ONCOLYTICS BIOTECH INC.
Innately Adaptive™

Financial Statements and Management's Discussion and Analysis

December 31, 2019

Oncolytics Biotech Inc.
TSX: ONC
Nasdaq: ONCY

MANAGEMENT DISCUSSION & ANALYSIS

2019

March 5, 2020

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

BASIS OF PRESENTATION

Our Management Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") should be read in conjunction with our 2019 audited consolidated financial statements and notes thereto, which have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"). This MD&A along with our consolidated financial statements for the year ended December 31, 2019, were authorized for issue in accordance with a resolution of the Board of Directors (the "Board") on March 5, 2020.

FORWARD-LOOKING STATEMENTS

The following discussion contains forward-looking statements, within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended and under applicable Canadian provincial securities legislation. Forward-looking statements, including: our belief as to the potential of pelareorep, an intravenously delivered immuno-oncolytic virus, as a cancer therapeutic; our expectation that we will not generate significant revenues until and unless pelareorep becomes commercially viable; our business strategy, goals and objectives for the development of pelareorep; our plan to actively manage the development of our clinical trial program, our pre-clinical and collaborative programs, our manufacturing process and pelareorep supply; our plans respecting regulatory approval for pelareorep; our planned clinical development program, including the timing thereof; our expectations regarding enrollment under our various clinical trials and the intended and anticipated results, benefits and opportunities therefrom; our planned 2020 development activity for pelareorep, our 2020 manufacturing program; our anticipated 2020 expenses relating to clinical trials, manufacturing, intellectual property, research collaborations and other research and development and operating expenses; our plans respecting the maintenance of adequate cash reserves to support our planned activities; our plans for funding our capital expenditure requirements; our approach to foreign exchange risk mitigation; and statements that are not historical facts, involve known and unknown risks and uncertainties, which could cause our actual results to differ materially from those in the forward-looking statements.

Such risks and uncertainties include, among others, the need for and availability of funds and resources to pursue research and development projects, the efficacy of pelareorep as a cancer treatment, the success and timely completion of clinical studies and trials, our ability to successfully commercialize pelareorep, uncertainties related to the research, development and manufacturing of pelareorep, uncertainties related to competition, changes in technology, the regulatory process and general changes to the economic environment.

With respect to the forward-looking statements made within this MD&A, we have made numerous assumptions regarding among other things: our ability to obtain financing to fund our clinical development plan, our ability to receive regulatory approval to commence enrollment in the clinical studies which are part of our clinical development plan, our ability to maintain our supply of pelareorep and future expense levels being within our current expectations.

Investors should consult our quarterly and annual filings with the Canadian and US securities commissions for additional information on risks and uncertainties relating to the forward-looking statements. Forward-looking statements are based on assumptions, projections, estimates, and expectations of management at the time such forward-looking statements are made, and such assumptions, projections, estimates and/or expectations could change or prove to be incorrect or inaccurate. Investors are cautioned against placing undue reliance on forward-looking statements. We do not undertake to update these forward-looking statements except as required by applicable law.

Pelareorep Development Update For 2019

Oncolytics Biotech Inc. is a Development Stage Company

Since our inception in April of 1998, Oncolytics Biotech Inc. has been a development stage company. We have focused our research and development efforts on the development of pelareorep, an intravenously delivered immuno-oncolytic virus (IOV) with the potential to treat a variety of cancers. We have not been profitable since our inception and expect to continue to incur substantial

losses as we continue research and development efforts. We do not expect to generate significant revenues until, and unless, pelareorep becomes commercially viable.

Our goal each year is to advance pelareorep through the various steps and stages of development required for potential pharmaceutical products. In order to achieve this goal, we proactively manage all aspects of the development of our clinical trial program, our pre-clinical and collaborative programs, our manufacturing process and pelareorep supply, and our intellectual property.

Clinical Trial Program

The ultimate objective of our clinical development plan is to obtain regulatory approval for pelareorep as quickly as possible and is based on the compelling efficacy data from previous studies in breast, multiple myeloma, and selected gastrointestinal cancers. Our clinical development program centers on key immunotherapy combinations. Specifically, immunotherapy combinations in which pelareorep has the potential to provoke a specific innate and adaptive immune responses when combined with checkpoint blockade therapy, chemotherapy and/or targeted therapies.

2019 Developments:

Clinical studies aiding registration program

Collaboration with Pfizer Inc. and Merck KGaA, Darmstadt, Germany: BRACELET-1 study

In June 2019, we entered into an agreement with Merck KGaA, Darmstadt, Germany and Pfizer Inc. to co-develop pelareorep in combination with paclitaxel and avelumab, a human anti-PD-L1 antibody, for the treatment of hormone-receptor positive, human epidermal growth factor 2-negative (HR+ / HER2-) mBC. The cost of this phase 2 clinical trial will be shared equally between Oncolytics and Pfizer. The study, known as BRACELET-1 (**BR**east c**A**n**CE**r with the Oncolytic Reovirus Pe**L**areor**E**p in Combina**T**ion with anti-PD-L1 and Paclitaxel), is an open-label study planned to enroll 45 patients into three cohorts with 15 patients per cohort: paclitaxel alone, paclitaxel in combination with pelareorep, and paclitaxel in combination with both pelareorep and avelumab (Bavencio®). The study will examine the expression of immune-related biomarkers to identify changes in T cell population between pre-treatment and on-therapy biopsies to confirm our previously identified biomarker and is designed to assess efficacy in terms of overall response rate at week 16 per RECIST 1.1 and iRECIST. The safety of the combination will also be evaluated. Similar to the AWARE-1 study (see below), the results of this study may provide an opportunity to add an arm to our proposed phase 3 study that includes a checkpoint inhibitor in addition to the chemotherapy-virus combination. Furthermore, the results of the BRACELET-1 study will provide important confirmatory data in the same patient population where we presented compelling metastatic breast cancer survival data at the 2017 AACR Annual Meeting. These endpoints, including the biomarker data, are expected to further de-risk our planned phase 3 registration study, permitting for a smaller study with a higher likelihood of clinical success.

In October 2019, we announced our collaboration with PrECOG LLC, a leading cancer research network, in which PrECOG LLC will run the BRACELET-1 study. The study is anticipated to begin enrollment in the first quarter of 2020.

Collaboration with SOLTI: AWARE-1 study

In February 2019, we received approval for our AWARE-1 study, which was announced in September 2018, from the Spanish Agency for Medicine and Health Products. This clinical collaboration with SOLTI, an academic research group dedicated to breast cancer research, is a window of opportunity study in the neoadjuvant setting for breast cancer using pelareorep in combination with F. Hoffmann-La Roche (Roche)'s anti-PD-L1 checkpoint inhibitor, atezolizumab (Tecentriq®), which we are utilizing under our Master Clinical Supply Agreement with Roche. In July 2019, we announced preliminary trial data demonstrating viral replication and promotion of inflammation following systemic administration of pelareorep when combined with Tecentriq®. Early data suggest a correlation between high peripheral T cell clonality (our candidate biomarker) and beneficial changes within the tumor microenviornment. We have also received a favorable recommendation from the Steering Committee to advance into the next phase of the AWARE-1 study.

The study plans to enroll 38 patients. Data generated from this study is intended to confirm that the virus is acting as a novel immunotherapy in breast cancer and to confirm biomarker data for breast cancer. The primary objective of this study is to supplement the existing randomized phase 2 results by providing key biomarker data points to enhance our probability of success in the phase 3 registration study. The results of this study may also provide an opportunity to add an arm to our proposed phase 3 study that includes a checkpoint inhibitor in addition to the chemotherapy-virus combination.

Additional checkpoint inhibitor combinations

Pancreatic cancer study combining pelareorep and Keytruda®

In 2019, we continued patient enrollment and treatment in our investigator sponsored study (IST) supported by Merck Inc. (Merck), Northwestern University and Oncolytics. This study, an extension of our phase 1 study (REO 024), will investigate pelareorep in combination with Merck's anti-PD1 checkpoint inhibitor Keytruda®, to treat second-line pancreatic cancer patients. The study plans to enroll approximately 40 patients.

Multiple myeloma study combining pelareorep and Opdivo®

In 2019, we continued patient enrollment in the safety cohort of our IST with Emory University and the University of Utah investigating the combination of pelareorep and Bristol-Myers Squibb's anti-PD1 checkpoint inhibitor Opdivo® in 40 - 50 relapsed or refractory myeloma patients. The safety cohort will investigate the combination of a proteasome inhibitor with the checkpoint inhibitor prior to the addition of pelareorep.

Pre-clinical/Research collaborations

In 2019, the following presentations and journal publication were delivered to demonstrate clinical evidence that pelareorep can boost PD-L1 expression and has the potential to serve as a backbone for immune checkpoint inhibition and can be effectively delivered intravenously across a wide range of cancers, as well as a predictive and prognostic biomarker can be derived from a simple blood draw:

Title	*Author/Presenter*	*Publication /Location*	*Description/Conclusion*
Oncolytic immunotherapy and bortezomib synergy improves survival of refractory multiple myeloma in a preclinical model	Chandini M. Thirukkumaram, University of Calgary	Blood Advances, March 12, 2019 edition	The article demonstrates that the combination of reovirus and bortezomib can overcome drug resistance, a major hurdle in the treatment of multiple myeloma. Further, the combination modifies the tumor microenvironment to overcome the immune suppressive environment caused by multiple myeloma cells in the bone marrow. This combination promotes a pro-inflammatory signal within the tumor microenvironment, upregulates the PD-L1/PD-1 axis and enhances immune cell infiltration. Collectively, this suggests the possibility of synergies and increased efficacy with the addition of checkpoint blockade to the combination.
Exploratory analysis of T cell repertoire dynamics upon systemic treatment with the oncolytic virus pelareorep in combination with pembrolizumab and chemotherapy in patients with advanced pancreatic adenocarcinoma	Grey Wilkinson, PhD, Translational Scientist, Oncolytics Biotech Inc.	American Association for Cancer Research (AACR) Annual Meeting 2019, Atlanta, Georgia	Data presented in the poster demonstrated: – Patients treated with pelareorep in combination with chemotherapy and pembrolizumab showed changes in their T cell repertories with high turnover and significant expansion during treatment – These post-treatment expanded T cell populations, are "new" clones not present at baseline, suggesting effective priming of the immune system – Higher T cell clonality at baseline correlates with longer progression free survival (HR=0.05, p=0.01) and overall survival (HR=0.12, p=0.01) demonstrating the predictive value of the assay – Enhanced T cell clonality after the first cycle of treatment correlates with improved overall survival (HR=0.08, p=0.01) and serves as an on-treatment prognostic biomarker – Early expanded T cell clones, detected at day 8 of treatment (prior to pembrolizumab), most strongly correlate with survival time which suggests that early versus late clonal expansion may be elicited by pelareorep treatment – T cell clonality has significant potential as a predictive and prognostic on-treatment biomarker to pelareorep therapy

Title	Presenter	Location	Description/Conclusion
Prediction of response to pelareorep plus pembrolizumab in pancreatic ductal adenocarcinoma (PDAC)	Dr. Christos Fountzilas, Assistant Professor, Dept. of Medicine - GI Medical Oncology, Roswell Park Comprehensive Cancer Center	American Society of Clinical Oncology (ASCO) 2019 Annual Meeting	Key data and conclusions demonstrated: – Clonal T cell diversity was expanded during therapy, broadening the potential repertoire of T cells that can target tumor cells; – ~30% of expanded clones at day eight of pelareorep therapy were durable after one cycle of treatment suggesting a refinement of T cell clones that target the best tumor cell antigens; – Gene expression analysis in peripheral blood mononuclear cells (PBMCs) helps to validate the changes in T cell diversity, where responding patients had higher levels of pro-inflammatory cytokines expressed by activated T cells, compared to non-responders. Importantly, there was a statistically significant upregulation of genes that aid in the recruitment and activation of T cells including IL17F, CCL7, and ICOS (raw $p < 0.05$); and – Gene expression analysis in PBMCs may serve as a separate and independent biomarker, and helps to corroborate our previously published blood-based T cell clonality biomarker for pelareorep therapy.
Systemic administration of oncolytic reovirus, pelareorep, a metanalysis on the efficiency of tumor delivery	Grey Wilkinson, PhD, Translational Scientist, Oncolytics Biotech Inc.	International Oncolytic Virus Conference (IOVC) 2019, Rochester, Minnesota	The analyses examined the effectiveness of viral replication within the tumors of patients treated systemically with pelareorep. The data demonstrated that, unlike other oncolytic viruses that require intra-tumoral delivery, intravenous (IV) systemic delivery of pelareorep resulted in 81% of patient tumor samples across multiple types of cancer testing positive for virus replication, with no infection in normal tissue. These results are from studies across a broad range of solid and liquid tumors, including metastatic disease. Key Findings from the Metanalysis: – After IV delivery, 81% of patient tumor samples are positive for replicating reovirus (the average increases to 96% when melanoma and skin biopsies are excluded) – Tumor types that showed a high proportion of active viral replication: breast cancer, pancreatic adenocarcinoma, multiple myeloma, colorectal cancer patients with liver metastases and high-grade glioma
A window-of-opportunity Study of pelareorep in Early Breast Cancer (AWARE-1)	Aleix Prat, MD, PhD, et al., Head, Medical Oncology Department, Hospital Clinic of Barcelona & Associate Professor, University of Barcelona, SOLTI - Breast Cancer Research Group	The Society for Immunotherapy of Cancer (SITC) 2019, National Harbor, Maryland	The primary objective of this study is to evaluate changes in the immune environment of patients diagnosed with breast cancer. Importantly, an increase in CelTIL score, which means a change or expansion of infiltrating immune cells, known to correlate with a positive patient outcome. Initial data indicate viral replication exclusively in breast cancer tumor tissue and an increase in CelTIL score through the expansion of existing T cells and the creation of new T cell clones.

Title	Presenter	Location	Description/Conclusion
Carfilzomib Impairs the Innate Antiviral Immune Response and promotes cytotoxic T-cell Expansion in Oncolytic Virus Treated Multiple Myeloma Patients	Dr. Flavia Pichiorri, Associate Professor in the Judy and Bernard Briskin Center for Multiple Myeloma Research within the Hematologic Malignancies and Stem Cell Transplantation Institute at the City of Hope	2019 American Society of Hematology Annual Meeting & Exhibition, San Diego, California	Key data and conclusions demonstrated: – Pelareorep treatment selectively infected multiple myeloma cells and not normal bone marrow cells; – Carfilzomib enhances reovirus entry, infection, and killing of multiple myeloma cells; – Reovirus significantly increases the frequency and activation of certain killer T cells, and increases the anti-tumor activity of immune cells in multiple myeloma; and – Data supports that the combination of pelareorep, and carfilzomib potentiates the expansion of CD8+ killer T cells.

Post 2019 Developments:

On January 27, 2020, we announced a poster presentation highlighting statistically significant data identifying CEACAM6 as a prospective biomarker for pelareorep in the treatment of pancreatic cancer. The presentation was delivered at the 2020 Gastrointestinal Cancers Symposium sponsored by ASCO in San Francisco.

Title	Presenter	Location	Description/Conclusion
CEACAM6 as a candidate biomarker for pelareorep sensitivity in pancreatic adenocarcinoma (PDAC)	Dr. Anne Noonan, Department of Medical Oncology, Ohio State University Wexner Medical Center, Richard Solove Research Institute and James Cancer Hospital, and Dr. Tanios Bekaii-Saab Senior, Associate Consultant, Division of Hematology/ Oncology, Department of Internal Medicine, Mayo Clinic, Phoenix, Arizona.	2020 Gastrointestinal Cancers Symposium, San Francisco, California	Key data and conclusions demonstrated: – CEACAM6 was the most differentially expressed gene, with an eight-fold decrease in levels of mRNA, in long-term responders compared to early progressors in patients receiving pelareorep. – Low levels of CEACAM6 mRNA expression were associated with prolonged PFS in pelareorep-treated patients (p=0.05). This treatment effect was not seen in patients that were not treated with pelareorep (p=0.35). – In pelareorep treated patients, CEACAM6 mRNA expression level was very influential with a hazard ratio of 1.54 (p=0.01), suggesting that one unit increase in CEACAM6, corresponds to an increase in the risk of progression and/or death by 54% in this arm. There was no significant relationship seen in patients that were not treated with pelareorep. – CEACAM6 may be included as a candidate biomarker of resistance to pelareorep and, in theory, could inhibit viral trafficking in tumor cells.

Manufacturing and Process Development

Throughout 2019, as we continued our production of 100-litre current Good Manufacturing Practices (cGMP) batches, we supplied our clinical development program with previously filled product from our existing stock of pelareorep, labeled for the applicable usage. As well, we continued our activities to develop clinical and commercial production capabilities to fill pelareorep into vials, the next step in the process validation master plan. Process validation is required to ensure that the resulting product meets required specifications and quality standards and will form part of the Company's submission to regulators, including the FDA, for product approval.

