expected outcomes from its ongoing and future research and research collaborations;
- The Corporation's exploration of opportunities to maximize shareholder value as part of the ordinary course of its business through collaborations, strategic partnerships, and other transactions with third parties;
- The Corporation's plans for the research and development of certain product candidates;
- The Corporation's strategy for protecting its intellectual property;
- The Corporation's ability to identify licensable products or research suitable for licensing and commercialization;
- The Corporation's ability to obtain licences on commercially reasonable terms;
- The Corporation's plans for generating revenue;
- The Corporation's plans for future clinical trials; and
- The Corporation's hiring and retention of skilled staff.

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, performance and achievements 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 studies and clinical trials;
- 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 views and beliefs and are based on estimates, assumptions, and information currently available to, and considered reasonable by, management. The information contained herein is dated as of November 7, 2019, the date of the Board's approval of the Q3 2019 unaudited interim condensed consolidated financial statements and of the MD&A. For additional information on risks, uncertainties, and assumptions, including a more detailed assessment of the risks that could cause actual results to materially differ from current expectations, please refer to the AIF of IMV filed on SEDAR at www.sedar.com and included in the registration statement on Form 40-F filed on EDGAR at www.sec.gov/edgar.

### **CORPORATE OVERVIEW**

IMV is a clinical-stage biopharmaceutical company dedicated to making immunotherapy more effective, more broadly applicable, and more widely available to people facing cancer and other serious diseases. IMV is pioneering a new class of immunotherapies based on the Corporation's proprietary drug delivery platform ("**DPX**"). This patented technology leverages a novel mechanism of action ("**MOA**") discovered by the Corporation. This MOA does not release the active ingredients at the site of injection but forces an active uptake and delivery of active ingredients into immune cells and lymph nodes. It enables the programming of immune cells *in vivo*, which are aimed at generating powerful new synthetic therapeutic capabilities. DPX's no-release MOA can be leveraged to generate "first-in-class" T cell therapies with the potential, in the opinion of IMV, to be transformative in the treatment of cancer.

The Corporation's first cancer immunotherapy uses survivin-based peptides licensed from Merck KGaA, on a world-wide exclusive basis, formulated in DPX ("**DPX-Survivac**"). Survivin is a well characterized and tumour associated antigen known to be overexpressed in more than 20 different cancers. DPX-Survivac leverages the MOA of DPX to generate a constant flow of T cells in the blood that are targeted against survivin expressed on cancer cells. It is comprised of five minimal MHC class I peptides to activate naïve T cells against survivin.

DPX-Survivac is currently being tested in:

- A phase 2 clinical trial that evaluates DPX-Survivac in an open label safety and efficacy study in ovarian cancer patients with advanced platinum-sensitive and resistant ovarian cancer;
- Two investigator-sponsored phase 2 clinical trials in combination with the checkpoint inhibitor Keytruda® (pembrolizumab) of Merck & Co Inc. ("Merck") in patients with recurrent, platinum-resistant, and sensitive ovarian cancer and in patients with measurable or recurrent diffuse large B cell lymphoma ("DLBCL"); and

 A phase 2 basket trial in combination with Merck's Keytruda® (pembrolizumab) in patients with select advanced or recurrent solid tumours in bladder, liver (hepatocellular carcinoma), ovarian, or non-small-cell lung (NSCLC) cancers, as well as tumours shown to be positive for the microsatellite instability high (MSI-H) biomarker.

In infectious disease indications, the Corporation has completed a demonstration phase 1 clinical trial with a target against the respiratory syncytial virus ("RSV"). The Corporation also has a commercial licensing agreement with Zoetis for the development of two targeted therapies for cattle and is also conducting several research and clinical collaborations, including a collaboration with the Dana-Farber Cancer Institute ("Dana-Farber") for Human Papillomavirus ("HPV") related cancers and with Leidos, Inc. ("Leidos") in the United States for the development of targeted therapies for malaria and the Zika virus.

The common shares of the Corporation are listed on the Nasdaq Stock Market LLC and on the Toronto Stock Exchange under the symbol "IMV".

#### **BUSINESS MODEL AND STRATEGY**

IMV is dedicated to making immunotherapy more effective, more broadly applicable, and more widely available to people facing cancer. The Corporation's lead product candidate, DPX-Survivac, has demonstrated the ability to induce prolonged T cell activation leading to tumour regressions in advanced ovarian cancer and DLBCL.

Foremost, the Corporation's clinical strategy is to target late stage unmet medical needs for a shorter path to clinical demonstration and first regulatory approval. In addition, the Corporation is evaluating combination with Merck's KEYTRUDA® checkpoint inhibitor in multiple solid tumor indications.

In collaboration with commercial and academic partners, the Corporation is also expanding the application of DPX as a delivery platform for other applications. Pre-clinical and clinical studies have indicated to date that the Corporation's delivery platform may allow for the development of enhanced targeted therapies for a wide range of infectious diseases by generating a stronger and more durable immune response than is possible with existing delivery methods.

The Corporation intends to be opportunistic in the development of products by exploring a variety of avenues, including codevelopment 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 product candidates.

#### PLATFORM AND PRODUCTS IN DEVELOPMENT

## Delivery Platform

The DPX platform is a unique and patented formulation discovered by the Corporation that provides a new way to deliver active ingredients to the immune system using a novel MOA. This MOA does not release the active ingredients at the site of injection but forces an active uptake and delivery of active ingredients into immune cells and lymph nodes. IMV is exploiting this MOA to pioneer a new class of immunotherapies that represents a paradigm shift from current approaches. Thanks to its "no release" MOA, the DPX-based targeted therapies allow the programming of immune cells *in-vivo* to generate new "synthetic" therapeutic capabilities. The DPX platform can be leveraged to generate "first-in-class" T cell therapies with the potential to be transformative in the treatment of cancer. The Corporation believes that the novel MOA of DPX makes the platform uniquely suitable for cancer immunotherapies, which are designed to target tumour cells. DPX-based candidates can induce prolonged, target-specific, and polyfunctional T cell activation, which are postulated to be required for effective tumour control.

The DPX platform is based on active ingredients formulated in lipid nanoparticles and, after freeze drying, suspended directly into a lipidic formulation. DPX-based products are stored in a dry format, which provides the added benefit of an extended shelf life. The formulation is designed to be easy to re-suspend and administer to patients.

DPX also has multiple manufacturing advantages: it is fully synthetic; can accommodate hydrophilic and hydrophobic compounds; is amenable to a wide-range of applications (for example, peptides, small-molecules, RNA/DNA, or antibodies); and provides long term stability as well as low cost of goods.

The DPX platform forms the basis of all of IMV's product development programs.