Intellectual Property

At the end of 2019, we had been issued 399 patents including 48 US and 21 Canadian patents as well as issuances in other jurisdictions. We have an extensive patent portfolio covering the oncolytic reovirus that we use in our clinical trial program including a composition of matter patent that expires in 2028. Our patent portfolio also includes methods for treating proliferative disorders using modified adenovirus, HSV, parapoxvirus and vaccinia virus.

Financing Activity

Public offering
On August 16, 2019, pursuant to an underwritten public offering, 4,619,773 units were sold at a purchase price of US$0.81 per unit for gross proceeds of US$3,742,016. Each unit included one common share with a fair value of US$0.54 and one common share purchase warrant with a fair value of US$0.27. Each common share purchase warrant entitles the holder to purchase one common share at an exercise price of US$0.90 until August 16, 2024. We incurred transaction costs of $699,427 of which $466,284 were allocated to share issue costs and $233,143 were allocated to operating expenses, based on their relative fair values. In the fourth quarter of 2019, 2,935,647 warrants were exercised for gross proceeds of US$2,642,082.

U.S. "at-the-market" equity distribution agreement
In 2019, we sold 4,425,040 common shares for gross proceeds of US$6,390,691. We incurred share issue costs of $344,834.

Common Stock Purchase Agreement
In 2019, we sold 2,477,665 common shares for gross proceeds of US$4,055,725 and issued 17,278 commitment shares. The commitment shares were fair valued at US$29,758 and were recorded as share issue costs in addition to cash share issue costs of $3,757.

Financial Impact

We had estimated that our cash requirements for 2019 to fund operations for the year would be between $18 - $20 million. Our actual cash usage for the year was $19,906,124 for operating activities, $10,905 for the acquisition of property and equipment and $447,497 for the payment of office leases. Our net loss for the year was $33,122,888, which included a non-cash change in fair value of warrant derivative expense of $12,608,808.

Cash Resources

We ended 2019 with cash and cash equivalents totaling $14,148,021 (see *"Liquidity and Capital Resources")*.

Subsequent Events

Between January 1, 2020 and March 5, 2020, we issued 3,921,790 common shares for gross proceeds of US$12,726,383 through our October 2018 ATM equity offering sales agreement and we received gross proceeds of US$1,030,669 as a result of 1,145,188 August 2019 public offering warrants that were exercised.

On February 25, 2020, we received the US$1,500,000 upfront payment of BRACELET-1 cost from Pfizer (see Note 13 of our audited consolidated financial statements).

Expected Pelareorep Development For 2020

Our planned 2020 development activity for pelareorep focuses on our clinical development plan along with our manufacturing and intellectual property programs. Our 2020 clinical objective is to incorporate our immuno-oncology combination strategy that includes checkpoint inhibitors, prove the usefulness of biomarkers across various indications, and combine with other anti-cancer agents as we develop our registration strategy and clinical protocol in preparation for a phase 3 clinical study in mBC. In the first half of 2020, we expect to announce additional interim data and complete enrollment of AWARE-1, continue study initiating activities related to BRACELET-1, and announce interim data related to the REO 024 extension combination study. In the second half of 2020, we expect to announce AWARE-1 final data, announce interim data related to Opdivo® combination study, complete enrollment and announce interim data related to the BRACELET-1 study, as well as complete enrollment and announce final data related to the REO 024 extension combination study. We expect these combination studies will assist us in refining our phase 3 protocol for mBC and may also support further development around the innate and adaptive immunity components of the mechanism of action.

Our 2020 manufacturing program includes completing production of 100-litre cGMP batches along with the related analytical testing and product filling, as well as labeling, packaging and shipping of pelareorep to our various clinical sites for ongoing and

upcoming activities. These activities are consistent with our process validation master plan. Finally, our intellectual property program includes filings for additional patents along with monitoring activities required to protect our patent portfolio.

We currently estimate the cash requirements to fund our operations for 2020 will be approximately $20 - $22 million but will depend on our ultimate clinical program. (see *"Liquidity and Capital Resources"*).

Our Accounting Policies

In preparing our financial statements we use IFRS as issued by the International Accounting Standards Board. IFRS requires that we make certain estimates, judgments and assumptions that we believe are reasonable based upon the information available in selecting our accounting policies. Our selection of accounting policies, along with our estimates and assumptions affect the reported amounts of our assets and liabilities at the date of the financial statements and the reported amounts of expenses during the periods presented.

Critical Accounting Policies

In preparing our financial statements, we are required to make certain estimates, judgments and assumptions that we believe are reasonable based upon the information available. These estimates and assumptions affect the reported amounts of assets at the date of the financial statements and the reported amounts of expenses during the periods presented. Significant estimates are used for, but not limited to, the treatment of our research and development expenditures, revenue recognition, the calculation of share based compensation and warrant derivative (see Note 4 *" Significant Judgments, Estimates and Assumptions*") of our audited consolidated financial statements.

The significant accounting policies which we believe are the most critical to aid in fully understanding and evaluating our reported financial results include the following:

Research and Development

Research and development costs are expensed as incurred, net of recoveries. We record accruals for the estimated costs of our research and development activities performed by third parties. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows to our vendors. Payments under the contracts depend on factors such as the achievement of certain events, successful enrollment of patients, and completion of certain clinical trial activities.We generally accrue costs associated with the treatment phase of clinical trials based on the total estimated cost of the treatment phase on a per patient basis and we expense the per patient cost ratably over the estimated patient treatment period based on patient enrollment in the trials. Advance payments for goods or services that will be used or rendered for future research and development activities are capitalized as prepaid expenses and recognized as expense as the related goods are delivered or the related services are performed. We base our estimates on the best information available at the time. However, additional information may become available to us which may allow us to make a more accurate estimate in future periods. In this event, we may be required to record adjustments to research and development expenses in future periods when the actual level of activity becomes more certain. Such increases or decreases in cost are generally considered to be changes in estimates and will be reflected in research and development expenses in the period identified.

Development costs that meet specific criteria related to technical, market and financial feasibility will be capitalized. To date, all development costs have been expensed.

Revenue recognition

Revenue relates to a long-term contract associated with the Licensing Agreement with Adlai. The pricing for the contract was based on the specific negotiations with Adlai and includes non-refundable upfront license fees, development and regulatory milestone payments, royalties and sales-based milestone payments. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Under the Licensing Agreement, we have granted a regional license to our intellectual property. The granting of this license is accounted for as one performance obligation. We have determined that we provide Adlai with a right to access our intellectual property, and therefore recognize revenue related to the upfront license fee over time. Revenue is recognized based on the extent of progress towards completion of the performance obligation using the input method. Under the input method, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of

the performance obligation. We use this method because Adlai receives and consumes the benefit of our intellectual property as we undertake activities that impact the intellectual property. Management must use judgment in making assumptions and estimates regarding total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

The contract also provides for development and regulatory milestone payments, royalties and sales-based milestone payments. These amounts are contingent on the occurrence of a future event and therefore give rise to variable consideration. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts in the transaction price when it becomes highly probable that the amount will not be subject to significant reversal when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current and forecasted) that is reasonably available to us. Based on this information and related analysis, any quarterly adjustments to revenue are recognized as necessary in the period they become known.

Significant Estimates

Revenue recognition
We entered into a Licensing Agreement which provides, among other payments, for upfront license fees in exchange for a regional license to our intellectual property. Management uses its judgment in applying the input method when determining the extent of progress towards completion of the performance obligation. Revenue recognition requires assumptions and estimates regarding total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

Valuation of share based payments
Estimating fair value for stock options granted requires determining the most appropriate valuation model which is dependent on the terms and conditions of the grant. We have chosen to use the Black Scholes valuation model ("Black Scholes" or the "Model") to calculate the fair value of our stock options. Black Scholes is currently widely used and accepted by other publicly traded companies. Therefore, we have concluded that Black Scholes is the appropriate option pricing model to use for our stock options at this time. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life, share price volatility, dividend yield, and forfeiture rate and making assumptions about them. The assumptions and inputs used for estimating fair value for stock options granted issued are disclosed in Note 10 of our audited consolidated financial statements. Consequently, in complying with IFRS and selecting what we believe are the most appropriate assumptions under the circumstances, we have recorded non-cash share based payment expense for the year of $1,470,153. However, given the above discussion, these amounts could have been different and still be in accordance with IFRS.

Valuation of warrant derivative
Estimating fair value of the warrant derivative at initial measurement, at each exercise date and at each reporting period requires determining the most appropriate valuation model. We have chosen to use Black Scholes to calculate the fair value of our warrant derivative. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life, share price volatility, dividend yield, and making assumptions about them. The assumptions and inputs used for estimating fair value for warrant derivative are disclosed in Note 8 of our audited consolidated financial statements. Consequently, in complying with IFRS and selecting what we believe are the most appropriate assumptions under the circumstances, we have recorded a non-cash change in fair value of warrant derivative for the year of $12,608,808. However, given the above discussion, these amounts could have been different and still be in accordance with IFRS.

Adoption of New Accounting Standards

IFRS 16 *Leases*

IFRS 16 *Leases* ("IFRS 16") replaces IAS 17 *Leases* ("IAS 17") and related interpretations for annual periods beginning on or after January 1, 2019. We have adopted IFRS 16 using the modified retrospective approach, under which the cumulative effect of the initial application is recognized in retained earnings at January 1, 2019. We have not restated comparatives for 2018. On transition to IFRS 16, we elected to apply the following practical expedients:

- Applied the exemption for short-term leases that have a remaining lease term of less than 12 months as at January 1, 2019;
- Excluded initial direct costs for the measurement of right-of-use assets as at January 1, 2019;

- Relied upon our assessment of whether leases are onerous under the requirement of IAS 37, *Provisions, contingent liabilities and contingent assets* as at December 31, 2018 as an alternative to reviewing our right-of-use assets for impairment; and
- Measured the right-of-use assets at an amount equal to the lease liability, adjusted by the amount of lease incentive liability related to that lease recognized in the statement of financial position immediately before the date of initial application.

We have elected not to separate fixed non-lease components from lease components and instead account for each lease component and associated fixed non-lease components as a single lease component.

On transition to IFRS 16, we recognized $882,437 of lease liabilities. Lease liabilities have been measured by discounting future lease payments using our incremental borrowing rate at January 1, 2019 as rates implicit in the leases were not readily determinable. The weighted-average rate applied was 15%.
The following table summarizes the impacts of adopting IFRS 16 on the consolidated financial statements:

		Impact of changes	
	As reported as at December 31, 2018	**Effects of IFRS 16 transition**	**Subsequent to transition as at January 1, 2019**
Right-of-use assets	—	808,025	808,025
Other current and non-current assets	14,865,253	—	14,865,253
Total assets	14,865,253	808,025	15,673,278
Other liabilities	113,750	(74,412)	39,338
Lease liabilities	—	882,437	882,437
Other current and non-current liabilities	8,556,140	—	8,556,140
Total liabilities	8,669,890	808,025	9,477,915
Total shareholders' equity	6,195,363	—	6,195,363

Prior to adopting IFRS 16, our total minimum operating lease commitments as at December 31, 2018 were $961,575. The difference between the total of the minimum lease payments set out in Note 11 of our 2018 annual consolidated financial statements and the total lease liabilities recognized on transition was a result of the effect of discounting on the minimum lease payments.

Selected Annual Information

	2019 $	**2018 $**	**2017 $**
Revenue	**—**	—	—
Consolidated net loss[1][2]	**(33,122,888)**	(17,037,225)	(15,616,851)
Basic and diluted loss per share[2][3]	**(1.50)**	(1.06)	(1.12)
Total assets[3]	**19,657,865**	14,865,253	18,150,449
Cash dividends declared per share[4]	**Nil**	Nil	Nil

Notes:

(1) Included in consolidated net loss and loss per common share for 2019 is a non-cash change in fair value of warrant derivative expense of $12,608,808 (2018 - nil; 2017 - nil).

(2) Included in consolidated net loss and loss per common share for 2019, 2018, and 2017 are share based payment expenses of $1,470,153, $1,415,833 and $578,703, respectively.

(3) The calculation of basic and diluted loss per common share for all periods has been adjusted retrospectively for the Share Consolidation. We issued 14,798,704 common shares for net cash proceeds of $21.5 million in 2019 (2018 - 2,472,909 common shares for net cash proceeds of $13.3 million; 2017 - 20,547,500 pre-consolidation common shares (approximately 2,162,894 post-consolidation common shares) for net cash proceeds of $12.8 million).

(4) We have not declared or paid any dividends since incorporation.

Results of Operations

Net loss for the year was $33,122,888 compared to $17,037,225 and $15,616,851 for the years ending December 31, 2018 and December 31, 2017, respectively. Net loss in 2019 included a non-cash change in fair value of warrant derivative expense of $12,608,808.

Research and Development Expenses ("R&D")

	2019 $	2018 $	2017 $
Clinical trial expenses	**2,189,622**	2,938,911	2,475,918
Manufacturing and related process development expenses	**3,776,288**	2,073,726	1,726,432
Intellectual property expenditures	**827,375**	869,991	847,650
Research collaboration expenses	**143,966**	362,622	252,482
Other R&D expenses	**3,319,326**	3,102,203	3,925,256
Foreign exchange loss (gain)	**316,719**	(610,106)	(65,256)
Share based payments	**561,420**	680,541	230,141
Research and development expenses	**11,134,716**	9,417,888	9,392,623

Clinical Trial Program

Clinical trial expenses include those costs associated with our clinical trial program which primarily included expenses related to the preparation and development of our breast cancer registration study and immunotherapy combinations. Included in clinical trial expenses are regulatory and consulting activities, contract research organization expenses, data management expenses and other costs associated with our clinical trial program.

	2019 $	2018 $	2017 $
Clinical trial expenses	**2,189,622**	2,938,911	2,475,918

During 2019, our clinical trial expenses were $2,189,622 compared to $2,938,911 and $2,475,918 for the years ended December 31, 2018 and December 31, 2017, respectively. In all three years, our clinical trial program focused mainly on the preparation and development of our breast cancer registration study. In 2019, these costs included startup activities and patient enrollment and treatment for our AWARE-1 study and our portion of trial initiation activities related to the BRACELET-1 study. As well, we incurred costs to complete our supporting regulatory documents and key opinion leader activities. In 2018, these costs included phase 3 development activities, activities related to obtaining the SPA from the FDA and the window of opportunity study in collaboration with SOLTI. In 2017, these activities included costs to complete our supporting regulatory documents, regulatory filing fees, planning for and attending scientific advisory meetings with the FDA and the European Medicines Agency (EMA), and key opinion leader activities.

In 2019 and 2018, in addition to activities related to our breast cancer program, we also incurred close-out costs related to our fully enrolled legacy clinical trials, patient enrollment and/or treatment in our checkpoint inhibitor pancreatic cancer study investigating Keytruda® in combination with pelareorep. In 2017, our other clinical activities included patient enrollment in our checkpoint inhibitor pancreatic cancer study investigating Keytruda® in combination with pelareorep. In addition, with the signing of the Licensing Agreement that included upfront licensing fees in November 2017, we triggered payments of $640,579 as detailed in our Assumption Agreement (see Notes 12 and 14 of our audited consolidated financial statements). Our 2017 costs were partially offset as we continued to close out legacy clinical trial sites truing up our cost estimates with the actual costs incurred.

We expect our clinical trial expenses to increase in 2020 compared to 2019. During 2020, we expect to finalize the development of our registration program, generate clinical data with checkpoint inhibitors and prove the effectiveness of biomarkers across various indications.

Manufacturing & Related Process Development ("M&P")

M&P expenses include product manufacturing and process development activities. Product manufacturing expenses include third-party direct manufacturing costs, quality control testing, fill, label, packaging and storage costs and are net of any recoveries that are received from any R&D collaborators. Process development expenses include costs associated with studies that examine components of our manufacturing and analytical processes looking for improvements and costs associated with the creation of our process validation master plan and related conformity testing.

	2019 $	2018 $	2017 $
Product manufacturing expenses	**3,535,632**	1,667,481	1,054,903
Process development expenses	**240,656**	406,245	671,529
Manufacturing and related process development expenses	**3,776,288**	2,073,726	1,726,432

Our M&P expenses for 2019 were $3,776,288 compared to $2,073,726 and $1,726,432 for the years ending December 31, 2018 and December 31, 2017. In 2019, our product manufacturing costs primarily related to the completion of training and engineering production runs required to support our clinical development plan and the associated product testing, shipping and storage costs of our bulk and vialed product, and an ongoing product fill. In 2018, our product manufacturing activities mainly related to shipping and storage costs of our bulk and vialed product along with startup costs for a product fill and a production run. We also incurred costs related to relabeling activities in line with extended stability data. During 2017, our product manufacturing activities mainly related to shipping and storage costs of our bulk and vialed product.

Our process development expenses for 2019 were $240,656 compared to $406,245 and $671,529 for the years ending December 31, 2018 and December 31, 2017, respectively. During 2019, our process development activities focused on analytic development studies. During 2018, our process development activities focused on analytic development and stability studies. During 2017, our process development activities focused on stability, process optimization studies, assay development and biodistribution studies.

We expect our M&P expenses for 2020 to increase compared to 2019. In 2020, we expect to complete the cGMP production run, fill, label and store sufficient product as well as continue to perform analytical development and other non-clinical projects to support our clinical development program and other collaborative requirements.

Intellectual Property Expenses

Intellectual property expenses include legal and filing fees associated with our patent portfolio.

	2019 $	2018 $	2017 $
Intellectual property expenses	**827,375**	869,991	847,650

Our intellectual property expenses for 2019 were $827,375 compared to $869,991 and $847,650 for the years ending December 31, 2018 and December 31, 2017, respectively. At the end of 2019, we had been issued over 399 patents including 48 US and 21 Canadian patents, as well as issuances in other jurisdictions.

We expect that our intellectual property expenses will remain consistent in 2020 compared to 2019.

Research Collaborations

Research collaborations are intended to expand our intellectual property related to pelareorep and identify potential licensing opportunities arising from our technology base.

	2019 $	2018 $	2017 $
Research collaborations	**143,966**	362,622	252,482

During 2019, our research collaboration expenses were $143,966 compared to $362,622 and $252,482 for the years ending December 31, 2018 and December 31, 2017, respectively. In 2019, 2018 and 2017, our research collaborations included studies investigating the interaction of the immune system with pelareorep, and biomarker studies.

We expect that our research collaborations in 2020 will increase compared to 2019. We expect to complete our ongoing collaborative program carried over from 2019 and will continue to be selective in the types of new collaborations we enter into in 2020.

Other Research and Development Expenses

Other research and development expenses include compensation expenses for employees (excluding share based payments), travel and other miscellaneous R&D expenses.

	2019 $	2018 $	2017 $
R&D salaries and benefits	**3,096,231**	2,868,251	3,662,638
Other R&D expenses	**223,095**	233,952	262,618
Other Research and Development expenses	**3,319,326**	3,102,203	3,925,256

In 2019, our Other Research and Development expenses were $3,319,326 compared to $3,102,203 and $3,925,256 for the years ending December 31, 2018 and December 31, 2017, respectively. Our Other Research and Development activities focused on supporting our clinical development program along with other third-party trials and clinical trials sponsored by Oncolytics. R&D salaries and benefits in 2017 included severance payments of $779,666 to certain officers of the Company. Normalizing for these payments, our 2018 R&D salaries and benefits is consistent compared to 2017. The change in R&D salaries and benefits in 2019 compared to 2018 and 2017 was due to the timing of filling open positions in our U.S. office and a change in salary level, partly offset by personnel cost recovery from Pfizer related to BRACELET-1.

The change in Other R&D expenses in 2017 compared to 2019 and 2018 was due to an increase in conference attendance and related travel expenses.

We expect our Other Research and Development expenses to remain consistent in 2020 compared to 2019.

Foreign Exchange Loss (Gain)

	2019 $	2018 $	2017 $
Foreign exchange loss (gain)	**316,719**	(610,106)	(65,256)

For the year ending December 31, 2019, our foreign exchange loss (gain) was $316,719 compared to $(610,106) and $(65,256) for the years ending December 31, 2018 and December 31, 2017, respectively. The foreign exchange loss (gain) incurred in 2019 and 2018 was primarily due to unrealized translation loss (gain) on U.S. dollar denominated cash balances. The foreign exchange gain incurred in 2017 was primarily a result of the fluctuations in the US dollar, Euro and Pound Sterling exchange rates.

Share Based Payments

	2019 $	2018 $	2017 $
Share based payments	**561,420**	680,541	230,141

Non-cash share based payments for the year ending December 31, 2019 were $561,420 compared to $680,541 and $230,141 for the years ending December 31, 2018 and December 31, 2017, respectively. We incurred share based payment expenses associated with the vesting of options and share awards to officers and employees. In 2018, we also recognized a recovery of share based payment expenses due to the departure of the former Chief Medical Officer and the forfeiture of unvested share awards and options.

Operating Expenses

	2019 $	2018 $	2017 $
Public company related expenses	**5,089,918**	3,041,226	3,027,029
Office expenses	**3,074,416**	3,372,898	2,746,472
Depreciation - property and equipment	**122,982**	95,375	90,768
Depreciation - right-of-use assets	**362,592**	—	—
Share based payments	**908,733**	735,292	348,562
Operating expenses	**9,558,641**	7,244,791	6,212,831

Public company related expenses include costs associated with investor relations and business development and financial advisory activities, legal and accounting fees, corporate insurance, director fees and transfer agent and other fees relating to our U.S. and Canadian stock listings. In 2019, we incurred public company related expenses of $5,089,918 compared to $3,041,226 and $3,027,029 for the years ending December 31, 2018 and December 31, 2017, respectively. The change in public company related expenses in 2019 compared to 2018 was due to increased investor relations and business development activities, transaction costs of $233,143 related to our August 2019 public offering (see Note 8 and 9 of our audited consolidated financial statements), as well as increased insurance premiums. This is partly offset by lower professional fees, including legal fees and costs related to the special meeting of shareholders held in February 2018. Our 2018 public company related expenses are consistent compared to 2017 as a result of an increase in expenses related to the Nasdaq listing, an increase in legal fees and costs related to the special meeting of shareholders held in February 2018 and an increase in travel expenses, offset by lower business development consulting fees in 2018 compared to 2017.

Office expenses include compensation costs (excluding share based payments), rent related to short term leases, and other office related costs. In 2019, we incurred office expenses of $3,074,416 compared to $3,372,898 and $2,746,472 for the years ending December 31, 2018 and December 31, 2017, respectively. The change in office expenses in 2019 compared to 2018 was due to a reduction in office rent expense following the adoption of IFRS 16 with an increase in depreciation of the newly created right-of-use assets (see Note 3 of our audited consolidated financial statements) and personnel cost recovery from Pfizer related to BRACELET-1, and is partly offset by change in salary level. The change in office expense in 2018 compared to 2017 was mainly due to an investment in our in-house business development group and an increase in office expenses related to the opening and relocation of our U.S. office.

In 2019, our non-cash share based payment expenses were $908,733 compared to $735,292 and $348,562 for the years ending December 31, 2018 and December 31, 2017, respectively. In 2019, 2018 and 2017, we incurred share based payment expenses associated with the vesting of granted options and share awards to officers, employees, consultants and independent board members.

We expect our operating expenses in 2020 to decrease compared to 2019.

Change in Fair Value of Warrant Derivative

We issued warrants in connection with our August 2019 underwritten public offering. Warrants issued with an exercise price denominated in a foreign currency are reported as a liability until they are exercised or expire. These warrants are adjusted to fair value at each exercise date and at each reporting period and any change in fair value is recorded in the consolidated statements of loss and comprehensive loss. Gains and losses resulting from the revaluation of the warrant derivative are non-cash and do not impact our cash flows.

	2019 $	2018 $	2017 $
Change in fair value of warrant derivative	**12,608,808**	—	—

In 2019, we recognized a loss of $12,608,808 on the change in fair value of our warrant derivative (2018 and 2017 - nil). The change in fair value was based on several factors including changes in the market price of our shares to US$4.76 on December 31, 2019 from US$0.54 at warrant issuance, the revaluation on warrants exercised, as well as a decrease in the remaining term of the warrants and changes in estimated future volatility of our common shares.

Summary of Quarterly Results

	2019				2018			
	Dec.	Sept.	June	March	Dec.	Sept.	June	March
Revenue	—	—	—	—	—	—	—	—
Net loss[1][2]	19,402	3,529	5,254	4,939	4,819	3,336	4,211	4,671
Basic and diluted loss per common share[1][2]	$ 0.71	$ 0.16	$ 0.26	$ 0.27	$ 0.28	$ 0.20	$ 0.27	$ 0.31
Total assets[3]	19,658	16,285	15,302	16,461	14,865	18,150	20,693	14,127
Total cash[3]	14,148	12,299	12,276	14,214	13,700	16,214	18,741	7,745
Total long-term debt	—	—	—	—	—	—	—	—
Cash dividends declared[4]	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

(1) Included in consolidated net loss and loss per common share for the fourth and third quarters of 2019 is a non-cash change in fair value of warrant derivative expense of $12,486,310 and $122,498, respectively. There was no change in fair value of warrant derivative expense between June 2019 and January 2018.

(2) The calculation of basic and diluted loss per common share for all periods have been adjusted retroactively for the Share Consolidation. Included in net loss and loss per common share between December 2019 and January 2018 are quarterly share based payment expenses of $658,662, $250,384 $260,184, $300,923, $483,016, $236,607, $157,092, and $539,118, respectively.

(3) We issued 14,798,704 common shares for net cash proceeds of $21.5 million in 2019 (2018 - 2,472,909 common shares for net cash proceeds of $13.3 million).

(4) We have not declared or paid any dividends since incorporation.

Fourth Quarter

Statement of loss for the three month period ended December 31, 2019 and 2018:

For the three month periods ending December 31,	2019 $	2018 $
Expenses		
Research and development	**2,810,722**	2,508,175
Operating	**4,132,548**	2,375,174
Loss before the following	**(6,943,270)**	(4,883,349)
Change in fair value of warrant derivative	**(12,486,310)**	—
Interest income, net	**27,938**	64,188
Loss before income taxes	**(19,401,642)**	(4,819,161)
Income tax expense	**—**	(85)
Net loss	**(19,401,642)**	(4,819,246)
Other comprehensive gain (loss) - translation adjustment	**(56,754)**	148,362
Net comprehensive loss	**(19,458,396)**	(4,670,884)
Basic and diluted loss per common share	**(0.71)**	(0.28)
Weighted average number of shares (basic and diluted)	**27,200,947**	17,115,040

Fourth Quarter Review of Operations

For the three month period ended December 31, 2019, our net loss was $19,401,642 compared to $4,819,246 for the three month period ended December 31, 2018. Net loss for the three month period ended December 31, 2019 included a non-cash change in fair value of warrant derivative expense of $12,486,310.

Research and Development Expenses ("R&D")

	2019 $	2018 $
Clinical trial expenses	**581,436**	626,977
Manufacturing and related process development expenses	**474,077**	862,451
Intellectual property expenses	**68,036**	55,734
Research collaboration expenses	**41,391**	94,006
Other R&D expenses	**1,295,083**	1,127,526
Foreign exchange loss (gain)	**114,279**	(500,591)
Share based payments	**236,420**	242,072
Research and development expenses	**2,810,722**	2,508,175

Clinical Trial Expenses

	2019 $	2018 $
Clinical trial expenses	**581,436**	626,977

During the fourth quarter of 2019, our clinical trial expenses were $581,436 compared to $626,977 for the fourth quarter of 2018. In the fourth quarter of 2019, these activities mainly related to patient enrollment and treatment for our AWARE-1 study and trial initiation activities related to our BRACELET-1 study. In the fourth quarter of 2018, these activities mainly related to study initiation activities related to AWARE-1.

In addition to the activities related to our breast cancer program, in the fourth quarters of 2019 and 2018, we also incurred costs related to patient enrollment and/or treatment in our checkpoint inhibitor pancreatic cancer study investigating Keytruda® in

combination with pelareorep and close-out costs related to our fully enrolled legacy clinical trials. In the fourth quarter of 2018, our clinical activities also included costs related to a research collaboration in phase 1 dose escalation study combining pelareorep and carfilzomib with the checkpoint inhibitor, Opdivo®.

Manufacturing & Related Process Development Expenses ("M&P")

	2019 $	2018 $
Product manufacturing expenses	**393,309**	837,010
Process development expenses	**80,768**	25,441
Manufacturing and related process development expenses	**474,077**	862,451

During the fourth quarter of 2019, our M&P expenses were $474,077 compared to $862,451 for the fourth quarter of 2018. During the fourth quarter of 2019, our product manufacturing costs mainly related to shipping and storage costs of our bulk and vialed product, as well as costs related to an ongoing product fill and product test. During the fourth quarters of 2018, our product manufacturing costs mainly related to shipping and storage costs of our bulk and vialed product along with startup costs for a production run required to support our clinical development plan.

Our process development activity for the fourth quarter of 2019 related to analytic development studies compared to analytic development and biodistribution studies for the fourth quarter of 2018.

Intellectual Property Expenses

	2019 $	2018 $
Intellectual property expenses	**68,036**	55,734

Our intellectual property expenses for the fourth quarter of 2019 were $68,036 compared to $55,734 for the fourth quarter of 2018. At the end of the fourth quarter of 2019, we had been issued over 399 patents including 48 US and 21 Canadian patents, as well as issuances in other jurisdictions.

Research Collaboration Expenses

	2019 $	2018 $
Research collaboration expenses	**41,391**	94,006

Our research collaboration expenses were $41,391 for the fourth quarter of 2019 compared to $94,006 for the fourth quarter of 2018. During the fourth quarters of 2019 and 2018, our research collaborations were primarily focused on studies investigating the interaction of the immune system and pelareorep.

Other Research and Development Expenses

	2019 $	2018 $
R&D salaries and benefits	**1,219,536**	1,046,889
Other R&D expenses	**75,547**	80,637
Other research and development expenses	**1,295,083**	1,127,526

Our other research and development expenses were $1,295,083 in the fourth quarter of 2019 compared to $1,127,526 in the fourth quarter of 2018. Our R&D salaries and benefits increased in the fourth quarter of 2019 compared to 2018 primarily due to the timing of filling open positions in our U.S. office and a change in salary level, partly offset by personnel cost recovery from Pfizer related to BRACELET-1. Our Other R&D expenses in the fourth quarter of 2019 were consistent with 2018.

Foreign Exchange Loss (Gain)

	2019 $	2018 $
Foreign exchange loss (gain)	**114,279**	(500,591)

Our foreign exchange loss was $114,279 for the fourth quarter of 2019 compared to a gain of $500,591 for the fourth quarter of 2018. The foreign exchange loss (gain) incurred in 2019 and 2018 was primarily due to unrealized translation loss (gain) on U.S. dollar denominated cash balance.

Share Based Payments

	2019 $	2018 $
Share based payments	**236,420**	242,072

During the fourth quarters of 2019 and 2018, we incurred share based payment expenses associated with the vesting of granted options and share awards to officers and employees.

Operating Expenses

	2019 $	2018 $
Public company related expenses	**2,590,135**	951,035
Office expenses	**1,004,988**	1,155,502
Depreciation - property and equipment	**24,792**	27,693
Depreciation - right-of-use assets	**90,391**	—
Share based payments	**422,242**	240,944
Operating expenses	**4,132,548**	2,375,174

Our operating expenses for the fourth quarter of 2019 were $4,132,548 compared to $2,375,174 for the fourth quarter of 2018. Public company related expenses include costs associated with investor relations, business development and financial advisory activities, legal and accounting fees, corporate insurance, director fees and transfer agent and other fees relating to our Canadian and U.S. stock listings. During the fourth quarter of 2019, our public company related expenses were $2,590,135 compared to $951,035 for the fourth quarter of 2018. The change was primarily due to increased investor relations activities.

Office expenses include compensation costs (excluding share based payments), rent related to short term leases, and other office related costs. During the fourth quarter of 2019, our office expenses were $1,004,988 compared to $1,155,502 for the fourth quarter of 2018. The change in the fourth quarter of 2019 compared to the fourth quarter of 2018 was due to a reduction in office rent expense following the adoption of IFRS 16 with an increase in depreciation of the newly created right-of-use assets (see Note 3 of our audited consolidated financial statements), a decrease in U.S. office headcount and personnel cost recovery from Pfizer related to BRACELET-1.

Our non-cash share based payment expenses in the fourth quarter of 2019 were $422,242 compared to $240,944 for the fourth quarter of 2018. We incurred share based payment expenses associated with the vesting of granted options and share awards to officers, employees, consultants and independent board members.

Change in Fair Value of Warrant Derivative

	2019 $	2018 $
Change in fair value of warrant derivative	**12,486,310**	—

In the fourth quarter of 2019, we recognized a loss of $12,486,310 on the change in fair value of our warrant derivative (2018 - nil). The change in fair value was based on several factors including changes in the market price of our shares to US$4.76 on December 31, 2019 from US$0.57 on September 30, 2019, the revaluation on warrants exercised in the quarter, as well as a

decrease in the remaining term of the warrants and changes in estimated future volatility of our common shares. Gains and losses resulting from the revaluation of the warrant derivative are non-cash and do not impact our cash flows.

Liquidity and Capital Resources

Share Consolidation
On May 22, 2018, we completed the consolidation of our common shares on the basis of 9.5 pre-consolidation common shares for each one post-consolidation common share. Fractional interests were rounded down to the nearest whole number of common shares. Outstanding stock options, restricted share units and performance share units were similarly adjusted by the consolidation ratio. Outstanding warrants were adjusted such that, following the Share Consolidation, 9.5 warrants issued in 2017 will entitle the holder to purchase one whole common share until June 1, 2022.