#### DPX-Survivac

#### Product Candidate Overview

DPX-Survivac, the Corporation's first cancer immunotherapy candidate, uses survivin-based peptides licensed from Merck KGaA on a world-wide exclusive basis that are formulated in DPX. DPX-Survivac leverages the MOA of DPX to generate a constant flow of T cells in the blood that are targeted against survivin expressed on cancer cells and is comprised of five minimal MHC class I peptides to activate naïve T cells against survivin.

Survivin is a well characterized and recognized tumour associated antigen known to be expressed during fetal development and across most tumour cell types, but it is rarely present in normal non-malignant adult cells. Survivin controls key cancer processes (apoptosis, cell division, and metastasis) and has been associated with chemoresistance and cancer progression. It has been shown that survivin was expressed in all 60 different human tumour lines used in the National Cancer Institute's cancer drug screening program and is documented in the literature to be overexpressed in more than 20 indications.

Cancer	Survivin %
Ovarian	90
Breast	90
Melanoma	90
Lung	53
Colorectal	54
Gastric	94
Kidney	23-82
Glioblastoma	80
ALL	70
CML	70
MDS	90
DLBCL	60

Figure 1: Examples of % of patients with survivin expression in different indications

#### IMMUNO-ONCOLOGY

DPX-Survivac is being tested in 6 different cancer indications through multiple phase 2 clinical trials.

#### **Ongoing Clinical Programs**



## DPX- Survivac - Ongoing Clinical Trials

Ovarian subpopulation – DeCidE1 phase 1b/2

The DeCidE1 phase 1b/2 study is an open label safety and efficacy study for individuals with recurrent advanced platinum-sensitive and resistant ovarian cancer testing DPX-Survivac with intermittent low-dose cyclophosphamide (CPA). The phase 2 DPX-Survivac/CPA arm of the DeCidE1 trial added an additional 16 patients in the population with a lower tumour burden.

Twenty-two subjects have been enrolled in the study with the objective of having a minimum of 16 evaluable subjects as defined in the trial protocol. IMV intends to release interim top line data as soon as the threshold of clinical responses is reached in this trial which is expected to occur during Q1 2020.

Primary and secondary end points include:

- Safety profile;
- Objective Response Rate ("ORR") and Duration of Response ("DOR") using Recist 1.1 criteria;
- Induction of systemic survivin-specific T-cells in the blood; and
- Induction of T-cell infiltration into tumours.

On June 3, 2019, investigators shared new positive data for IMV Inc.'s DeCidE1 clinical trial at the 2019 American Society for Clinical Oncology (ASCO) annual meeting.

New data from evaluable patients from the phase 2 DPX-Survivac/CPA arm of the trial indicated the potential for DPX-Survivac to impact solid tumour growth in hard-to-treat ovarian cancer patients. Longer-term follow-up from the phase 1b portion of the trial continued to demonstrate that the levels of survivin-specific T cells in the blood of patients- a measure of DPX-Survivac's novel mechanism of action- correlated with durable clinical benefits.

In a poster presentation, Dr. Janos L. Tanyi, MD, PhD, assistant professor of obstetrics and gynecology at the Hospital of the University of Pennsylvania, provided an update on the clinical results from the first patients enrolled in the phase 2 DPX-Survivac/CPA cohort:

- Of seven patients evaluable at data cut-off in the DPX-Survivac/CPA arm, five showed signs of treatment benefits, including reduction of target lesions in two patients, while two patients progressed;
- Within the group of four patients with low tumour burden -- a potential predictor of response -- three showed stable diseases including two reductions in tumour burden continuing the positive trend seen in earlier results;
- All subjects evaluable for T cell responses (five of five) showed survivin specific T cell activation in the blood. Immunohistochemistry ("IHC") analysis for tumour infiltration is continuing; and
- Treatments have been well tolerated.

The data also highlighted long-lasting responders from the phase 1b portion of the study with key takeaways as follows:

- Prolonged duration of clinical benefits reaching up to more than two years, surpassing the progression-free survival to previous treatments, including platinum-based chemotherapy;
- Long-lasting clinical benefits and high levels of survivin specific T cells are associated with long-term treatment;
- One subject has received DPX-Survivac for more than 21 months so far. This finding is the longest duration of treatment for DPX-Survivac on record to date; and
- It is supportive of DPX Survivac's ability to maintain high levels of survivin-specific T cells in the blood over a prolonged period of time.

In December, 2018, IMV met with the U.S. Food and Drug Administration ("FDA") in a Type B meeting to discuss the results to date of its DeCidE1 clinical trial and continuing development plan, as well as to obtain agency guidance on a potential accelerated regulatory pathway for DPX-Survivac as a T cell immunotherapy for the treatment of advanced ovarian cancer in patients with progressing disease.

The purpose of IMV's Type B meeting with the FDA was to request feedback on the design of the clinical program for DPX-Survivac. This program includes the continuing DeCidE1 phase 2 clinical study and a potential future registration trial for accelerated approval in a subset of ovarian cancer patients.

The FDA reviewed the Corporation's proposed clinical development plan and acknowledged the potential for accelerated approval in advanced ovarian cancer based on ORR according to Recist 1.1 criteria with reported median DOR. In addition,

the FDA provided important guidance on clinical design considerations for different lines of therapy and platinum-sensitive and resistant patient populations.

Drug	Registrational Clinical Trials	Indication	Base for approval
Olaparib (Lynparza) Approved December 2014	Single arm, open label, Phase 2 (Study 42)	Germline BRCA mutation ≥3 prior lines of chemotherapy	N=137 ORR: 34% - platinum-resistant: 30% mDoR: 7.9 mo
Rubraca (Rucaparib) Breakthrough in April 2015 Approved December 2016	Single arm, open label, Phase 2 (Study 10 and ARIEL2)	Germline and/or somatic BRCA mutation ≥2 prior lines of chemotherapy	N=106 ORR: 42% platinum-resistant: 25% mDoR: 6.7 mo-9.2 mo

Figure 2: Examples of previous US FDA accelerated approvals in ovarian cancer (source: FDA website)

In addition, IMV submitted a protocol amendment for a predictive enrichment approach to the phase 2 DeCidE1 trial, and further discussed those details with the FDA during the Type B meeting. The phase 2 primary end point, based on ORR per Recist 1.1 criteria, is intended to confirm the high response rate and duration of clinical benefits observed in previously announced results in a patient population defined by a clinical biomarker based on baseline tumour burden.

The Corporation believes that there is still an urgent medical need in advanced recurrent ovarian cancer (Sources: 1. NCCN Guidelines Ovarian Cancer V2.2018; SEER Ovarian Cancer; JCO, vol 33; 32 Nov 2015, Gyn Onc 133(2014) 624-631):

- Nearly 70% of ovarian cancers are diagnosed in advanced stage;
- The overall 5-year survival rate is 46.5%, and only 29% for advanced disease;
- Most patients develop advanced, platinum-resistant, poor prognosis disease; and
- Limited options exist with current single-agents at 6-30% response rates and median progression free survival ("mPFS") of 2.1 4.2 months.

The Corporation believes that it has the potential to be "best-in-class" in the competitive landscape of recurrent ovarian cancer as other immunotherapeutic treatments tested in this patient population (Incyte Corporation's epacadostat, Merck's Keytruda, and Pfizer/Merck KGaA's Bavencio) are unlikely to proceed into registration trials based on the published results available:

## **Epacadostat**

- Kristeleit et Al ,Gynecologic Oncology 2017
- No activity

# KEYTRUDA\* (pembrolizumab) Injection 100 mg

- ASCO 2018
- ORR 8% longest duration of response reported in 376 patients 18.6 months

#### **Antitumor Activity: Confirmed Objective** Response Rate Based on RECIST v1.1 per BICR Cohorts A + B All-comers n = 376 37.2 (32.3 - 42.3) DCR % (95% CI) Complete response n (%) 7 (1.9) Partial response n (%) 23 (6.1) Stable disease n (%) 110 (29.3) 215 (57.2) Progressive disease n (%) Responders (n) Time to response, median months (range) 2.1 (1.8 - 12.3) Duration of response, median months (range 8.2 (3.3+ (18.6)



- Pfizer/Merck KGaA, Nov. 19, 2018: Avelumab Misses Primary Endpoints in Phase III Ovarian Cancer Trial – ORR 3.7%
- 556 patients with platinum-resistant or -refractory ovarian cancer - up to 3 lines of systemic therapy
- Avelumab alone or in combination with pegylated liposomal doxorubicin (PLD), a type of chemotherapy, compared with PLD did not meet the prespecified primary endpoints of overall survival (OS) or progression-free survival (PFS)
- The ORR was 13.3% (95% CI, 8.8%-19.0%) for avelumab combined with PLD, 3.7% (95% CI, 1.5%-7.5%) for single-agent avelumab, and 4.2% (95% CI, 1.8%-8.1%) for PLD alone.

Figure 3: Recurrent ovarian cancer immunotherapy competitive landscape

Subject to phase 2 results, IMV plans to schedule a follow-up meeting with FDA to finalize the design of a potential pivotal trial based on ORR and DOR.

The Corporation's clinical strategy with this trial is to establish the targeted T cell activity of its lead compound in order to increase value and de-risk clinical development, and to target late stage unmet medical needs for a shorter path to clinical demonstration and first regulatory approval.

The Corporation anticipates that, in addition to general clinical expenses which are distributed amongst the various clinical projects, the costs to complete this phase 2 clinical trial is currently estimated at \$3,300 of which \$1,800 is expected to occur in 2019.

#### Combinations with Merck's KEYTRUDA® (pembrolizumab)

Phase 2 clinical trial in DLBCL – SPiReL Phase 2 (investigator-sponsored)

This phase 2 study is a combination trial with Merck's KEYTRUDA® (pembrolizumab) in patients with measurable or recurrent DLBCL led by Sunnybrook Research Institute (investigator-sponsored). This investigator sponsored trial, announced initially in May 2017, is designed to evaluate the safety and efficacy of DPX-Survivac, Merck's KEYTRUDA® (pembrolizumab), and intermittent low-dose cyclophosphamide. IMV will provide an update on this trial at the American Society of Hematology Annual meeting to be held from December 8, 2019.

Primary and secondary end points include:

- Safety profile; and
- ORR and DOR using Recist 1.1 criteria.

The non-randomized, open label study is expected to enroll 25 evaluable participants in Canada. As of November 7, 2019, 17 patients have been enrolled across five different clinical sites in Canada.

Researchers conducting the investigator sponsored study are testing the novel immunotherapy combination in patients whose DLBCL expresses survivin, a tumour antigen highly expressed in 60 percent of DLBCL patients. DPX Survivac stimulates the immune system to produce T cell responses targeting survivin.

On June 12, 2019, IMV provided updated data on this study. Five of the first six patients demonstrated clinical benefit, including four patients with tumour regressions and the combination continued to demonstrate an acceptable safety profile.

Updated SPiReL data highlights:

At the time of data cut-off for this analysis, efficacy data based on modified Cheson criteria i was available from the first six evaluable patients:

- Two patients achieved a complete radiological response:
  - These patients have shown the best survivin specific T-cell responses to DPX-Survivac among the analyzed samples; and
  - One patient with a complete response (CR) has completed the one-year study period.
- One patient achieved a partial response (PR) at first on treatment scan;
- Two patients have reached stable disease:
  - Each of these patients has remained progression free for six and eight months while on treatment;
- Objective Response Rate (ORR): 3/6 (50%);
- Disease Control Rate (DCR): 5/6 (83%);
- One patient with bulky disease progressed at first scan;
- Two subjects are not evaluable, coming off trial at day seven and day 28;
- The treatment combination appears to be well tolerated with only two serious adverse events related to treatment (low white blood count and low neutrophil count); and
- Radiological results from three additional patients are pending.

CR: Nodal disease less than 1.5 cm, absence of extranodal disease, no new lesions and normal bone marrow (BM);

**PR:**  $\geq$ 50% decrease in the sum of the product of the diameters (SPD), no new lesion;

**PD**: Longest diameter of node > 1.5 cm and ≥50% increase from Product of Perpendicular Diameter and increase in longest or smallest diameter from nadir (lowest value), unequivocal progression of non target, new lesions or BM involvement.

The Corporation anticipates that, in addition to general clinical expenses which are distributed amongst the various clinical projects, its share of the cost to complete this study is currently estimated at \$1,700, of which \$1,000 is expected to be spent in 2019.

Phase 2 basket trial in 5 solid tumour indications

On September 11, 2018, the Corporation announced the expansion of its clinical program with a phase 2 basket trial in collaboration with Merck evaluating its lead candidate, DPX-Survivac/CPA, and Merck's KEYTRUDA® (pembrolizumab), in patients with select advanced or recurrent solid tumours.

The open-label, multicenter, phase 2 basket study will evaluate the safety and efficacy of the immunotherapeutic combination in patients with bladder, liver (hepatocellular carcinoma), ovarian, or non-small cell lung NSCLC cancers, as well as tumours shown to be positive for the microsatellite instability high (MSI-H) biomarker. Investigators plan to enroll up to 184 patients across five indications in 20 medical centers in Canada and the United States.

The ASCO defines a basket clinical study as a trial that investigates the effects of a drug regimen in multiple tumour types that share a common molecular target, regardless of where the disease originated.

This is the third clinical trial evaluating the combination of DPX-Survivac/CPA and KEYTRUDA® (pembrolizumab) in advanced recurrent cancers.

On September 30, 2019, IMV presented preliminary results from its ongoing phase 2 basket trial, during the Immunotherapy of Cancer poster session at the European Society for Medical Oncology (ESMO) 2019 Congress in Barcelona, Spain.