2019 Financing Activities

Public offering
On August 16, 2019, pursuant to an underwritten public offering, 4,619,773 units were sold at a purchase price of US$0.81 per unit for gross proceeds of US$3,742,016. Each unit included one common share with a fair value of US$0.54 and one common share purchase warrant with a fair value of US$0.27. Each common share purchase warrant entitles the holder to purchase one common share at an exercise price of US$0.90 until August 16, 2024. We incurred transaction costs of $699,427 of which $466,284 were allocated to share issue costs and $233,143 were allocated to operating expenses, based on their relative fair values. In 2019, 2,935,647 warrants were exercised for gross proceeds of US$2,642,082.

U.S. "at-the-market" equity distribution agreement
In 2019, we sold 4,425,040 common shares for gross proceeds of US$6,390,691. We incurred share issue costs of $344,834.

Common Stock Purchase Agreement
In 2019, we sold 2,477,665 common shares for gross proceeds of US$4,055,725 and issued 17,278 commitment shares. The commitment shares were fair valued at US$29,758 and were recorded as share issue costs in addition to cash share issue costs of $3,757.

2018 Financing Activities

Listing on the Nasdaq Capital Market
On June 1, 2018, we announced that our common shares were approved for listing and commenced trading on the Nasdaq Capital Market.

Public offering
On June 5, 2018, we closed a public offering whereby we sold 1,532,278 post-consolidation common shares at a purchase price of US$5.83 per share for gross proceeds of US$8,933,181. We incurred share issue costs of $1,418,356.

Common Stock Purchase Agreement
In 2018, we issued 797,691 common shares for gross proceeds of approximately US$2.1 million. The commitment common shares fair valued at US$74,190 were recorded as share issue costs in addition to cash share issue costs of $208,726.

Canadian "at-the-market" equity distribution agreement
In the first quarter of 2018, we sold 519,500 pre-consolidation common shares (approximately 54,684 post-consolidation common shares) for net proceeds of $520,315.

U.S. "at-the-market" equity distribution agreement
In 2018, we sold 18,002 common shares for gross proceeds of approximately US$50,000. We incurred share issue costs of $135,000.

Options
In 2018, we received cash proceeds of $123,538 with respect to the exercise of 41,802 post-consolidation options (approximately 397,120 pre-consolidation options) by former employees.

Warrants
In 2018, we received cash proceeds of $1,417 with respect to the exercise of 1,500 warrants.

Liquidity

As at December 31, 2019 and 2018, we had cash and cash equivalents and working capital positions as follows:

	2019 $	2018 $
Cash and cash equivalents	**14,148,021**	13,699,881
Working capital position	**14,570,105**	12,587,340

The increase in our cash and cash equivalent reflects the cash usage from our operating activities of $19.9 million along with the cash provided by our financing activities of $21.0 million for the year ending December 31, 2019.

We desire to maintain adequate cash reserves to support our planned activities which include our clinical trial program, product manufacturing, administrative costs, and our intellectual property expansion and protection. To date, we have funded our operations mainly through the issue of additional capital via public and private offerings and through the exercise of warrants and stock options. In 2019, we were able to raise funds through our public offering, Common Stock Purchase Agreement, and U.S. ATM.

We have no assurances that we will be able to raise additional funds through the sale of our common shares, consequently, we will continue to evaluate all types of financing arrangements. On May 4, 2018, we renewed our short form base shelf prospectus (the "Base Shelf") that qualifies for distribution of up to 150,000,000 of common shares, subscription receipts, warrants, or units (the "Securities") in either Canada, the US or both. Under a Base Shelf, we may sell Securities to or through underwriters, dealers, placement agents or other intermediaries and also may sell Securities directly to purchasers or through agents, subject to obtaining any applicable exemption from registration requirements. The distribution of Securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be subject to change, at market prices prevailing at the time of sale, or at prices related to such prevailing market prices to be negotiated with purchasers and as set forth in an accompanying Prospectus Supplement.

Renewing our Base Shelf provides us with additional flexibility when managing our cash resources as, under certain circumstances, it shortens the time period required to close a financing and is expected to increase the number of potential investors that may be prepared to invest in our company. Funds received as a result of using our Base Shelf would be used in line with our Board approved budget and multi-year plan. Our renewed Base Shelf will be effective until May 25, 2020.

Our Base Shelf allowed us to enter into our Common Stock Purchase Agreement in September 2018, our ATM equity offering sales agreement in October 2018, and our public offering in August 2019 (see Note 9 of our audited consolidated financial statements). We will use these equity arrangements to assist us in achieving our capital objective. Our Common Stock Purchase Agreement and ATM equity offering sales agreement provide us with the opportunity to raise capital at our sole discretion providing us with the ability to better manage our cash resources.

Our Common Stock Purchase Agreement and ATM equity offering sales agreement provide us with access to, subject to the respective terms and conditions, US$56.0 million of which we have raised gross proceeds of approximately US$12.6 million at December 31, 2019. Our Common Stock Purchase Agreement limits our sale of common shares to 19.99% of our total outstanding common shares as at the date that the Common Stock Purchase Agreement was entered into, unless and until we have obtained shareholder approval under applicable Nasdaq rules. As at December 31, 2019, we have reached that limit. However, we expect to continue to access our ATM equity offering sales agreement to help support our current clinical trial, manufacturing, intellectual property and collaboration programs.

We anticipate that the expected cash usage from our operations in 2020 will be approximately $20 - $22 million. We continue to manage our research and development plan with the objective of ensuring optimal use of our existing resources. Additional activities continue to be subject to adequate resources and we believe we will have sufficient cash resources and access to additional cash resources through our Financing Arrangements to fund our presently planned operations into 2020. Factors that will affect our anticipated cash usage in 2020, and for which additional funding might be required include, but are not limited to, expansion of our clinical trial program, the timing of patient enrollment in our approved clinical trials, the actual costs incurred to support each clinical trial, the number of treatments each patient will receive, the timing of R&D activity with our clinical trial research collaborations, the number, timing and costs of manufacturing runs required to conclude the validation process and supply product to our clinical trial program, and the level of collaborative activity undertaken.

We are not subject to externally imposed capital requirements and there have been no changes in how we define or manage our capital in 2019.

Contractual Obligations

We have the following contractual obligations as at December 31, 2019:

Contractual Obligations	Payments Due by Period				
	Total $	Less than 1 year $	2 -3 years $	4 - 5 years $	More than 5 years $
Capital lease obligations	Nil	—	—	—	—
Operating lease	565,179	391,022	174,157	—	—
Purchase obligations	4,867,131	3,244,754	1,622,377	—	—
Other long term obligations	Nil	—	—	—	—
Total contractual obligations	5,432,310	3,635,776	1,796,534	—	—

We expect to fund our capital expenditure requirements and commitments with existing working capital.

Off-Balance Sheet Arrangements

As at December 31, 2019, we had not entered into any off-balance sheet arrangements.

Transactions with Related Parties

In 2017, with the signing of our Licensing Agreement with upfront license fees (see Note 12 of our audited consolidated financial statements), we triggered a liability of US$178,125 to an officer as detailed in the Assumption Agreement (see Note 14 of our audited consolidated financial statements). The liability was fully paid in 2018.

In 2019, 2018 and 2017, we did not enter into any other related party transactions other than compensation paid to Key Management Personnel disclosed in Note 22 of our audited consolidated financial statements.

Financial Instruments and Other Instruments

Our financial instruments consist of cash and cash equivalents, other receivables, accounts payable and warrant derivative. As at December 31, 2019, the carrying amount of our cash and cash equivalents, other receivables and accounts payable approximated their fair value. The warrant derivative is a recurring Level 2 fair value measurement as these warrants have not been listed on an exchange and therefore do not trade on an active market. As at December 31, 2019, the fair value of our warrant derivative was $8,508,764 (December 31, 2018 - nil).

Credit risk
Credit risk is the risk of financial loss if a counterparty to a financial instrument fails to meet its contractual obligations. We are exposed to credit risk on our cash and cash equivalents and other receivables from Pfizer connected to the BRACELET-1 study (see Note 13 of our audited consolidated financial statements) in the event of non-performance by counterparties, but we do not anticipate such non-performance. Our maximum exposure to credit risk at the end of the period is the carrying value of our cash and cash equivalents and other receivables.

We mitigate our exposure to credit risk connected to our cash and cash equivalent by maintaining our primary operating and investment bank accounts with Schedule I banks in Canada. For our foreign domiciled bank accounts, we use referrals or recommendations from our Canadian banks to open foreign bank accounts and these accounts are used solely for the purpose of settling accounts payable or payroll.

We mitigate our exposure to credit risk connected to our Pfizer other receivable by entering into collaborations with global biopharmaceutical companies.

Interest rate risk
Interest rate risk is the risk that future cash flows of a financial instrument will fluctuate because of changes in market interest rates. We are exposed to interest rate risk through our cash and cash equivalents. We mitigate this risk through our investment

policy that only allows investment of excess cash resources in investment grade vehicles while matching maturities with our operational requirements.

Fluctuations in market rates of interest do not have a significant impact on our results of operations due to the short term to maturity of the investments held.

Foreign exchange risk

Foreign exchange risk arises from changes in foreign exchange rates that may affect the fair value or future cash flows of our financial assets or liabilities. We are primarily exposed to the risk of changes in the Canadian dollar relative to the U.S. dollar, British pound and Euro as a portion of our financial assets and liabilities are denominated such currencies. The impact of a $0.01 increase in the value of the U.S. dollar against the Canadian dollar would have increased our net comprehensive loss in 2019 by approximately $125,339. The impact of a $0.10 increase in the value of the British pound against the Canadian dollar would have increased our net comprehensive loss in 2019 by approximately $8,581. The impact of a $0.10 increase in the value of the Euro against the Canadian dollar would have increased our net comprehensive loss in 2019 by approximately $32,426.

We mitigate our foreign exchange risk by maintaining sufficient foreign currencies, through the purchase of foreign currencies or receiving foreign currencies from financing activities, to settle our foreign accounts payable.

Balances in foreign currencies at December 31, 2019 are as follows:

	US dollars $	**British pounds** £	**Euro** €
Cash and cash equivalents	9,676,360	26,751	33,664
Other receivables	1,500,000	—	—
Accounts payable and other liabilities	(1,378,860)	(6,345)	(310,086)
Warrant derivative	(6,551,250)	—	—
	3,246,250	20,406	(276,422)

Liquidity risk

Liquidity risk is the risk that we will encounter difficulty in meeting obligations associated with financial liabilities. We manage liquidity risk through the management of our capital structure as outlined in the notes to our audited financial statements. Accounts payable are all due within the current operating period.

Other MD&A Requirements

We have 37,375,025 common shares outstanding at March 5, 2020. If all of our options, restricted share units and performance share units (2,474,491), common share purchase warrants with a $9.025 exercise price (16,443,500 warrants exercisable into 1,730,894 common shares) and common share purchase warrants with a US$0.90 exercise price (538,938), were exercised or were to vest, we would have 42,119,348 common shares outstanding.

Our 2019 annual report on Form 20-F will be available on www.sedar.com.

Disclosure Controls and Procedures

Evaluation of Disclosure Controls and Procedures:

Our chief executive and financial officers reviewed and evaluated our disclosure controls and procedures. Based on that evaluation, they have concluded that our disclosure controls and procedures are effective in providing them with timely material information relating to the Company.

Management's Annual Report on Internal Control Over Financial Reporting:

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, and has designed such internal control over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of financial statements for external purposes in accordance with International Financial Reporting Standards.

Management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our internal controls and procedures over financial reporting will prevent all error and all fraud. A control system can provide only reasonable, not absolute,

assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving our stated goals under all potential future conditions. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has evaluated the design and operation of our internal control over financial reporting as of December 31, 2019, and has concluded that such internal control over financial reporting is effective as of December 31, 2019. There are no material weaknesses that have been identified by management in this regard. This assessment was based on criteria for effective internal control over financial reporting described in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework).

Changes in Internal Controls over Financial Reporting
There were no changes in our internal control over financial reporting that occurred during the last fiscal year that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Risk Factors Affecting Future Performance

General Risk Factors

Prospects for biotechnology companies in the research and development stage should generally be regarded as speculative. It is not possible to predict, based upon studies in animals, or early studies in humans, whether a new therapeutic will ultimately prove to be safe and effective in humans, or whether necessary and sufficient data can be developed through the clinical trial process to support a successful product application and approval.

If a product is approved for sale, product manufacturing at a commercial scale and significant sales to end users at a commercially reasonable price may not be successful. There can be no assurance that we will generate adequate funds to continue development, or will ever achieve significant revenues or profitable operations. Many factors (e.g. competition, patent protection, appropriate regulatory approvals) can influence the revenue and product profitability potential.

In developing a pharmaceutical product, we rely upon our employees, contractors, consultants and collaborators and other third-party relationships, including the ability to obtain appropriate product liability insurance. There can be no assurance that this reliance and these relationships will continue as required.

In addition to developmental and operational considerations, market prices for securities of biotechnology companies generally are volatile, and may or may not move in a manner consistent with the progress we have made or are making.

All of our potential products, including pelareorep, are in the research and development stage and will require further development and testing before they can be marketed commercially.

Prospects for companies in the biotechnology industry generally may be regarded as uncertain given the nature of the industry and, accordingly, investments in biotechnology companies should be regarded as speculative. We are currently in the research and development stage on one product, pelareorep, for human application, the riskiest stage for a company in the biotechnology industry. It is not possible to predict, based upon studies in animals and early-stage human clinical trials, whether pelareorep will prove to be safe and effective in humans. Pelareorep will require additional research and development, including extensive clinical testing, before we will be able to obtain the approval of the relevant regulatory authorities in applicable countries to market pelareorep commercially. There can be no assurance that the research and development programs conducted by us will result in pelareorep or any other products becoming commercially viable products, and in the event that any product or products result from the research and development program, it is unlikely they will be commercially available for a number of years.

To achieve profitable operations, we, alone or with others, must successfully develop, introduce and market our products. To obtain regulatory approvals for products being developed for human use, and to achieve commercial success, human clinical trials must demonstrate that the product is safe for human use and that the product shows efficacy. Unsatisfactory results obtained from a

particular study relating to a program may cause us to abandon our commitment to that program or the product being tested. No assurances can be provided that any current or future animal or human test, if undertaken, will yield favorable results. If we are unable to establish that pelareorep is a safe, effective treatment for cancer, we may be required to abandon further development of the product and develop a new business strategy.

There are inherent risks in pharmaceutical research and development.

Pharmaceutical research and development is highly speculative and involves a high and significant degree of risk. The marketability of any product we develop will be affected by numerous factors beyond our control, including but not limited to:

- the discovery of unexpected toxicities or lack of sufficient efficacy of products which make them unattractive or unsuitable for human use;
- preliminary results as seen in animal and/or limited human testing may not be substantiated in larger, controlled clinical trials;
- manufacturing costs or other production factors may make manufacturing of products ineffective, impractical and non-competitive;
- proprietary rights of third parties or competing products or technologies may preclude commercialization;
- requisite regulatory approvals for the commercial distribution of products may not be obtained; and
- other factors may become apparent during the course of research, up-scaling or manufacturing which may result in the discontinuation of research and other critical projects.

Our products under development have never been manufactured on a commercial scale, and there can be no assurance that such products can be manufactured at a cost or in a quantity to render such products commercially viable. Production and utilization of our products may require the development of new manufacturing technologies and expertise. The impact on our business in the event that new manufacturing technologies and expertise are required to be developed is uncertain. There can be no assurance that we will successfully meet any of these technological challenges or others that may arise in the course of development.

Pharmaceutical products are subject to intense regulatory approval processes.

The regulatory process for pharmaceuticals, which includes preclinical studies and multiple phases of clinical trials of each compound to establish its safety and efficacy, takes many years and requires the expenditure of substantial resources. Moreover, if regulatory approval of a drug is granted, such approval may entail limitations on the indicated uses for which it may be marketed. Failure to comply with applicable regulatory requirements can, among other things, result in the suspension of regulatory approvals, product recalls, seizure of products, operating restrictions and criminal prosecution. Further, government policy may change, and additional government regulations may be established that could prevent or delay regulatory approvals for our products. In addition, a marketed drug and its manufacturer are subject to continual review. Later discovery of previously unknown problems with the product or manufacturer may result in restrictions on such product or manufacturer, including withdrawal of the product from the market.

The FDA and similar regulatory authorities in other countries may deny approval of a new drug application if required regulatory criteria are not satisfied, or may require additional testing. Product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. The FDA and similar regulatory authorities in other countries may require further testing and surveillance programs to monitor the pharmaceutical product that has been commercialized. Non-compliance with applicable requirements can result in fines and other judicially imposed sanctions, including product withdrawals, product seizures, injunction actions and criminal prosecutions.

In addition to our own pharmaceuticals, we may supply active pharmaceutical ingredients and advanced pharmaceutical intermediates for use in our customers' drug products. The final drug products in which the pharmaceutical ingredients and advanced pharmaceutical intermediates are used, however, are subject to regulation for safety and efficacy by the FDA and possibly other regulatory authorities in other jurisdictions. Such products must be approved by such agencies before they can be commercially marketed. The process of obtaining regulatory clearance for marketing is uncertain, costly and time consuming. We cannot predict how long the necessary regulatory approvals will take or whether our customers will ever obtain such approval for their products. To the extent that our customers do not obtain the necessary regulatory approvals for marketing new products, our product sales could be adversely affected.