Preliminary Results from the Phase 2 Basket Trial

- At the time of cut-off, 23 patients were enrolled across all five patient cohorts. This includes 19 patients across all cohorts who received DPX-Survivac in combination with pembrolizumab with CPA, and four patients from the ovarian cancer cohort receiving DPX-Survivac with only pembrolizumab:
- Preliminary results from the first on-study scan showed tumor reduction in patients with ovarian cancer (with and without CPA), non-small cell lung cancer (NSCLC) and bladder cancer;
- Partial responses observed at first scan in two subjects (bladder cancer, ovarian cancer); 19/23 subjects are still active on study treatment.
- T cell infiltration observed in biopsy samples from subjects who achieved tumor reduction on treatment;
- Eight ovarian cancer patients were enrolled in the study, randomized 1:1 to treatment with and without CPA. Tumor control and tumor reductions were observed in both groups; and
- Safety evaluation on all evaluable patients demonstrated that treatment was well-tolerated, with no related Grade 3-4 or immune-related adverse events (AEs) reported.

As at November 7, 2019, 13 clinical sites were open, 64 patients have been screened and 31 patients had been enrolled across the five indications. The Corporation expects to disclose preliminary data in the second half of 2019 and anticipates that, in addition to general clinical expenses, which are distributed amongst the various clinical projects, \$12,600 is currently estimated to be spent for the safety lead-in for this trial, of which \$5,000 is estimated to be spent in 2019.

Phase 2 clinical trial in ovarian cancer (investigator-sponsored)

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

<sup>&</sup>lt;sup>i</sup> Cheson, B.D., Pfistner, B., Juweid, M.E., Gascoyne, R.D., Specht, L., Horning, S.J. and Diehl, V. (2007). Revised Response Criteria for Malignant Lymphoma. Journal of Clinical Oncology, 25(5) DOI: 10.1200/JCO.2006.09.2403.

Health Network's ("UHN") Princess Margaret Cancer Centre will conduct the phase 2 non-randomized, open-label trial designed to evaluate the potential anti-tumour 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. At this stage, the Corporation has no specific plan on the next steps after this trial as it will have to be assessed with its partner based on the clinical trial results.

As of July 29, 2019, 13 patients were enrolled in the trial and the Corporation will disclose results once provided by the UHN Princess Margaret Cancer Centre and currently anticipates that, in addition to general clinical expenses, which are distributed amongst the various clinical projects, its share of the costs to complete this study, currently expected to be spent in 2019, are estimated at \$400.

#### DPX-SurMAGE

In March 2019, IMV announced that CQDM, a Canadian bioresearch consortium, had awarded a grant for a collaboration among IMV Inc., Centre de recherche du CHU de Quebec-Universite Laval ("CHU") and La Fondation du CHU de Quebec ("FCHUQc"). The collaboration will receive a grant of up to \$1,200 from the CQDM and \$300 from the FCHUQc over three years, to develop a novel dual target T cell therapy for an initial clinical application in bladder cancer. IMV currently expects to contribute \$2,800 over the next three years towards this project.

The work will target immunogenic peptides from the MAGE protein family member A9 (MAGE-A9). This protein is frequently expressed in various human cancers including bladder, lung and kidney. These peptides will be combined with selected immunogenic peptides from the survivin protein composing the DPX-Survivac T cell drug candidate.

The researchers believe that MAGE-A9 and survivin peptides presented on the surface of cancer cells can be used to program T cells to destroy tumours and may represent ideal targets for anti-cancer T cell immunotherapies. The collaborators will combine these peptides with IMV's proprietary DPX technology to develop a first-in-class dual target T cell therapy (DPX-SurMAGE).

DPX-SurMAGE will be initially evaluated in preclinical studies. Upon successful completion of these preclinical evaluations, researchers are aiming to test the candidate in two clinical studies in patients with:

- Muscle invasive bladder cancer combined with an anti-PD-1 and intermittent low-dose cyclophosphamide (CPA) prior to cystectomy; and
- Low-grade highly recurrent non muscle invasive bladder cancer combined with CPA prior to transurethral resection.

This collaboration is expected to span a three-year period and as part of the collaboration agreement, IMV holds an exclusive option to in-license intellectual property related to this collaboration.

In June 2019, IMV met with Health Canada for a pre-clinical trial application meeting. The objectives of this meeting were to present and discuss the strategy for the development (including pre-clinical and clinical plans) of DPX-SurMAGE, to the agency to ensure the strategy was aligned with the agency's expectations. The agency agreed with the approach for pre-clinical, manufacturing and clinical development and made suggestions to facilitate its review by the agency.

IMV currently expects to start a phase 1 clinical trial in 2020.

Orphan Drug Status and Fast Track Designation

The Corporation announced, in November 2016, that the European Medicines Agency (EMA) had granted orphan drug designation status to IMV's DPX-Survivac in ovarian cancer. 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.

IMV 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.

#### Other Programs

#### Oncology

#### DPX-NEO

On January 17, 2019, treatment of the first patient occurred in the phase 1 trial evaluating neoepitopes formulated in the Corporation's proprietary DPX delivery platform in patients with ovarian cancer. The study is part of the Corporation's DPX-NEO program, which is a continuing collaboration between Uconn Health and IMV to develop neoepitope-based anti-cancer therapies.

Investigators will assess the safety and efficacy of using patient-specific neoepitopes discovered at Uconn Health and formulated in IMV's proprietary DPX-based delivery technology in women with ovarian cancer. Investigators plan to enroll up to 15 patients in the phase 1 study. Uconn Health is financing the trial with IMV providing materials and advice.

The Corporation expects to disclose results only when those are made available by Uconn Health.

#### DPX-E7

Dana-Farber is leading the DPX -E7 study through a \$1,500 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 in a total of 44 treated participants. Its primary objectives are to evaluate changes in CD8+ T cells in peripheral blood and tumour tissue, and to evaluate the safety in HLA-A2 positive patients with incurable HPV-related head and neck, cervical, or anal cancers. The trial has pre-consented 76 patients so far, from which 11 patients have been treated.

The Corporation expects to disclose results only when those are made available by Dana-Farber.

#### Other Applications

#### Product Overview

A component of the Corporation's business strategy is partnering the DPX platform for infectious and other disease applications. The DPX platform has the potential to generate a rapid and robust immune response, often in a single dose. The unique single-dose capability could prove to be beneficial in targeting difficult infectious and other disease candidates.

#### RSV

The Corporation has performed preclinical research activities for an RSV targeted candidate, which is the second leading cause of respiratory illness in infants, the elderly, and the immunosuppressed. Currently, there is no preventive therapy available for this virus and IMV is seeking to develop a novel DPX-based formulation to be used in elderly and healthy adults, including women of child-bearing age. IMV has in-licensed the RSV antigen exclusively from VIB VZW, a non-profit life sciences research institute funded by the Flemish government, to expand its pipeline of DPX-based candidates. The novel RSV antigen being evaluated in the DPX platform is based on the short hydrophobic protein present at low levels on the surface of the RSV virion. But, more importantly, it is also present on the surface of RSV-infected cells. This DPX-based candidate has a unique mechanism of action in which the resultant antibodies bind to and destroy infected cells.