The FDA and other governmental regulators have increased requirements for drug purity and have increased environmental burdens upon the pharmaceutical industry. Because pharmaceutical drug manufacturing is a highly regulated industry, requiring significant documentation and validation of manufacturing processes and quality control assurance prior to the approval of the facility to manufacture a specific drug, our manufacturing facilities may never become approved of, or there can be considerable transition

time between the initiation of a contract to manufacture a product and the actual initiation of manufacture of that product. Any lag time in the initiation of a contract to manufacture product and the actual initiation of manufacture could cause us to lose profits or incur liabilities. Any lag time in the initiation of a contract to manufacture the product and the actual initiation of manufacture could cause us to lose profits or incur liabilities.

The pharmaceutical regulatory regime in Europe and other countries is generally similar to that of the United States. We could face similar risks in these other jurisdictions as the risks described above.

Our operations and products may be subject to other government manufacturing and testing regulations.

Securing regulatory approval for the marketing of therapeutics by the FDA in the United States and similar regulatory agencies in other countries is a long and expensive process, which can delay or prevent product development and marketing. Approval to market products may be for limited applications or may not be received at all.

The products we anticipate manufacturing will have to comply with the FDA's cGMP and other FDA and local government guidelines and regulations, including other international regulatory requirements and guidelines. Additionally, certain of our customers may require the manufacturing facilities contracted by us to adhere to additional manufacturing standards, even if not required by the FDA. Compliance with cGMP regulations requires manufacturers to expend time, money and effort in production and to maintain precise records and quality control to ensure that the product meets applicable specifications and other requirements.

The FDA and other regulatory bodies periodically inspect drug-manufacturing facilities to ensure compliance with applicable cGMP requirements. If the manufacturing facilities contracted by us fail to comply with the cGMP requirements, the facilities may become subject to possible FDA or other regulatory action and manufacturing at the facility could consequently be suspended. We may not be able to contract suitable alternative or back-up manufacturing facilities on terms acceptable to us or at all.
The FDA or other regulatory agencies may also require the submission of any lot of a particular product for inspection. If the lot product fails to meet the FDA requirements, then the FDA could take any of the following actions: (i) restrict the release of the product; (ii) suspend manufacturing of the specific lot of the product; (iii) order a recall of the lot of the product; or (iv) order a seizure of the lot of the product.

We are subject to regulation by governments in many jurisdictions. If we do not comply with healthcare, drug, manufacturing and environmental regulations, among others, in such jurisdiction, our existing and future operations may be curtailed, and we could be subject to liability.

In addition to the regulatory approval process, we may be subject to regulations under local, provincial, state, federal and foreign law, including, but not limited to, requirements regarding occupational health, safety, laboratory practices, healthcare fraud and abuse, environmental protection and hazardous substance control, and may be subject to other present and future local, provincial, state, federal and foreign regulations.

Our products may fail or cause harm, subjecting us to product liability claims, which are uninsured.

Use of our product during current clinical trials may entail risk of product liability. We maintain clinical trial liability insurance; however, it is possible this coverage may not provide full protection against all risks. Given the scope and complexity of the clinical development process, the uncertainty of product liability litigation, and the shrinking capacity of insurance underwriters, it is not possible at this time to assess the adequacy of current clinical trial coverage, nor the ability to secure continuing coverage at the same level and at reasonable cost in the foreseeable future. While we carry, and intend to continue carrying amounts believed to be appropriate under the circumstances, it is not possible at this time to determine the adequacy of such coverage.

In addition, the sale and commercial use of our product entails risk of product liability. We currently do not carry any product liability insurance for this purpose. There can be no assurance that we will be able to obtain appropriate levels of product liability insurance prior to any sale of our pharmaceutical products. An inability to obtain insurance on economically feasible terms or to otherwise protect against potential product liability claims could inhibit or prevent the commercialization of products developed by us. The obligation to pay any product liability claim or a recall of a product could have a material adverse effect on our business, financial condition and future prospects.

Our technologies may become obsolete.

The pharmaceutical industry is characterized by rapidly changing markets, technology, emerging industry standards and frequent introduction of new products. The introduction of new products embodying new technologies, including new manufacturing processes and the emergence of new industry standards may render our products obsolete, less competitive or less marketable.

The process of developing our products is extremely complex and requires significant continuing development efforts and third-party commitments. Our failure to develop new technologies and products and the obsolescence of existing technologies could adversely affect our business.

We may be unable to anticipate changes in our potential customer requirements that could make our existing technology obsolete. Our success will depend, in part, on our ability to continue to enhance our existing technologies, develop new technology that addresses the increasing sophistication and varied needs of the market, and respond to technological advances and emerging industry standards and practices on a timely and cost-effective basis. The development of our proprietary technology entails significant technical and business risks. We may not be successful in using our new technologies or exploiting our niche markets effectively or adapting our businesses to evolving customer or medical requirements or preferences or emerging industry standards.

Our license, development, supply and distribution agreement with Adlai Nortye Biopharma Co. is subject to certain risks and uncertainties related to our dependence on Adlai and doing business in foreign jurisdictions.

On November 16, 2017, we announced that we had entered into the Licensing Agreement with Adlai. Under the terms of the Licensing Agreement, Adlai will have exclusive development and commercialization rights to pelareorep in China, Hong Kong, Macau, Singapore, South Korea and Taiwan (the "Territories"). Pursuant to the Licensing Agreement, along with payments to be received by us upon meeting certain requirements and milestones, we are also eligible to receive royalty payments in excess of 10% associated with the commercialization of pelareorep for all indications, subject to regulatory approval. Under the terms of the Licensing Agreement, Adlai will be responsible for all clinical, regulatory and commercialization activities respecting pelareorep in the Territories and therefore the Company will be dependent upon Adlai in successfully undertaking those actions in a timely and economic manner and in compliance with all applicable legal and regulatory requirements within the Territories. If Adlai is unable to fulfill its obligations under the terms of the Licensing Agreement and in compliance with all applicable legal and regulatory requirements, including clinical, regulatory and commercialization of pelareorep, our prospective revenue from royalty payments related to the commercialization of pelareorep in the Territories may be materially diminished, delayed or never realized, which could negatively effect our operating results and financial condition.

Further, conducting business with Adlai within the Territories, and specifically China, subjects us to certain economic, political, currency and legal risks and uncertainties regarding, among other things, the development and commercialization of pelareorep and the release and receipt of payments under the terms of the Licensing Agreement, including the payment of royalties upon commercialization of pelareorep. These risks include:

- different regulatory requirements for drug approvals in foreign countries;
- different standards of care in various countries that could complicate the evaluation of our product candidates;
- different U.S. and foreign drug import and export rules;
- reduced protection for intellectual property rights in certain countries;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- different reimbursement systems and different competitive drugs indicated to treat the indications for which our product candidates are being developed;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with the FCPA, and other anti-corruption and anti-bribery laws;
- U.S. and foreign taxes;
- foreign currency fluctuations, which could result in reduced revenues, and other obligations incident to doing business in another country;
- a reliance on CROs, clinical trial sites, principal investigators and other third parties that may be less experienced with clinical trials or have different methods of performing such clinical trials than we are used to in the U.S.;
- potential liability resulting from development work conducted by foreign distributors; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters.

The government's of the Territories, and specifically the Chinese government, exercise significant control over all aspects of their respective economies. Accordingly, any adverse change in the economy, the legal system or governmental, economic or other policies could have a material adverse effect on the business prospects of the Licensing Agreement with Adlai, including our ability to receive and transfer money out of China under the terms of the Licensing Agreement. Any disruption in relations, inability to work efficiently or disadvantageous treatment of Adlai by the governments of the Territories or other authorities could have a material adverse effect on our business prospects under the Licensing Agreement. Additionally, the regulatory environment in the Territories is evolving, and officials in the governments in the Territories exercise broad discretion in deciding how to interpret and apply regulations. There can be no assurance that Adlai will be successful in the development and commercialization of pelareorep in the Territories.

We have no operating revenues and a history of losses.

To date, we have not generated sufficient revenues to offset our research and development costs and accordingly have not generated positive cash flow or made an operating profit. As of December 31, 2019, we had an accumulated deficit of $344.6 million and we incurred net losses of $33.1 million, $17.0 million and $15.6 million, for the years ended December 31, 2019, 2018 and 2017, respectively. We anticipate that we will continue to incur significant losses during 2020 and in the foreseeable future. We do not expect to reach profitability at least until after successful and profitable commercialization of one or more of our products. Even if one or more of our products are profitably commercialized, the initial losses incurred by us may never be recovered.

We may need additional financing in the future to fund the research and development of our products and to meet our ongoing capital requirements.

We anticipate that we may need additional financing in the future to fund research and development and to meet our ongoing capital requirements. The amount of future capital requirements will depend on many factors, including continued scientific progress in our drug discovery and development programs, progress in our pre-clinical and clinical evaluation of drug candidates, time and expense associated with filing, prosecuting and enforcing our patent claims and costs associated with obtaining regulatory approvals. In order to meet such capital requirements, we will consider contract fees, collaborative research and development arrangements, and additional public or private financings (including the incurrence of debt and the issuance of additional equity securities) to fund all or a part of particular programs as well as potential partnering or licensing opportunities. There can be no assurance that additional funding will be available or, if available, that it will be available on acceptable terms. If adequate funds are not available on terms favorable to us, we may have to reduce substantially or eliminate expenditures for research and development, testing, production and marketing of our proposed product, or obtain funds through arrangements with corporate partners that require us to relinquish rights to certain of our technologies or product. There can be no assurance that we will be able to raise additional capital if our current capital resources are exhausted.

The cost of director and officer liability insurance may continue to increase substantially or may not be available to us and may affect our ability to retain quality directors and officers.

We carry liability insurance on behalf of our directors and officers. Given a number of large director and officer liability insurance claims in the US equity markets, director and officer liability insurance has become increasingly more expensive with increased restrictions. Consequently, there is no assurance that we will continue to be offered this insurance or be able to obtain adequate coverage. The inability to acquire the appropriate insurance coverage may limit our ability to attract and maintain directors and officers as required to conduct our business.

We incur some of our expenses in foreign currencies and therefore are exposed to foreign currency exchange rate fluctuations.

We incur some of our manufacturing, clinical, collaborative and consulting expenses in foreign currencies, primarily the US dollar, the Euro and the British pound. We are therefore exposed to foreign currency rate fluctuations. Also, as we expand to other foreign jurisdictions there may be an increase in our foreign exchange exposure.

We earn interest income on our excess cash reserves and are exposed to changes in interest rates.

We invest our excess cash reserves in investment vehicles that provide a rate of return with little risk to principal. As interest rates change the amount of interest income we earn will be directly impacted.

Consolidated Financial Statements

Oncolytics Biotech® Inc.
December 31, 2019 and 2018

STATEMENT OF MANAGEMENT'S RESPONSIBILITY

Management is responsible for the preparation and presentation of the consolidated financial statements, Management's Discussion and Analysis ("MD&A") and all other information in the Annual Report.

In management's opinion, the accompanying consolidated financial statements have been properly prepared within reasonable limits of materiality and in accordance with the appropriately selected International Financial Reporting Standards as issued by the International Accounting Standards Board consistently applied and summarized in the consolidated financial statements.

The consolidated financial statements include estimates that are necessary when transactions affecting the current accounting period cannot be finalized with certainty until after the balance sheet date. Based on careful judgments by management, such estimates have been properly reflected in the accompanying consolidated financial statements. The financial information presented elsewhere in the Annual Report has been reviewed to ensure consistency with that in the consolidated financial statements. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources and risks and uncertainty. Actual results in the future may differ materially from our present assessment of this information because future events and circumstances may not occur as expected.

Systems of internal controls, including organizational and procedural controls and internal controls over financial reporting, assessed as reasonable and appropriate in the circumstances, are designed and maintained by management to provide reasonable assurance that assets are safeguarded from loss or unauthorized use and to produce reliable records for preparation of financial statements.

Ernst & Young LLP, an independent firm of Charter Professional Accountants, has been engaged, as approved by a vote of the shareholders' at the Company's most recent Annual General Meeting, to audit and provide their independent audit opinions on the Company's consolidated financial statements as at and for the year ended December 31, 2019.

Ernst & Young have full and free access to our Board of Directors and its Committees to discuss audit, financial reporting and related matters.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal control. The Board exercises this responsibility through the Audit Committee of the Board, which is comprised entirely of independent directors. This Committee meets with management and the external auditors to satisfy itself that management's responsibilities are properly discharged and to review the consolidated financial statements and MD&A before they are presented to the Board of Directors for approval. The consolidated financial statements have been approved by the Board on the recommendation of the Audit Committee.

/s/ Matthew Coffey

Dr. Matthew Coffey, PhD, MBA
President and Chief Executive Officer

/s/ Kirk Look

Kirk Look, CA
Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Oncolytics Biotech Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial position of Oncolytics Biotech Inc. (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of loss, comprehensive loss, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with International Financial Reporting Standards (IFRSs) as issued by the International Accounting Standards Board.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

We have served as the Company's auditor since 1999.

Chartered Professional Accountants

Calgary, Canada

March 5, 2020

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

As at December 31,	Notes	2019 $	2018 $
Assets			
Current assets			
Cash and cash equivalents	*5*	**14,148,021**	13,699,881
Other receivables	*13*	**2,068,772**	51,650
Prepaid expenses		**2,713,591**	700,986
Total current assets		**18,930,384**	14,452,517
Non-current assets			
Property and equipment	*6*	**296,768**	412,736
Right-of-use assets	*3, 7*	**430,713**	—
Total non-current assets		**727,481**	412,736
Total assets		**19,657,865**	14,865,253
Liabilities And Shareholders' (Deficit) Equity			
Current Liabilities			
Accounts payable and accrued liabilities		**3,173,218**	1,825,853
Contract liability	*12*	**—**	927,400
Other liabilities	*3, 13*	**847,215**	61,322
Lease liabilities	*3, 7*	**339,846**	—
Warrant derivative	*8*	**8,508,764**	—
Total current liabilities		**12,869,043**	2,814,575
Non-current liabilities			
Contract liability	*12*	**6,730,287**	5,802,887
Other liabilities	*3*	—	52,428
Lease liabilities	*3, 7*	**166,429**	—
Total non-current liabilities		**6,896,716**	5,855,315
Total liabilities		**19,765,759**	8,669,890
Commitments and contingencies	*13, 14 and 19*		
Shareholders' (deficit) equity			
Share capital Authorized: unlimited Issued: December 31, 2019 – 32,198,453 December 31, 2018 – 17,399,749	*9*	**311,077,859**	285,193,061
Warrants	*9*	**3,617,570**	3,617,570
Contributed surplus	*10*	**29,338,849**	28,260,613
Accumulated other comprehensive income		**464,101**	607,504
Accumulated deficit		**(344,606,273)**	(311,483,385)
Total shareholders' (deficit) equity		**(107,894)**	6,195,363
Total liabilities and shareholders' (deficit) equity		**19,657,865**	14,865,253

See accompanying notes

On behalf of the Board:

/s/ Angela Holtham — Director

/s/ Wayne Pisano — Director

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF LOSS AND COMPREHENSIVE LOSS

For the years ending December 31,	Notes	2019 $	2018 $	2017 $
Expenses				
Research and development	*10, 21, 22*	**11,134,716**	9,417,888	9,392,623
Operating	*10, 21, 22*	**9,558,641**	7,244,791	6,212,831
Loss before the following		**(20,693,357)**	(16,662,679)	(15,605,454)
Change in fair value of warrant derivative	*8*	**(12,608,808)**	—	—
Interest income, net		**179,277**	173,496	130,101
Loss before income taxes		**(33,122,888)**	(16,489,183)	(15,475,353)
Income tax expense	*15*	**—**	(548,042)	(141,498)
Net loss		**(33,122,888)**	(17,037,225)	(15,616,851)
Other comprehensive (loss) income items that may be reclassified to net loss				
Translation adjustment		**(143,403)**	233,774	(180,330)
Net comprehensive loss		**(33,266,291)**	(16,803,451)	(15,797,181)
Basic and diluted loss per common share	*11*	**(1.50)**	(1.06)	(1.12)
Weighted average number of shares (basic and diluted)		**22,137,990**	16,016,366	13,936,387

See accompanying notes

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF CHANGES IN (DEFICIT) EQUITY