#### Phase 1 clinical trial in RSV

A phase 1 clinical study has been conducted in Canada with the Corporation's RSV targeted candidate in healthy adults. The RSV candidate is formulated in IMV's proprietary DPX platform and is initially being developed to protect the elderly population from infection. The phase 1 study, which was the first clinical trial of a DPX-based formulation in an infectious disease indication, evaluated the safety and immune response profile of the DPX-RSV candidate in 40 healthy older adult volunteers (age 50-64 years) and two dose cohorts, with 20 subjects in each cohort.

In October 2016 and April 2017, the Corporation announced positive topline results from this trial. The report outlined that more than nine months after the last vaccination, 15 of 16 participants (93%) who received DPX-RSV demonstrated antigen-

specific immune responses. The candidate also continued to have a positive safety profile and was well tolerated with no SAEs among all study participants. Within the 25µg dose patient 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. After one year, the antibody levels measured were still at peak with no sign of decrease.

On September 27, 2018, IMV announced results of ongoing research to further explore the novel MOA of its candidate. New data from a preclinical study highlighted the effects of two potential approaches to preventing RSV, comparing a single dose bovine version of DPX-RSV to a two-dose conventional investigational bovine RSV (bRSV) preventive therapy. Researchers found that IMV's targeted therapy yielded strong antigen-specific immune responses and a protective effect on disease pathology.

They found SH antibodies in 14 of the 15 animals that received DPX-bRSV, and the improvements observed in disease pathology were comparable between the two cohorts. These were the first bovine animal health data to directly correlate the induced immune response against IMV's novel RSV target – the SH viral protein– with measures of disease protection.

Conventional RSV preventive therapies target either the F or G proteins of the virus and provide protection by neutralizing the RSV virus. Clinical measures of efficacy focus on the amount of neutralizing antibodies in the bloodstream. DPX-RSV works differently; it targets the SH viral ectodomain of the RSV virus and, instead of neutralizing the virus, it enables the immune system to recognize and destroy infected cells. Because there are no neutralizing antibodies resulting from the DPX-RSV MOA, a different clinical assessment is required to determine the candidate's protective effect. IMV has exclusive worldwide licenses on applications that target the SH ectodomain antigen in RSV. The Corporation is exploring opportunities to out-license this product to potential partners.

#### Malaria

In 2016, IMV was awarded a subcontract by Leidos, a health, national security, and infrastructure solutions company, to evaluate IMV's DPX platform for the development of peptide-based malaria targets. The subcontract is funded through Leidos' prime contract from the U.S. Agency for International Development ("USAID") to provide DPX-based candidate evaluations in the preclinical, clinical, and field stages of malaria vaccine development. Leidos and IMV are working together to identify adjuvant and antigen combinations that can be used to protect against malaria and, with the DPX delivery system, formulate promising targeted therapy candidates for potential clinical testing.

In November 2017, an expansion of this collaboration was announced. Following the achievement of several preclinical milestones in the collaboration with USAID, Leidos and USAID selected the DPX-based platform as one of the preferred formulations for further development under a new contract extension. Under the new subcontract, the collaborators are conducting additional research that focuses on identifying the most promising target-formulation combinations.

#### Zoetis Collaboration

On August 31, 2017, the Corporation announced the achievement of several milestones in its ongoing collaboration with global animal health company Zoetis to develop cattle vaccines. In recent controlled studies, the IMV formulations met efficacy and duration of immunity endpoints against two disease targets. These results will enable Zoetis to advance two IMV-formulated vaccine candidates into late-stage testing.

#### Licensing Agreements

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

In April 2018, IMV signed a licensing agreement and granted SpayVac-for-Wildlife (SFW Inc.) a license to two of its proprietary delivery platforms. SFW Inc. has global exclusive rights to use both of these platforms to develop humane, immune-contraceptive compounds for control of overabundant, feral and invasive wildlife populations against royalties on sales.

#### MARKET OVERVIEW

#### Cancer Immunotherapies

Cancer is considered one of the most widespread and prevalent diseases globally. According to Global Cancer Facts & Figures, 4<sup>th</sup> edition (released in 2018 by the American Cancer Society), it is predicted that new cancer cases will rise to 27.5 million and the number of cancer deaths to 16.3 million by 2040 simply due to the growth of the aging population. Conventional cancer treatment involves surgery to remove the tumour whenever 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, tumours often develop resistance to chemotherapies, thus limiting their efficacy in preventing tumour recurrence. Despite recent advances, independent sources note a high unmet medical need in cancer therapy, noting the median survival rate remains poor. Cancer immunotherapies may provide new and effective treatments. According to a Market & Markets report released in January 2017, the global immunotherapy drug 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 drug 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 tumours 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, which are compounds that target key regulatory molecules of the immune system. Yervoy® (anti CTLA 4, or ipilumumab, 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-tumour immune responses that are crucial for tumour 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 have been approved in multiple indications. Merck's KEYTRUDA® (pembrolizumab) and Bristol Myers Squibb's OPDIVO® (nivolumab) received FDA approval in 2014 for advanced melanoma patients who have stopped responding to other therapies. These therapies have subsequently been approved for use in other advanced cancers including bladder cancer, non-small cell lung cancer, Hodgkin's Lymphoma, squamous cell carcinoma of the head and neck and stomach cancer. In addition, KEYTRUDA® in particular has been approved for use in cancers with a specific molecular indication irrelevant of cancer type, having been approved in May 2017 for use to treat solid tumours having a biomarker for microsatellite instability (MSI-H), which is a defect in the DNA repair pathway. This represents about 5% of a number of different tumour types, including colorectal, breast, prostate, and thyroid cancers.

These drugs have been shown to be helpful in treating several types of cancer but with success only in a limited percentage of patients. It is not yet known exactly why, though researchers have noticed that these drugs seem to work especially well for patients whose cancer cells have a higher number of mutations.

Key opinion leaders in the field have indicated that that the solution lies in combining checkpoint inhibitors with other cancer treatments and that the ideal combination is likely to be a therapy that drives tumour specific immune responses. These include novel T cell-based therapies. These therapies fit well with checkpoint inhibition therapy because they simultaneously activate strong tumour-specific T cell activation, while also releasing the brakes on immune suppression. The success of such combinations should allow pharmaceutical companies to significantly expand the market of their checkpoint inhibitors.

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

## 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 platform technology includes 16 patent families, the first of which contains eight patents issued in five jurisdictions (United States, Europe, Canada, Japan, and Australia). The 15 other families collectively contain 39 patents issued in 10 jurisdictions (United States, Europe, Canada, Australia, Japan, India, Israel,

Singapore, China, and, separately, Hong Kong) and 56 pending patent applications in 9 jurisdictions. Taking into account the validations of the European patents, the Corporation's intellectual property portfolio includes 92 patents. More details on the Corporation's intellectual property strategy and patents can be found in the AIF filed on SEDAR at www.sedar.com.

The Corporation owns registered trademarks in the United States, Canada, and Europe.

#### RECENT AND QUARTERLY DEVELOPMENTS

Key developments and achievements

The Corporation announced:

- On October 30, 2019, the appointment of Dr. Joanne Schindler, M.D., D.V.M. as its new Chief Medical Officer, effective November 4, 2019. Dr. Schindler brings over 15 years of experience in the biopharmaceutical industry, primarily in early-stage oncology drug development. Most recently, she served as Vice President, Clinical Development and Executive Medical Director at H3 Biomedicine, overseeing the company's clinical development efforts.
- On September 30, 2019, IMV presented preliminary results from its ongoing Phase 2 basket trial, during the Immunotherapy of Cancer poster session at the European Society for Medical Oncology (ESMO) 2019 Congress in Barcelona, Spain.

Preliminary Results from the Phase 2 Basket Trial

- At the time of cut-off, 23 patients were enrolled across all five patient cohorts. This includes 19 patients
  across all cohorts who received DPX-Survivac in combination with pembrolizumab with CPA, and four
  patients from the ovarian cancer cohort receiving DPX-Survivac with only pembrolizumab;
- o Preliminary results from the first on-study scan showed tumor reduction in patients with ovarian cancer (with and without CPA), non-small cell lung cancer (NSCLC) and bladder cancer;
- o Partial responses observed at first scan in two subjects (bladder cancer, ovarian cancer); 19 out of 23 subjects are still active on study treatment;
- o T cell infiltration observed in biopsy samples from subjects who achieved tumor reduction on treatment;
- Eight ovarian cancer patients were enrolled in the study, randomized 1:1 to treatment with and without CPA;
   Tumor control and tumor reductions were observed in both groups; and
- o Safety evaluation on all evaluable patients demonstrated that treatment was well-tolerated, with no related Grade 3-4 or immune-related adverse events (AEs) reported.
- On September 4, 2019 the Corporation announced a collaboration with The Wistar Institute and Meenhard Herlyn, D.V.M., D.Sc., professor in the Molecular and Cellular Oncogenesis Program and director of Wistar's Melanoma Research Center.

Under this collaboration, IMV and The Wistar Institute will partner to develop a targeted T cell therapy against the common BRAF cancer mutation, based on peptides identified by the Herlyn lab. Mutations in this gene are the most frequently identified cancer-causing mutations in melanoma and have been identified in various other cancers, including non-Hodgkin lymphoma, colorectal cancer, thyroid cancer, and non-small cell lung and ovarian carcinomas.

The project scope includes optimizing the DPX formulation with the BRAF peptides and testing the investigational T cell therapy in the pioneering pre-clinical research models at Wistar. As part of the collaboration agreement, IMV holds an exclusive option to in-license intellectual property related to the program.

#### SELECTED FINANCIAL INFORMATION

	Three months ended September 30, 2019	ended September 30,	Nine months ended September 30, 2019 \$	Nine months ended September 30, 2018
Loss for the period	(7,896)	(5,987)	(18,890)	(14,254)
Basic and diluted loss per share	(0.16)	(0.14)	(0.38)	(0.33)

	As at September 30, 2019	As at December 31, 2018
Cash and cash equivalents	21,374	14,895
Total assets	30,329	22,925
Long term debt	8,327	8,069

# RESULTS FOR THE THREE AND NINE-MONTHS ENDED SEPTEMBER 30, 2019, COMPARED TO THE THREE AND NINE-MONTHS ENDED SEPTEMBER 30, 2018

	Q3 2019	Q3 2018	Nine Months ended September 30, 2019	Nine Months ended September 30, 2018
	\$	\$	\$	\$
Revenue	164	125	431	349
Research and development	5,652	3,897	13,467	8,384
General and administrative	2,635	2,349	6,778	6,281
Government assistance	(606)	(404)	(2,093)	(868)
Non-cash accreted interest	379	270	1,169	806
Net loss and comprehensive loss for the period	7,896	5,987	18,890	14,254

#### Revenue

Revenue increased by \$39 in Q3 2019 in comparison with Q3 2018 and by \$82 since the beginning of the year. This is mainly attributable to an increase in interest income of \$105 since the beginning of the year earned on the proceeds of the public offering completed in March.

## Research and development expenses

R&D expenses include salaries and benefits, expenses associated with the clinical trials of DPX-Survivac, clinical research and manufacturing of DPX-Survivac and DPX-SurMAGE, consulting fees paid to various independent contractors with specific expertise required by the Corporation, laboratory supplies, peptides and other raw materials, insurance, as well as other R&D related expenses.

The Corporation's R&D efforts and related expenses included costs surrounding the Corporation's clinical trials of DPX-Survivac, namely the phase 2 DeCidE1 clinical trial in ovarian cancer, phase 2 clinical trial collaboration with Merck in ovarian cancer, phase 2 clinical trial collaboration with Merck in DLBCL, phase 2 basket trial in 5 indications with Merck and costs related to the Corporation's ongoing R&D activities associated with the investigation, and analysis and evaluation of other potential product candidates and technologies.

Research and development expenses consist of the following:

	Q3 2019 \$	Q3 2018 \$	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
General research and development expenses	1,264	678	2,670	1,613
DPX-Survivac preclinical and clinical expenses	3,255	2,214	7,474	4,171
Salaries and benefits	1,012	872	2,954	2,230
Non-cash Stock-based compensation	83	103	266	291
Non- cash Depreciation of equipment	38	30	103	79
Total	5,652	3,897	13,467	8,384

The increase in general R&D expenses from \$1,613 in 2018 to \$2,670 in 2019 is mainly attributable to \$1,149 in expenses relating to the DPX-SurMAGE collaboration with CQDM, CHU, and FCHUQc offset by a \$99 decrease in rent expense as a result of rent now being allocated entirely to G&A. The increase of \$586 in general R&D expenses in Q3 2019 compared to Q3 2018 is attributable to \$824 relating to the DPX-SurMAGE collaboration, partly offset by a \$220 decrease in regulatory and professional consulting fees.

The increase of \$3,303 in DPX-Survivac preclinical and clinical expenses compared with 2018 is mainly attributable to increased clinical activity including expenses related to the basket trial (\$3,074) and expenses related to the DeCidE1 (DPX-Survivac/CPA) phase 1b/2 study (\$396).

The increase in R&D salaries in 2019 is mainly attributable to the hiring of eighteen new R&D positions (two at a director level) since the beginning of 2018.