	Notes	Share Capital $	Warrants $	Contributed Surplus $	Accumulated Other Comprehensive Income $	Accumulated Deficit $	Total $
As at December 31, 2016		262,321,825	—	26,643,044	554,060	(278,829,309)	10,689,620
Net loss and other comprehensive loss		—	—	—	(180,330)	(15,616,851)	(15,797,181)
Issued pursuant to stock option plan	*10*	536,949	—	(193,509)	—	—	343,440
Issued pursuant to "At the Market" Agreement	*9*	2,348,821	—	—	—	—	2,348,821
Issued pursuant to public offering	*9*	7,893,600	3,617,900	—	—	—	11,511,500
Share based compensation	*10*	—	—	578,703	—	—	578,703
Share issue costs	*9*	(1,391,057)	—	—	—	—	(1,391,057)
As at December 31, 2017		271,710,138	3,617,900	27,028,238	373,730	(294,446,160)	8,283,846
Net loss and other comprehensive income		—	—	—	233,774	(17,037,225)	(16,803,451)
Issued pursuant to "At the Market" Agreement	*9*	620,010	—	—	—	—	620,010
Issued pursuant to public offering	*9*	11,606,882	—	—	—	—	11,606,882
Issued pursuant to Common Stock Purchase Agreement	*9*	3,314,097	—	—	—	—	3,314,097
Issued pursuant to stock option plan	*10*	197,245	—	(73,707)	—	—	123,538
Issued pursuant to incentive share award plan	*10*	109,751	—	(109,751)	—	—	—
Issued pursuant to warrant agreement	*9*	1,747	(330)	—	—	—	1,417
Share based compensation	*10*	—	—	1,415,833	—	—	1,415,833
Share issue costs	*9*	(2,366,809)	—	—	—	—	(2,366,809)
As at December 31, 2018		285,193,061	3,617,570	28,260,613	607,504	(311,483,385)	6,195,363
Net loss and other comprehensive income		—	—	—	(143,403)	(33,122,888)	(33,266,291)
Issued pursuant to incentive share award plan	*10*	391,917	—	(391,917)	—	—	—
Issued pursuant to Common Stock Purchase Agreement	*9*	5,403,385	—	—	—	—	5,403,385
Issued pursuant to "At the Market" Agreement	*9*	8,476,454	—	—	—	—	8,476,454
Issued pursuant to public offering	*9*	3,314,429	—	—	—	—	3,314,429
Issued pursuant to warrant derivative exercised	*8, 9*	9,152,869	—	—	—	—	9,152,869
Share based compensation	*10*	—	—	1,470,153	—	—	1,470,153
Share issue costs	*9*	(854,256)	—	—	—	—	(854,256)
As at December 31, 2019		**311,077,859**	**3,617,570**	**29,338,849**	**464,101**	**(344,606,273)**	**(107,894)**

See accompanying notes

ONCOLYTICS BIOTECH INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ending December 31,	Notes	2019 $	2018 $	2017 $
Operating Activities				
Net loss for the year		**(33,122,888)**	(17,037,225)	(15,616,851)
Depreciation - property and equipment		**122,982**	95,375	90,768
Depreciation - right-of-use assets	*7*	**362,592**	—	—
Share based compensation	*10, 21, 22*	**1,470,153**	1,415,833	578,703
Interest expense on lease liabilities	*7*	**94,817**	—	—
Unrealized foreign exchange gain		**353,189**	(374,337)	(124,793)
Onerous lease contract	*3*	**—**	67,588	—
Amortization - lease incentive liability	*3*	**—**	8,189	—
Change in fair value of warrant derivative	*8*	**12,608,808**	—	—
Net change in non-cash working capital	*18*	**(1,795,777)**	3,904,339	180,855
Cash used in operating activities		**(19,906,124)**	(11,920,238)	(14,891,318)
Investing Activities				
Acquisition of property and equipment	*6*	**(10,905)**	(107,466)	(105,765)
Redemption of short-term investments		**—**	—	2,088,800
Cash (used in) provided by investing activities		**(10,905)**	(107,466)	1,983,035
Financing Activities				
Proceeds from exercise of stock options	*10*	**—**	123,538	343,440
Proceeds from exercise of warrants	*8, 9*	**3,465,867**	1,417	—
Proceeds from Common Stock Purchase Agreement	*9*	**5,360,247**	2,533,980	—
Proceeds from "At the Market" equity distribution agreement	*9*	**8,131,620**	451,675	2,103,166
Proceeds from public offering	*9*	**4,505,359**	10,188,526	10,366,098
Payment of lease liabilities	*7*	**(447,497)**	—	—
Cash provided by financing activities		**21,015,596**	13,299,136	12,812,704
Increase (decrease) in cash		**1,098,567**	1,271,432	(95,579)
Cash and cash equivalents, beginning of year		**13,699,881**	11,836,119	12,034,282
Impact of foreign exchange on cash and cash equivalents		**(650,427)**	592,330	(102,584)
Cash and cash equivalents, end of year		**14,148,021**	13,699,881	11,836,119

See accompanying notes

Note 1: Incorporation and Nature of Operations

Oncolytics Biotech Inc. was incorporated on April 2, 1998 under the Business Corporations Act (Alberta) as 779738 Alberta Ltd. On April 8, 1998, we changed our name to Oncolytics Biotech Inc.

Our consolidated financial statements for the year ended December 31, 2019, were authorized for issue in accordance with a resolution of the Board of Directors (the "Board") on March 5, 2020. We are a limited company incorporated and domiciled in Canada. Our shares are publicly traded on the Nasdaq Capital Markets and the Toronto Stock Exchange. Our registered office is located at 210, 1167 Kensington Crescent NW, Calgary, Alberta, Canada.

We are a development stage biopharmaceutical company that focuses on the discovery and development of pharmaceutical products for the treatment of cancers that have not been successfully treated with conventional therapeutics. Our lead product, pelareorep, is a potential immuno-oncology viral-agent that may be a novel treatment for certain types of cancer and may be an alternative to or in combination with existing cytotoxic or cytostatic therapies. Our clinical development program for pelareorep emphasizes three programs: chemotherapy combinations to assist the escape of the virus from the vasculature and enhance its distribution in the tumor; immuno-therapy combinations to create an inflamed phenotype promoting synergies with immune checkpoint inhibitors; and immune modulator/targeted combinations to upregulate natural killer cells promoting synergies with targeted therapies.

Note 2: Basis of Financial Statement Presentation

Our consolidated financial statements include our financial statements and the financial statements of our subsidiaries Oncolytics Biotech (Barbados) Inc., Oncolytics Biotech (US) Inc., and Oncolytics Biotech (UK) Ltd. and are presented in Canadian dollars, our functional currency.

The accounts are prepared on the historical cost basis, except for certain assets and liabilities which are measured at fair value as explained in the notes to these financial statements.

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

Basis of consolidation
Our accounts include the accounts of Oncolytics Biotech Inc. and our subsidiaries. Subsidiaries are entities over which we have control which is achieved when we are exposed, or have the rights, to variable returns from our involvement with the investee and has the ability to affect those returns through our power to govern. Accounting policies of subsidiaries are consistent with our accounting policies and all intra-group transactions, balances, income and expenses are eliminated on consolidation.

A change in ownership interest of a subsidiary, without a change in control, is accounted for as an equity transaction.

Note 3: Summary of Significant Accounting Policies

The consolidated financial statements have, in management's opinion, been properly prepared within reasonable limits of materiality and within the framework of the significant accounting policies summarized below.

Deferred income taxes

We follow the liability method of accounting for income taxes. Under the liability method, deferred income taxes are recognized for the difference between financial statement carrying values and the respective income tax basis of assets and liabilities (temporary differences). Deferred income tax assets and liabilities are measured using substantively enacted income tax rates and laws expected to apply in the years in which temporary differences are expected to be recovered or settled. The effect on deferred income tax assets and liabilities of a change in tax rates is charged or credited to income, except when it is related to items charged or credited to either other comprehensive income or directly to equity.

Financial instruments

Classification and measurement
Financial assets
Financial assets are initially measured at fair value. In the case of a financial asset not at fair value through profit or loss, the financial asset is initially measured at fair value plus or minus transaction costs.

Under IFRS 9 *Financial Instruments ("IFRS 9")*, financial assets are subsequently measured at amortised cost, fair value through profit or loss (FVPL), or fair value through other comprehensive income (FVOCI). The classification is based on two criteria: the Company's business model for managing the assets; and whether the financial asset's contractual cash flows represent 'solely payments of principal and interest' on the principal amount outstanding (the 'SPPI criterion').

Our financial assets include cash and cash equivalents and other receivables. The classification and measurement of these financial assets are at amortized cost, as these assets are held within our business model with the objective to hold the financial assets in order to collect contractual cash flows that meet the SPPI criterion.

Financial liabilities
Financial liabilities are initially measured at fair value and are subsequently measured at amortised cost or FVPL. Our financial liabilities include trade accounts payable, other liabilities and warrant derivative. The classification and measurement of trade accounts payable and other liabilities are at amortized cost. The classification and measurement of warrant derivative is at FVPL.

Impairment
Under IFRS 9, accounting for impairment losses for financial assets uses a forward-looking expected credit loss (ECL) approach.

IFRS 9 requires that we record a loss allowance for ECLs on all financial assets not held at FVPL. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Company expects to receive. The shortfall is then discounted at an approximation to the asset's original effective interest rate.

Derecognition
A financial asset is derecognized when:

- the contractual rights to the cash flows from the financial asset expire, or
- we transfer the financial asset and substantially all the risks and rewards of ownership of the financial asset to another entity.

A financial liability is derecognized when our obligations specified in the contract are discharged or canceled or expired.

Fair Value Measurement
Fair value is the price that would be received to sell an asset, or paid to transfer a liability in an orderly transaction between market participants, at the measurement date. In determining the fair value measurement of our financial instruments we prioritize the related inputs used in measuring fair value into the following hierarchy:

Level 1 - Quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2 - Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable;

Level 3 - Unobservable inputs in which little or no market activity exists, therefore requiring an entity to develop its own assumptions about the assumptions that market participants would use in pricing.

Foreign currency translation

The financial statements for each of our subsidiaries are prepared using their functional currency. Our functional and presentation currency is the Canadian dollar. Foreign currency transactions are translated into the functional currency using exchange rates prevailing at the dates of the transactions. Exchange differences resulting from the settlement of such transactions and from the translation at exchange rates ruling at the statement of financial position date of monetary assets and liabilities denominated in currencies other than the functional currency are recognized directly in the consolidated statement of loss and comprehensive loss.

Exceptions to this are where the monetary items form part of the net investment in a foreign operation and the foreign operation's functional currency is the local currency. These exchange differences are initially recognized in equity. The statement of financial position of foreign operations is translated into Canadian dollars using the exchange rate at the statement of financial position date and the income statements are translated into Canadian dollars using the average exchange rate for the period. Where this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, the exchange rate on the transaction date is used. Exchange differences on translation into Canadian dollars are recognized as a separate component of equity. On disposal of a foreign operation, any cumulative exchange differences held in equity are transferred to the consolidated statement of loss and comprehensive loss.

Loss per common share

Basic loss per common share is determined using the weighted average number of common shares outstanding during the period.

We use the treasury stock method to calculate diluted loss per common share. Under this method, diluted loss per common share is computed in a manner consistent with basic loss per common share except that the weighted average common shares outstanding are increased to include additional common shares from the assumed exercise of options and warrants, if dilutive. The number of additional common shares is calculated by assuming that any outstanding "in the money" options, restricted share units, performance share units and warrants were exercised at the later of the beginning of the period or the date of issue and that the proceeds from such exercises were used to acquire shares of common stock at the average market price during the reporting period.

Property and equipment

Property and equipment are recorded at cost. Depreciation is provided on bases and at rates designed to amortize the cost of the assets over their estimated useful lives. Depreciation is recorded using the declining balance method at the following annual rates:

Office equipment and furniture	20%
Medical equipment	20%
Computer equipment	30%
Leasehold improvements	Straight-line over the term of the lease

Leases

At inception of a contract, we assess whether a contract is, or contains a lease by determining whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, we assess whether:

- the contract involves the use of an identified asset;
- we have the right to obtain substantially all of the economic benefits from use of the identified asset throughout the period of use; and
- we have the right to direct the use of the identified asset.

A right-of-use asset and corresponding lease liability is recognized on the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received. The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the end of the lease term. In addition, the right-of-use asset is reduced by impairment losses and adjusted for certain remeasurements of the lease liabilities, if any.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date. The lease payments are discounted using the implicit interest rate in the lease. If the rate cannot be readily determined, our incremental rate of borrowing is used. The lease liability is subsequently measured at amortized cost using the effective interest method. The lease liability is remeasured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in our estimate of the amount expected to be payable under a residual value guarantee, if we change our assessment of whether we will exercise a purchase, extension or termination option, or if the underlying lease contract is amended.

We have elected not to separate fixed non-lease components from lease components and instead account for each lease component and associated fixed non-lease components as a single lease component.

We have elected not to recognize right-of-use assets and lease liabilities for short-term leases that have a lease term of 12 months or less. We recognize the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

Research and development costs

Research and development costs are expensed as incurred, net of recoveries. We record accruals for the estimated costs of our research and development activities performed by third parties. The financial terms of these agreements are subject to negotiation, vary from contract to contract and may result in uneven payment flows to our vendors. Payments under the contracts depend on factors such as the achievement of certain events, successful enrollment of patients, and completion of certain clinical trial activities. We generally accrue costs associated with the treatment phase of clinical trials based on the total estimated cost of the treatment phase on a per patient basis and we expense the per patient cost ratably over the estimated patient treatment period based on patient enrollment in the trials. Advance payments for goods or services that will be used or rendered for future research and development activities are capitalized as prepaid expenses and recognized as expense as the related goods are delivered or the related services are performed. We base our estimates on the best information available at the time. However, additional information may become available to us which may allow us to make a more accurate estimate in future periods. In this event, we may be required to record adjustments to research and development expenses in future periods when the actual level of activity becomes more certain. Such increases or decreases in cost are generally considered to be changes in estimates and will be reflected in research and development expenses in the period identified.

Development costs that meet specific criteria related to technical, market and financial feasibility will be capitalized. To date, all development costs have been expensed.

Revenue recognition

Revenue relates to a long-term contract associated with a regional licensing agreement (the "Licensing Agreement") with Adlai Nortye Biopharma Co., Ltd. ("Adlai"). The pricing for the contract was based on the specific negotiations with Adlai and includes non-refundable upfront license fees, development and regulatory milestone payments, royalties and sales-based milestone payments. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Under the Licensing Agreement, we have granted a regional license to our intellectual property. The granting of this license is accounted for as one performance obligation. We have determined that we provide Adlai with a right to access our intellectual property, and therefore recognize revenue related to the upfront license fee over time. Revenue is recognized based on the extent of progress towards completion of the performance obligation using the input method. Under the input method, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. We use this method because Adlai receives and consumes the benefit of our intellectual property as we undertake activities that impact the intellectual property. Management must use judgment in making assumptions and estimates regarding total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

The contract also provides for development and regulatory milestone payments, royalties and sales-based milestone payments. These amounts are contingent on the occurrence of a future event and therefore give rise to variable consideration. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts in the transaction price when it becomes highly probable that the amount will not be subject to significant reversal when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current and forecasted) that is reasonably available to us. Based on this information and related analysis, any quarterly adjustments to revenue are recognized as necessary in the period they become known.

The upfront license fee is not considered a significant financing component because it is used to meet working capital demands that can be higher in the early stages of a contract and to protect us from the other party failing to adequately complete some or all of its obligations under the contract.

Revenue from sales-based royalties and the achievement of annual sales volumes will be recognized when the subsequent sale occurs, as the license of the intellectual property is the predominant item to which the royalty relates. We consider payments associated with the achievement of annual sales volumes to be, in substance, royalty payments and we will recognize such sales-based payments upon achievement of such sales volumes, provided that collection is reasonably assured.

Contract receivable - Contract receivable includes amounts billed and currently due from customers. When appropriate, we provide for an allowance for doubtful accounts by reserving for specifically identified doubtful accounts. We perform a review of our customer's credit risk and payment histories, including payments made subsequent to year-end.

Contract liability - Our contract liability includes upfront license fees and billings in excess of revenue recognized. Contract liabilities are recognized as revenue as or when we perform under the contract. We classify our contract liability as current or noncurrent based on the timing of when we expect to recognize revenue.

Share based payments

Stock option plan
We have one stock option plan (the "Option Plan") available to officers, directors, employees and consultants with grants under the Option Plan approved from time to time by our Board of Directors (the "Board"). Under the Option Plan, the exercise price of each option is set at equal to or higher than the trading price of our stock on the date of grant in accordance with Toronto Stock Exchange guidelines. Vesting is provided for at the discretion of the Board and the expiration of options is to be no greater than 10 years from the date of grant. Exercised stock options are settled with common shares issued from treasury.

We use the fair value based method of accounting for stock option awards granted under the Option Plan. We recognize compensation expense and a corresponding adjustment to contributed surplus equal to the fair value of the stock options granted using the Black-Scholes valuation model. The fair value of stock options with a graded vesting schedule is determined based on different expected lives for the options that vest each year, as it would be if the award were viewed as several separate awards, each with a different vesting date, and it is accounted for over the respective vesting period taking into consideration forfeiture estimates. Compensation expense is adjusted for subsequent changes in management's estimate of the number of options that are expected to vest.

Incentive share award plan
Our incentive share award plan (the "Share Plan") is available to directors, officers and employees. Under our Share Plan, performance share units and restricted share units may be approved from time to time by the Board. Performance share units ("PSUs") are an award to certain officers and employees to which common shares shall be issued based upon achieving the applicable performance criteria. Restricted share units ("RSUs") are an award to certain officers and employees and to non-employee directors to which common shares shall be issued in accordance with the Share Plan.

We recognize compensation expense and a corresponding adjustment to contributed surplus equal to the market value of our common shares at the date of grant based on the number of PSUs/RSUs expected to vest, recognized over the term of the vesting period. Compensation expense is adjusted for subsequent changes in management's estimate of the number of PSUs/RSUs that are expected to vest. The effect of these changes is recognized in the period of the change.

Adoption of New Accounting Standards

IFRS 16 *Leases*

IFRS 16 *Leases* ("IFRS 16") replaces IAS 17 *Leases* ("IAS 17") and related interpretations for annual periods beginning on or after January 1, 2019. We have adopted IFRS 16 using the modified retrospective approach, under which the cumulative effect of the initial application is recognized in retained earnings at January 1, 2019. We have not restated comparatives for 2018. On transition to IFRS 16, we elected to apply the following practical expedients:

- Applied the exemption for short-term leases that have a remaining lease term of less than 12 months as at January 1, 2019;
- Excluded initial direct costs for the measurement of right-of-use assets as at January 1, 2019;

- Relied upon our assessment of whether leases are onerous under the requirement of IAS 37, *Provisions, contingent liabilities and contingent assets* as at December 31, 2018 as an alternative to reviewing our right-of-use assets for impairment; and
- Measured the right-of-use assets at an amount equal to the lease liability, adjusted by the amount of lease incentive liability related to that lease recognized in the statement of financial position immediately before the date of initial application.

We have elected not to separate fixed non-lease components from lease components and instead account for each lease component and associated fixed non-lease components as a single lease component.

On transition to IFRS 16, we recognized $882,437 of lease liabilities. Lease liabilities have been measured by discounting future lease payments using our incremental borrowing rate at January 1, 2019 as rates implicit in the leases were not readily determinable. The weighted-average rate applied was 15%.

The following table summarizes the impacts of adopting IFRS 16 on the consolidated financial statements:

		Impact of changes	
	As reported as at December 31, 2018	**Effects of IFRS 16 transition**	**Subsequent to transition as at January 1, 2019**
Right-of-use assets	—	808,025	808,025
Other current and non-current assets	14,865,253	—	14,865,253
Total assets	14,865,253	808,025	15,673,278
Other liabilities	113,750	(74,412)	39,338
Lease liabilities	—	882,437	882,437
Other current and non-current liabilities	8,556,140	—	8,556,140
Total liabilities	8,669,890	808,025	9,477,915
Total shareholders' equity	6,195,363	—	6,195,363

Prior to adopting IFRS 16, our total minimum operating lease commitments as at December 31, 2018 were $961,575. The difference between the total of the minimum lease payments set out in Note 11 of our 2018 annual consolidated financial statements and the total lease liabilities recognized on transition was a result of the effect of discounting on the minimum lease payments.

Note 4: Significant Judgments, Estimates and Assumptions

Judgments

The preparation of our consolidated financial statements requires us to make judgments, estimates and assumptions that affect the reported amount of expenses, assets, liabilities, and the disclosure of contingent liabilities, at the end of the reporting period. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

Estimates and assumptions

Because a precise determination of many assets and liabilities is dependent upon future events, the preparation of financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting periods. Actual results could differ from those estimates and such differences could be significant. Significant estimates made by management affecting our consolidated financial statements include:

Revenue recognition
We entered into a Licensing Agreement which provides, among other payments, for upfront license fees in exchange for a regional license to our intellectual property. Management uses its judgment in applying the input method when determining the extent of progress towards completion of the performance obligation. Revenue recognition requires assumptions and estimates regarding

total estimated costs, the complexity of the work to be performed, and the length of time to complete the performance obligation, among other variables.

Valuation of share based payments
Estimating fair value for stock options granted requires determining the most appropriate valuation model which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life, share price volatility, dividend yield, and forfeiture rate and making assumptions about them. The assumptions and inputs used for estimating fair value for stock options granted are disclosed in Note 10.

Valuation of warrant derivative
Estimating fair value of the warrant derivative at initial measurement, at each exercise date and at each reporting period requires determining the most appropriate valuation model. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life, share price volatility and dividend yield, and making assumptions about them. The assumptions and inputs used for estimating fair value of the warrant derivative are disclosed in Note 8.

Income taxes
Uncertainties exist with respect to the interpretation of complex tax regulations and the amount and timing of future taxable income. Currently, we are accumulating tax loss carry forward balances in various tax jurisdictions creating a deferred tax asset. Deferred tax assets are recognized for all unused tax losses to the extent that it is probable that taxable profit will be available against which the losses can be utilized. Management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and the level of future taxable profits together with future tax planning strategies.

To date we have determined that none of our deferred tax assets should be recognized. Our deferred tax assets are mainly comprised of our net operating losses from prior years, prior year research and development expenses, and non-refundable investment tax credits. These tax pools relate to entities that have a history of losses, have varying expiry dates, and may not be used to offset taxable income within our other subsidiaries. As well, there are no taxable temporary differences or any tax planning opportunities available that could partly support the recognition of these losses as deferred tax assets.

Leases
We make judgments in determining whether a contract contains an identified asset. The identified asset should be physically distinct or represent substantially all of the capacity of the asset, and should provide us with the right to substantially all of the economic benefits from the use of the asset.

We also make judgments in determining whether or not we have the right to control the use of the identified asset. We have that right when we have the decision-making rights that are most relevant to changing how and for what purpose the asset is used. In cases where the decisions about how and for what purpose the asset is used are predetermined, we have the right to direct the use of the asset if we have the right to operate the asset or if we designed the asset in a way that predetermines how and for what purpose the asset will be used.

We make judgments in determining the incremental borrowing rate used to measure our lease liability for each lease contract, including an estimate of the asset-specific security impact. The incremental borrowing rate should reflect the interest that we would have to pay to borrow at a similar term and with a similar security.

Note 5: Cash Equivalents

Cash Equivalents
Cash equivalents consist of interest bearing deposits with our bank totaling $13,058,092 (December 31, 2018 – $9,977,409). The current annual interest rate earned on these deposits is 1.17% (December 31, 2018 – 2.71%).

Note 6: Property and Equipment

	Medical Equipment	Computer Equipment	Office Furniture	Office Equipment	Leasehold Improvements	Total
Cost						
As at December 31, 2017	197,870	681,985	225,896	89,466	534,300	1,729,517
Additions, net of foreign exchange impact	—	88,202	21,542	15,763	49,163	174,670
Disposals	(137,492)	(424,246)	—	—	(85,096)	(646,834)
As at December 31, 2018	60,378	345,941	247,438	105,229	498,367	1,257,353
Additions, net of foreign exchange impact	—	7,014	—	—	—	7,014
Disposals	—	—	—	—	—	—
As at December 31, 2019	60,378	352,955	247,438	105,229	498,367	1,264,367
Amortization						
As at December 31, 2017	154,334	549,564	147,334	68,787	476,057	1,396,076
Depreciation expense	7,622	49,635	10,415	4,041	23,662	95,375
Disposals	(137,492)	(424,246)	—	—	(85,096)	(646,834)
As at December 31, 2018	24,464	174,953	157,749	72,828	414,623	844,617
Depreciation expense	20,244	49,093	14,668	5,342	33,635	122,982
Disposals	—	—	—	—	—	—
As at December 31, 2019	44,708	224,046	172,417	78,170	448,258	967,599
Net book value						
As at December 31, 2019	**15,670**	**128,909**	**75,021**	**27,059**	**50,109**	**296,768**
As at December 31, 2018	35,914	170,988	89,689	32,401	83,744	412,736

Note 7: Leases

Our portfolio of leases consists of office spaces with lease terms generally between 3 to 5 years. We currently do not have leases with variable lease payments, residual value guarantees, extension or termination options, or leases not yet commenced to which we are committed. Lease liabilities have been measured by discounting future lease payments using our incremental borrowing rate as rates implicit in the leases were not readily determinable. The weighted-average rate applied was 15%.

Right-of-use assets

	Office Spaces
As at January 1, 2019	808,025
Depreciation expense	(362,592)
Foreign exchange impact	(14,720)
As at December 31, 2019	430,713

Lease liabilities

	Office Spaces
As at January 1, 2019	882,437
Payment of lease liabilities	(447,497)
Interest expense on lease liabilities	94,817
Foreign exchange impact	(23,482)
As at December 31, 2019	506,275

Our total undiscounted lease liability as at December 31, 2019 is as follows:

Maturity analysis - contractual undiscounted cash flows	
	December 31, 2019
Less than one year	391,022
One to five years	174,157
More than five years	—
Total undiscounted lease liability as at December 31, 2019	565,179

Note 8: Warrant Derivative

On August 16, 2019, pursuant to an underwritten public offering, 4,619,773 units were sold at a purchase price of US$0.81 per unit for gross proceeds of US$3,742,016. Each unit included one common share and one common share purchase warrant (see Note 9). Each common share purchase warrant entitled the holder to purchase one common share at an exercise price of US$0.90 until August 16, 2024. We incurred transaction costs of $699,427 of which $466,284 were allocated to share issue costs and $233,143 were allocated to operating expenses, based on their relative fair values.

Under IFRS 9 *Financial Instruments* and IAS 32 *Financial Instruments: Presentation*, warrants with an exercise price denominated in a currency that differs from an entity's functional currency are treated as a derivative measured at fair value with subsequent changes in fair value accounted for through profit and loss. Our warrants with an exercise price of US$0.90 meet this requirement and we have presented the fair value of these warrants as a current liability on the consolidated statement of financial position. As these warrants are exercised, the fair value at the date of exercise and the associated non-cash liability will be included in our share capital along with the proceeds from the exercise. If these warrants expire, the non-cash warrant liability is reversed through the consolidated statement of loss. There is no cash flow impact as a result of the accounting treatment for changes in the fair value of the warrant derivative or when warrants expire unexercised.

A reconciliation of the change in fair value of the warrant derivative is as follows:

	Number of Warrants Outstanding	Fair Value of Warrant Derivative $
Issued, August 16, 2019	4,619,773	1,657,214
Exercised	(2,935,647)	(5,687,003)
Change in fair value	—	12,608,808
Foreign exchange impact	—	(70,255)
As at December 31, 2019	1,684,126	8,508,764

In 2019, we received cash proceeds of US$2,642,082 with respect to the warrants exercised.

We use the Black-Scholes valuation model to estimate fair value. The expected volatility is based on the Company's common share historical volatility less an estimated market participant risk adjustment. The risk-free interest rate is based on U.S. Department

of Treasury benchmark treasury yield rates with an approximate equivalent remaining term in effect at the time of valuation and the expected life represents the estimated length of time the warrants are expected to remain outstanding.

The estimated fair value of the warrant derivative was determined using the following assumptions:

	December 31, 2019	August 16, 2019
Fair value per warrant	US$3.89	US$0.27
Underlying share price	US$4.76	US$0.54
Risk-free interest rate	1.59%	1.42%
Expected hold period to exercise	1.0 year	4.0 years
Expected share price volatility	90.00%	82.00%
Expected dividend yield	Nil	Nil

Note 9: Share Capital

Authorized:
Unlimited number of no par value common shares

Share Consolidation:
On May 22, 2018, we completed the consolidation of our common shares on the basis of 9.5 pre-consolidation common shares for each one post-consolidation common share (the "Share Consolidation"). Fractional interests were rounded down to the nearest whole number of common shares. Outstanding stock options, restricted share units and performance share units were similarly adjusted by the consolidation ratio. Outstanding warrants were adjusted such that, following the Share Consolidation, 9.5 equity-classified warrants will entitle the holder to purchase one whole common share until June 1, 2022.

Issued:	Shares		Warrants	
	Number	Amount $	Number	Amount $
Balance, December 31, 2016	121,258,222	262,321,825	—	—
Issued pursuant to stock option plan	801,000	536,949	—	—
Issued pursuant to "At the Market" equity distribution agreement[a]	3,301,500	2,348,821	—	—
Issued pursuant to public offering[b]	16,445,000	7,893,600	16,445,000	3,617,900
Share issue costs	—	(1,391,057)	—	—
Balance, December 31, 2017	141,805,722	271,710,138	16,445,000	3,617,900
Issued pursuant to "At the Market" equity distribution agreement[a]	519,500	553,650	—	—
Share issue costs	—	(33,335)	—	—
Issued pursuant to stock option plan	71,000	38,269	—	—
Balance, May 22, 2018 - pre-consolidation	142,396,222	272,268,722	16,445,000	3,617,900
Balance, May 22, 2018 - post-consolidation	14,988,995	272,268,722	16,445,000	3,617,900
Issued pursuant to public offering[c]	1,532,278	11,606,882	—	—
Issued pursuant to warrant agreement[b]	157	1,747	(1,500)	(330)
Issued pursuant to stock option plan	34,329	158,976	—	—
Issued pursuant to incentive share award plan	28,297	109,751	—	—
Issued pursuant to Common Stock Purchase Agreement[d]	797,691	3,314,097	—	—
Issued pursuant to "At the Market" equity distribution agreement[e]	18,002	66,360	—	—
Share issue costs	—	(2,333,474)	—	—
Balance, December 31, 2018	17,399,749	285,193,061	16,443,500	3,617,570
Issued pursuant to incentive share award plan	323,301	391,917	—	—
Issued pursuant to Common Stock Purchase Agreement[d]	2,494,943	5,403,385	—	—
Issued pursuant to "At the Market" equity distribution agreement[e]	4,425,040	8,476,454	—	—
Issued pursuant to public offering[f]	4,619,773	3,314,429	—	—
Issued pursuant to warrant derivative exercised[f]	2,935,647	9,152,869	—	—
Share issue costs	—	(854,256)	—	—
Balance, December 31, 2019	**32,198,453**	**311,077,859**	**16,443,500**	**3,617,570**

(a) On February 25, 2016, we entered into an "at-the-market" ("ATM") equity distribution agreement with Canaccord Genuity Inc. acting as our sole agent with an aggregate offering value of up to $4.6 million which allows us to sell our common shares through the facilities of the Toronto Stock Exchange or other "marketplace" (as defined in National Instrument 21-101 Marketplace Operation) in Canada (our "Canadian ATM"). Subject to the terms of our Canadian ATM, we are able to determine, at our sole discretion, the timing and number of shares to be sold under this ATM facility. During 2018, we sold 519,500 pre-consolidation shares (approximately 54,684 post-consolidation shares) (2017 - 3,301,500 pre-consolidation shares (approximately 347,526 post-consolidation shares) common shares for gross proceeds of $553,650 (2017 - $2,348,821). We incurred share issue costs of $33,335 (2017 - $245,655).

(b) On June 1, 2017, pursuant to an underwritten public offering, 16,445,000 units were sold at a purchase price of $0.70 per unit for gross proceeds of $11,511,500. Each unit included one pre-consolidation common share with an ascribed value of $0.48 (0.106 post-consolidation common share with an ascribed value of $4.56) and one pre-consolidation common share purchase warrant with an ascribed value of $0.22 (one post-consolidation common share purchase warrant with an ascribed value of $2.09). These warrants were classified as equity. Each pre-consolidation common share purchase warrant entitled the holder to purchase one pre-consolidation common share at an exercise price of $0.95. Following the Share Consolidation, 9.5 pre-consolidation common share purchase warrants entitles the holder to purchase one post-consolidation common share in the capital of the Company until June 1, 2022, at an exercise price of approximately $9.025. The post-consolidation common share purchase warrants will be subject to acceleration if the volume weighted average price of the Company's common shares equals or exceeds $23.75 for 15 consecutive trading dates. The ascribed value was determined using the relative fair value method. The ascribed value of the common share purchase warrants was determined using the Black-Scholes valuation model. We incurred share issue costs of $1,145,402.

(c) On June 5, 2018, pursuant to an underwritten public offering, 1,532,278 common shares were sold at a purchase price of US $5.83 per share for gross proceeds of US$8,933,181. We incurred share issue costs of $1,418,356.

(d) On September 27, 2018, we entered into a Common Stock Purchase Agreement (the "Agreement") with Lincoln Park Capital Fund, LLC ("LPC"). Subject to the terms and conditions of the Agreement and at our sole discretion, we may sell up to US $26,000,000 worth of common shares to LPC over the 30-month term. The purchase price of the common shares will be based on the prevailing market prices immediately preceding the notice of sale without any fixed discount. Subject to the terms of the Agreement, we control the timing and amount of any future investment and LPC is obligated to make such purchases, if and when we elect. The Agreement does not impose any upper price limit restrictions, negative covenants or restrictions on our future financing activities. However, in no event will shares be sold to LPC on a day the closing sale price for the common shares is less than the floor price of US$1.00 per common share; or at a price per share that is less than the volume weighted average trading pricing of the common shares on the TSX for the five immediately preceding trading days, less the maximum applicable discount allowed by the TSX. The Agreement limits our sale of common shares to 19.99% of our total outstanding common shares as at the date that the Common Stock Purchase Agreement was entered into, unless and until we have obtained shareholder approval under applicable Nasdaq rules. As at December 31, 2019, we have reached that limit. We can terminate the Agreement at any time at our sole discretion without any monetary cost or penalty.