## General and administrative expenses

G&A expenses consist of the following:

	Q3 2019	Q3 2018	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
	\$	\$	\$	\$
General and administrative expenses, excluding salaries	1,644	1,260	4,282	3,764
Salaries and benefits	600	485	1,825	1,442
Non-cash stock-based and deferred share unit compensation	280	528	401	949
Non- cash depreciation of equipment	111	76	270	126
Total	2,635	2,349	6,778	6,281

In 2019, G&A expenses, excluding salaries, have increased by \$384 compared with Q3 2018 and \$518 since the beginning of the year. This can be further explained by the share consolidation, relocation to new facility, NASDAQ listing, and name change expenditures incurred in Q3 2018 being offset in 2019 by increased insurance premiums, rent and utilities, and directors' fees following the NASDAQ listing and relocation in 2018.

Salaries and benefits increased by \$115 in Q3 2019 and by \$383 since the beginning of the year due to three new positions since the beginning of 2018, including the Senior Director of Investor Relations, Director of Communications and a Senior VP of Business Development, as well as an overall increase in compensation for the senior executive team.

The decrease in non-cash stock-based and deferred share unit compensation in 2019 compared with 2018, is explained by an increase of \$190 in stock-based compensation related to new positions, offset by a decrease in the fair value of DSUs of \$738 related to fluctuation in the share price. Effective August 8, 2019, the Corporation elected to settle all future DSU redemptions in shares. As a result, DSUs are now accounted for as equity-settled instruments and will not need to be revalued at each reporting period. The Corporation expects that this will reduce the volatility in the deferred share unit compensation expense going forward.

The increase in depreciation compared to 2018 is attributable to the leasehold improvements, equipment and leased space and associated with the new facility occupied since Q3 2018.

#### **Government assistance**

Government assistance consists of the following:

	Q3 Fiscal 2019	Q3 Fiscal 2018	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018	
	\$	\$	\$	\$	
Investment tax credits ("ITC")	593	396	1,232	836	
Government loans and assistance	13	8	861	32	
Total	606	404	2,093	868	

The increase in investment tax credits in 2019 is explained by the increase in R&D salaries and raw materials as well as increased clinical trial activity being performed in Canada.

The increase in government loans and assistance in 2019 is attributable to the revaluation of the low interest-bearing government loan from the Province of Nova Scotia upon receipt of the extension and amended repayment plan.

#### **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 and is comparable to 2018.

## Net loss and comprehensive loss

The net loss and comprehensive loss was \$7,896 or \$0.16 per basic and diluted share for Q3 2019, \$1,909 higher than the net loss and comprehensive loss of \$5,987 or \$0.14 per basic and diluted share for Q3 2018. For the nine months ended September 30, 2019, the net loss and comprehensive loss was \$18,890 or \$0.38 per basic and diluted share compared to \$14,254 or \$0.33 per basic and diluted share for the nine months ended September 30, 2018.

## CASH FLOWS, LIQUIDITY AND CAPITAL RESOURCES

At September 30, 2019, the Corporation had cash and cash equivalents of \$21,374 and working capital of \$21,233, compared to \$14,895 and \$12,247, respectively as at December 31, 2018.

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 first nine months of 2019, \$17,404 was used in operating activities. This included the reported net loss of \$18,890 prior to being decreased for non-cash expenses including DSU compensation, depreciation, accretion of long-term debt and lease obligations, loss on disposal of assets and stock-based compensation. The Corporation had a net decrease of cash of \$2,522 as a result of changes in working capital balances.

Sources of cash included: \$29,456 raised through financing activities less cash issuance costs of \$2,499; and \$156 through the exercise of stock options and warrants. The Corporation used \$245 to repay long-term debt and lease obligations during the period.

During the nine-month period ended September 30, 2019, the Corporation purchased furniture and equipment for ongoing research and operating activities for an aggregate amount of \$463.

The Corporation aims to maintain adequate cash and cash resources to support planned activities which include: phase 2 DeCidE1 clinical trial in ovarian cancer with DPX-Survivac; the two phase 2 investigator-sponsored combination trials with DPX-Survivac and Merck's checkpoint inhibitor, pembrolizumab in ovarian cancer and DLBCL; the basket trial in 5 indications with DPX-Survivac and Merck's checkpoint inhibitor, pembrolizumab; and other research and development activities, business development efforts, administration costs, and intellectual property maintenance and expansion.

At September 30, 2019, the Corporation had approximately \$23.7 million of existing and identified potential sources of cash including:

- cash and equivalents of \$21.4 million; and
- amounts receivable and investment tax credits receivable of \$2.3 million.

As of September 30, 2019, the Corporation's "cash burn rate" (defined as net loss for the period adjusted for operations not involving cash – interest on lease obligation, depreciation, accretion of long-term debt, stock-based compensation and DSU compensation) was \$17.4 million. Based on the current business plan and depending on the timing of certain clinical expenses, the Corporation forecasts the cash burn rate to be between \$5 million to \$6 million per quarter for the remainder of 2019 and into the first half of 2020, as it continues to execute its business plan.

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. IMV'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 product 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 \$23.7 million and its additional potential cash resources of \$2.3 million, as at September 30, 2019, will be sufficient to fund operations for the next twelve months. The Corporation continually reassesses the adequacy of its cash resources, evaluating existing clinical trials, 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, issuing 2,403,846 common shares at a price of \$4.16 per share for aggregate proceeds of \$10,000. The Corporation intends to use the net proceeds of this offering for the research and development and clinical advancement of its cancer and infectious disease therapy candidates and for working capital and general corporate purposes. The table below provides the amount used to date and any variances (except for working capital and general corporate purposes).

Intended Use of Proceeds	Estimated amount \$	Amount to date \$	Variances
phase 2 clinical trial in DLBCL with Merck	2,400	1,772	No variances anticipated
phase 1 clinical trial for multiple indications	4,200	4,200	No variances anticipated

## FEBRUARY 2018 EQUITY OFFERING AND USE OF PROCEEDS

On February 15, 2018, the Corporation completed a public offering, issuing 2,246,094 common shares at a price of \$6.40 per share for aggregate proceeds of \$14,375. The Corporation intends to use the net proceeds of this offering to continue to advance the Corporation's pipeline and conduct a phase 1 basket trial in up to five indications to be identified, for research and development, working capital, and for general corporate purposes. The table below provides the amount used to date and any variances (except for working capital and general corporate purposes).

Intended Use of Proceeds	Estimated amount \$	Amount to date \$	Variances
Clinical trials in 2019	4,800	1,633	No variances anticipated
Research & development in 2019	5,300	5,300	No variances anticipated

## MARCH 2019 EQUITY OFFERING AND USE OF PROCEEDS

On March 6, 2019, the Corporation completed a public offering, issuing 5,404,855 common shares (including 504,855 common shares upon the exercise of the underwriters' over-allotment option on March 11, 2019) at a price of \$5.45 per share for aggregate proceeds of \$29.5M. The Corporation intends to use the net proceeds of this offering to accelerate the development of DPX-Survivac in combination with Keytruda as part of the basket trial in selected advanced or recurrent solid tumours in bladder, liver (hepatocellular carcinoma), ovarian and non-small-cell lung cancers, as well as tumours shown to be positive for the microsatellite instability high biomarker and for general corporate purposes. The table below provides the amount used to date and any variances (except for working capital and general corporate purposes).

<b>Intended Use of Proceeds</b>	Estimated amount	Amount to date	Variances
	\$	\$	
Phase 2 clinical trial for multiple indications	16,000	1,354	No variances anticipated

## SUMMARY OF QUARTERLY RESULTS

The selected quarterly financial information<sup>(1)</sup> for the past eight financial quarters is outlined below: (in thousands of dollars, except for amounts per share)

	Q3-2019	Q2-2019	Q1-2019	Q4-2018	Q3-2018	Q2-2018	Q1-2018	Q4-2017
<b>Total Revenue</b>	164	186	82	133	125	129	96	66
<b>Total Expenses</b>	8,060	5,237	6,025	7,818	6,112	5,325	3,163	4,997
Loss	(7,896)	(5,051)	(5,943)	(7,685)	(5,987)	(5,196)	(3,067)	(4,931)

<b>Basic and Diluted Loss</b>	(0.16)	(0.10)	(0.12)	(0.17)	(0.14)	(0.12)	(0.07)	(0.12)
per Share	(0.16)	(0.10)	(0.13)	(0.17)	(0.14)	(0.12)	(0.07)	(0.13)

<sup>(1)</sup> Unless otherwise noted, financial information in thousands of Canadian dollars and prepared in accordance with IFRS.

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 FOR THE REMAINING OF 2019 AND BEGINNING OF 2020**

The Corporation has many clinical studies ongoing and expects the following timing to disclose results for the following studies:

Milestones	Key dates
Clinical results update in the DLBCL combination trial (investigator-sponsored)	December 2019
Topline DPX-Survivac/CPA clinical results in Ovarian	Q1 2020

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

#### RELATED PARTY TRANSACTIONS

For the first nine months of 2019, there were no related party transactions (2018 - \$nil).

#### CONTRACTUAL OBLIGATIONS

There is no material change in the contractual obligations of the Corporation since the beginning of the 2019 fiscal year. Details on the contractual obligations of the Corporation can be found in the in the annual audited consolidated financial statements and related notes for the year ended December 31, 2018.

#### OFF-BALANCE SHEET ARRANGEMENTS

The Corporation was not party to any off-balance sheet arrangements as of September 30, 2019.

#### **OUTSTANDING SECURITIES**

As of November 7, 2019, the number of issued and outstanding common shares was 50,630,875 and a total of 1,932,080 stock options, warrants, and deferred share units were outstanding.

### 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 in the Corporation's AIF and the registration statement on Form 40-F filed with the U.S. Securities and Exchange Commission, as well as the other information filed with the securities regulators before investing in the Corporation's common shares. If any of the such described 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 AIF filed on SEDAR at <a href="www.sedar.com">www.sedar.com</a> and included in the registration statement on Form 40-F filed on EDGAR at <a href="www.sec.gov/edgar">www.sec.gov/edgar</a>.

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

#### Disclosure Controls and Procedures

The Chief Executive Officer (the "CEO") and the Chief Financial Officer (the "CFO") of the Corporation are responsible for establishing and maintaining the Corporation's disclosure controls and procedures ("DCP") including adherence to the Disclosure Policy adopted by the Corporation. The Disclosure Policy requires all staff to keep senior management fully apprised of all material information affecting the Corporation so that they may evaluate and discuss this information and determine the appropriateness and timing for public disclosure.

The Corporation maintains DCP designed to ensure that information required to be disclosed in reports filed under applicable securities laws, is recorded, processed, summarized and reported within the appropriate time periods and that such information is accumulated and communicated to the Corporation's management, including the CEO and CFO, to allow for timely decisions regarding required disclosure.

The CEO and CFO have evaluated whether there were changes to the DCP during the nine-month period ended September 30, 2019 that have materially affected, or are reasonably likely to materially affect, the DCP. No such changes were identified through their evaluation.

In designing and evaluating DCP, the Corporation recognizes that any disclosure controls and procedures, no matter how well conceived or operated, can only provide reasonable, not absolute, assurance that the objectives of the control system are met, and management is required to exercise its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

## Internal Control over Financial Reporting

The Corporation's management, including the CEO and the CFO, are responsible for establishing and maintaining adequate internal control over financial reporting ("ICFR") for the Corporation to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. The fundamental issue is ensuring all transactions are properly authorized and identified and entered into a well-designed, robust and clearly understood accounting system on a timely basis to minimize risk of inaccuracy, failure to fairly reflect transactions, failure to fairly record transactions necessary to present financial statements in accordance with IFRS, unauthorized receipts and expenditures, or the inability to provide assurance that unauthorized acquisitions or dispositions of assets can be detected.

The CEO and CFO have evaluated whether there were changes to the ICFR during the nine-month period ended September 30, 2019 that have materially affected, or are reasonably likely to materially affect, the ICFR. No such changes were identified through their evaluation.

The Corporation's ICFR may not prevent or detect all misstatements because of inherent limitations. Additionally, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because changes in conditions or deterioration in the degree of compliance with the Corporation's policies and procedures.

## BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS AND SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements have been prepared in accordance with the IFRS as issued by the IASB. The accounting policies, methods of computation and presentation applied in the consolidated financial statements are consistent with those of previous financial year except for business development and investor relations expenses are now presented in general and

administrative expenses on the consolidated statements of loss and comprehensive loss. Certain comparative figures have been reclassified to conform the presentation adopted in the current year for general and administrative expenses.

The significant accounting policies of IMV are detailed in the notes to the annual audited consolidated financial statements for the year ended December 31, 2018 filed on SEDAR www.sedar.com and included in the registration statement on Form 40-F filed on EDGAR at www.sec.gov/edgar.

#### CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

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 annual audited consolidated financial statements for the year ended December 31, 2018 filed on SEDAR <a href="www.sedar.com">www.sedar.com</a> and included in the registration statement on Form 40-F filed on EDGAR at <a href="www.sec.gov/edgar">www.sec.gov/edgar</a>.

#### 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 annual audited consolidated financial statements for the year ended December 31, 2018 filed on SEDAR www.sedar.com and included in the registration statement on Form 40-F filed on EDGAR at www.sec.gov/edgar.

(Signed) Frédéric Ors Frédéric Ors

Chief Executive Officer

November 8, 2019

(Signed) Pierre Labbé
Pierre Labbé
Chief Financial Officer