In 2019, we sold 2,477,665 (2018 - 678,182) common shares for gross proceeds of US$4,055,725 (2018 - US$2,055,207) and issued 17,278 (2018 - 119,509) commitment shares. The commitment shares were fair valued at US$29,758 (2018 - US $483,690) and were recorded as share issue costs in addition to cash share issue costs of $3,757 (2018 - $208,726).

(e) On October 24, 2018, we entered into an ATM equity offering sales agreement with Canaccord Genuity Inc. The ATM allows us, at our sole discretion, to issue common shares, at prevailing market price, with an aggregate offering value of up to US $30,000,000 over the next 19 months through the facilities of the NASDAQ in the United States. In 2019, we sold 4,425,040 (2018 - 18,002) common shares for gross proceeds of US$6,390,691 (2018 - US$50,046). We incurred share issue costs of 344,834 (2018 - $135,000).

(f) On August 16, 2019, pursuant to an underwritten public offering, 4,619,773 units were sold at a purchase price of US$0.81 per unit for gross proceeds of US$3,742,016. Each unit included one common share with a fair value of US$0.54 and one common share purchase warrant with a fair value of US$0.27. These warrants were classified as a financial liability (see Note 8). Each common share purchase warrant entitled the holder to purchase one common share at an exercise price of US$0.90 until August 16, 2024. We incurred transaction costs of $699,427 of which $466,284 were allocated to share issue costs and $233,143 were allocated to operating expenses, based on their relative fair values. In the fourth quarter of 2019, our share

capital included fair value of $5,687,003 in addition to gross proceeds of US$2,642,082 for the 2,935,647 warrants that were exercised (see Note 8).

Equity Warrants

The following table summarizes our outstanding equity warrants at December 31, 2019:

Exercise Price	Outstanding, Beginning of the Year	Outstanding, End of the Year[(1)]	Weighted Average Remaining Contractual Life (years)
$ 9.025	16,443,500	16,443,500	2.42

(1) Exercisable into 1,730,894 common shares.

Note 10: Share Based Payments

Stock Option Plan

We have issued stock options to acquire common stock through our stock option plan of which the following are outstanding at December 31:

	2019		2018		2017	
	Stock Options	Weighted Average Exercise Price $	Stock Options	Weighted Average Exercise Price $	Stock Options	Weighted Average Exercise Price $
Outstanding, beginning of the year	**1,249,361**	**8.73**	647,156	13.20	912,995	17.42
Granted during the year	**1,020,000**	**1.42**	750,467	4.97	42,625	4.60
Forfeited during the year	**(12,839)**	**11.35**	(105,338)	11.67	(211,847)	32.80
Expired during the year	**(9,575)**	**29.07**	(1,122)	13.78	(12,302)	21.13
Exercised during the year	—	—	(41,802)	2.96	(84,315)	4.07
Outstanding, end of the year	**2,246,947**	**5.31**	1,249,361	8.73	647,156	13.20
Options exercisable, end of the year	**1,327,845**	**7.22**	777,245	11.04	573,984	14.36

The following table summarizes information about the stock options outstanding and exercisable at December 31, 2019:

Range of Exercise Prices	Number Outstanding	Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price $	Number Exercisable	Weighted Average Exercise Price $
$0.54 - $1.42	100,000	4.81	0.96	66,667	0.75
$1.43 - $1.79	900,000	4.95	1.45	300,009	1.45
$1.80 - $3.39	376,411	5.11	2.73	284,412	2.72
$3.40 - $7.13	395,111	4.88	3.88	322,880	3.95
$7.14 - $63.84	475,425	2.53	16.74	353,877	19.95
	2,246,947	4.45	5.31	1,327,845	7.22

Non-exercisable options vest annually over periods ranging from one to three years.

We use the Black-Scholes valuation model to estimate fair value. We use historical data to estimate the expected dividend yield and expected volatility of our stock in determining the fair value of the stock options. The risk-free interest rate is based on the Government of Canada benchmark bond yield rates in effect at the time of grant and the expected life of the options represents the estimated length of time the options are expected to remain outstanding.

The estimated fair value of stock options issued during the year was determined using the following weighted average assumptions:

	2019	2018	2017
Risk-free interest rate	**1.62%**	2.02%	1.18%
Expected hold period to exercise	**3.0 years**	3.0 years	3.0 years
Expected share price volatility	**97.90%**	81.15%	90.73%
Expected forfeiture rate	**3.67%**	3.67%	3.67%
Expected dividend yield	**Nil**	Nil	Nil
Weighted average fair value of options	**$0.87**	$2.67	$2.65

Incentive Share Award Plan

Restricted Share Units

We have issued restricted share units ("RSUs") to non-employee directors through our incentive share award plan. Grants of RSUs to non-employee directors vest either immediately, on the third anniversary date from the grant date or when the director ceases to be a member of the board. We have also issued RSUs to certain officers and employees of the Company. Grants of RSUs to certain officers and employees of the Company vest over a three year period. The following RSUs are outstanding at December 31:

	2019	2018	2017
Outstanding, beginning of the year	**260,755**	190,407	139,237
Granted during the year	**270,098**	102,855	51,170
Forfeited during the year	**—**	(4,210)	—
Vested during the year	**(321,196)**	(28,297)	—
Outstanding, end of the year	**209,657**	260,755	190,407

(1) The weighted average fair value of the RSUs granted was $0.80 in 2019 (2018 - $3.35 ; 2017 - $5.96).

Performance Share Units

We have also issued performance share units ("PSUs") to certain officers and employees of the Company. Grants of PSUs require completion of certain performance criteria and cliff vest after 3 years or vest over a three year period, depending on the grant. PSU grants to certain officers will vest immediately upon a change of control of the Company. If certain officers cease employment with the Company, vesting occurs on a pro rata basis prior to the third anniversary of the grant but after the first anniversary. The following PSUs are outstanding at December 31:

	2019	2018	2017
Outstanding, beginning of the year	**63,156**	94,734	88,419
Granted during the year	**—**	—	6,315
Forfeited during the year	**—**	(31,578)	—
Vested during the year	**(2,105)**	—	—
Outstanding, end of the year	**61,051**	63,156	94,734

(1) The weighted average fair value of the PSUs granted was nil in 2019 (2018 - nil; 2017 - $3.33).

We have reserved 3,219,845 common shares for issuance relating to our outstanding equity compensation plans. Compensation expense related to stock options, RSUs and PSUs for the year ended December 31, 2019 was $1,470,153 (2018 - $1,415,833; 2017 - $578,703).

Note 11: Loss Per Common Share

Loss per common share is calculated using net loss for the year and the weighted average number of common shares outstanding for the year ended December 31, 2019 of 22,137,990 (2018 - 16,016,366; 2017 - 13,936,387). The effect of any potential exercise of our stock options and warrants outstanding during the year has been excluded from the calculation of diluted loss per common share, as it would be anti-dilutive.

Note 12: Contract Liability and Receivable

Regional licensing agreement
We entered into a regional licensing agreement (the "Licensing Agreement") with Adlai Nortye Biopharma Co., Ltd. ("Adlai") in November 2017. Under the terms of the Licensing Agreement, Adlai will have exclusive development and commercialization rights to pelareorep in China, Hong Kong, Macau, Singapore, South Korea and Taiwan. We are entitled to receive upfront license fees, development and regulatory milestone payments, royalties and sales-based milestone payments.

Warrant purchase agreement
We also entered into a warrant purchase agreement with Adlai. As at December 31, 2019, we were entitled to receive the following:

- One common share purchase warrant of US$6 million whereby, upon exercise, Adlai may purchase our common shares priced at a 20% premium to the five-day weighted average closing price immediately preceding the exercise date. We have the right to call this warrant upon the enrollment of the 50th patient in the phase 3 metastatic breast cancer study. This common share purchase warrant expires on November 14, 2020.

Contract liability
Our contract liability balance at December 31, which we expect to record in revenue over the next five years, is as follows:

	2019 $	2018 $
Balance, beginning of the year	**6,730,287**	6,182,580
Regional licensing agreement	—	547,707
Revenue recognized in the year	—	—
Balance, end of the year	**6,730,287**	6,730,287
Contract liability - current	—	927,400
Contract liability - non-current	**6,730,287**	5,802,887
	6,730,287	6,730,287

Note 13: Commitments

We are committed to payments totaling $4,867,131 for activities related to our clinical trial, manufacturing and collaboration programs which are expected to occur over the next two years.

Our commitments include one-half of the committed payments related to our collaboration with Merck KGaA, Darmstadt, Germany, and Pfizer Inc ("Pfizer"), known as BRACELET-1, as the cost of this phase 2 clinical trial will be shared equally between Oncolytics and Pfizer. As at December 31, 2019, we recorded US$1,500,000 (December 31, 2018 - nil) in other receivables related to an upfront payment of BRACELET-1 cost from Pfizer per the terms of the collaboration agreement with an offsetting US$652,306 (December 31, 2018 - nil) in other liabilities representing future trial costs to be incurred.

Under a clinical trial agreement entered into with the Alberta Cancer Board ("ACB"), we have agreed to repay the amount funded under the agreement together with a royalty, to a combined maximum amount of $400,000 plus an overhead repayment of $100,000, upon sales of a specified product. We agreed to repay the ACB in annual installments in an amount equal to the lesser of: (a) 5% of gross sales of a specified product; or (b) $100,000 per annum once sales of a specified product commence.

Note 14: Contingencies

Assumption Agreement
In 1999, we entered into an agreement that assumed certain obligations (the "Assumption Agreement") in connection with a Share Purchase Agreement (the "Share Purchase Agreement") between SYNSORB and our former shareholders to make milestone payments and royalty payments.

As of December 31, 2019, a milestone payment was still outstanding for $1.0 million, due within 90 days of the first receipt from an Appropriate Regulatory Authority, for marketing approval to sell pelareorep to the public or the approval of a new drug application for pelareorep.

This milestone payment, when payable, will be accounted for as research and development expense and will not be deductible for income tax purposes.

In addition to the milestone payment, payments may become due and payable in accordance with the Share Purchase Agreement upon realization of sales of pelareorep. If we receive royalty payments or other payments as a result of entering into partnerships or other arrangements for the development of the reovirus technology, we are obligated to pay to the founding shareholders 10.75% (2018 - 10.75%) of the royalty payments and other payments received. Alternatively, if we develop the reovirus treatment to the point where it may be marketed at a commercial level, the payments referred to in the foregoing sentence will be amended to a royalty payment of 2.15% (2018 - 2.15%) of Net Sales received for such products.

BRI "Work in Kind" Contribution
We entered into an engineering and process development agreement with the Biotechnology Research Institute of the National Research Council of Canada ("BRI"). The terms of this agreement include a "work in kind" contribution from BRI. In exchange for this "work in kind" contribution, we agreed to provide a royalty, contingent upon receiving Sales Revenue, at the lesser of 0.5% of Sales Revenue or $20,000 per year. The total royalty under this Agreement is equal to two times the "work in kind" contribution. As of December 31, 2019, we estimate that the accumulated work in kind totals approximately $301,000.

Note 15: Income Taxes

The provision for income taxes recorded in the consolidated financial statements differs from the amount which would be obtained by applying the statutory income tax rate to the loss before income taxes as follows:

	2019 $	2018 $	2017 $
Loss before income taxes	**(33,122,888)**	(16,489,183)	(15,475,353)
Statutory Canadian corporate tax rate	**26.50%**	27.00%	27.00%
Anticipated tax recovery	**(8,777,565)**	(4,452,079)	(4,178,345)
Foreign jurisdiction tax rate difference	**3,088,811**	3,312,963	2,899,190
Employee share based compensation	**389,591**	382,275	156,250
Change in fair value of warrant derivative	**3,341,334**	—	—
Impact of Alberta rate change	**3,758,175**	—	—
Adjustment to opening tax pools	**11,973**	(238,222)	162,162
Other permanent differences	**149,294**	(35,912)	53,039
Change in deferred tax benefits deemed not probable to be recovered	**(1,961,613)**	1,579,017	1,051,725
Current income taxes	—	548,042	144,021
Adjustment in respect to prior periods	—	—	(2,523)
Net current tax expense	—	548,042	141,498

As at December 31, 2019, we have the following non-capital losses for income tax purposes in Canada:

Expiry	$
2026	9,809,000
2027	12,170,000
2029	4,009,000
2030	4,774,000
2031	4,343,000
2032	2,873,000
2033	2,457,000
2034	2,472,000
2035	3,125,000
2036	6,430,000
2037	4,812,000
2038	5,056,000
2039	6,900,000
	69,230,000

As at December 31, 2019, we have the following non-refundable federal investment tax credits for income tax purposes in Canada:

Expiry	$
2020	189,000
2021	471,000
2022	465,000
2023	361,000
2024	228,000
2025	271,000
2026	520,000
2027	596,000
2028	622,000
2029	173,000
2030	91,000
2031	114,000
2032	381,000
2033	487,000
2034	270,000
2035	183,000
2036	41,000
2037	980
2038	19,000
	5,482,980

As well, we have unclaimed scientific research and experimental development expenditures available to reduce future years' taxable income of approximately $27,560,000. We have not recorded the potential benefits of these tax pools in these consolidated financial statements.

Deferred tax assets are recognized, to the extent that it is probable that taxable income will be available, against which the deductible temporary differences and the carry-forward of unused tax credits and unused tax losses can be utilized. The components of our unrecognized deferred tax asset are as follows:

	2019 $	2018 $	2017 $
Net operating losses carried forward	**19,625,642**	20,664,345	19,160,218
Scientific research and experimental development	**6,338,542**	7,406,169	7,406,099
Investment tax credits	**4,222,016**	3,988,606	3,988,325
Undepreciated capital costs in excess of book value of property and equipment and intellectual property	**1,908,320**	1,949,611	1,927,640
Share issue costs	**611,072**	696,346	493,343
Net capital losses carried forward	**6,474**	7,598	7,598
Unrecognized deferred tax asset	**32,712,066**	34,712,675	32,983,223

Note 16: Capital Disclosures

Our objective when managing capital is to maintain a strong statement of financial position. We achieve our objective by obtaining adequate cash resources to support planned activities which include the clinical trial program, product manufacturing, administrative costs and intellectual property expansion and protection. We include shareholders' equity and cash and cash equivalents in the definition of capital.

	2019 $	2018 $
Cash and cash equivalents	**14,148,021**	13,699,881
Shareholders' (deficit) equity	**(107,894)**	6,195,363

We do not have any debt other than trade accounts payable and we have potential contingent obligations relating to the completion of our research and development of pelareorep.

In managing our capital, we estimate our future cash requirements by preparing a budget and a multi-year plan annually for review and approval by our Board. The budget establishes the approved activities for the upcoming year and estimates the costs associated with these activities. The multi-year plan estimates future activity along with the potential cash requirements and is based on our assessment of our current clinical trial progress along with the expected results from the coming year's activity. Budget to actual variances are prepared and reviewed by management and are presented quarterly to the Board.

Historically, funding for our plan is primarily managed through the issuance of additional common shares and common share purchase warrants that upon exercise are converted to common shares. Management regularly monitors the capital markets attempting to balance the timing of issuing additional equity with our progress through our clinical trial program, general market conditions, and the availability of capital. There are no assurances that funds will be made available to us when required.

On May 4, 2018, we renewed our short form base shelf prospectus (the "Base Shelf") that qualifies for distribution of up to $150,000,000 of common shares, subscription receipts, warrants, or units (the "Securities") in either Canada, the US or both. Under a Base Shelf, we may sell Securities to or through underwriters, dealers, placement agents or other intermediaries and also may sell Securities directly to purchasers or through agents, subject to obtaining any applicable exemption from registration requirements. The distribution of Securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be subject to change, at market prices prevailing at the time of sale, or at prices related to such prevailing market prices to be negotiated with purchasers and as set forth in an accompanying Prospectus Supplement.

Renewing our Base Shelf provides us with additional flexibility when managing our cash resources as, under certain circumstances, it shortens the time period required to close a financing and is expected to increase the number of potential investors that may be prepared to invest in our company. Funds received as a result of using our Base Shelf would be used in line with our Board approved budget and multi-year plan. Our renewed Base Shelf will be effective until May 25, 2020.

Our Base Shelf allowed us to enter into our Common Stock Purchase Agreement in September 2018, our ATM equity offering sales agreement in October 2018, and our public offering in August 2019 (see Note 9). We will use these equity arrangements to assist us in achieving our capital objective. Each arrangement provides us with the opportunity to raise capital at our sole discretion providing us with the ability to better manage our cash resources.

We are not subject to externally imposed capital requirements and there have been no changes in how we define or manage our capital in 2019.

Note 17: Financial Instruments

Our financial instruments consist of cash and cash equivalents, other receivables, other liabilities, accounts payable and warrant derivative. As at December 31, 2019, the carrying amount of our cash and cash equivalents, other receivables, other liabilities and accounts payable approximated their fair value. The warrant derivative is a recurring Level 2 fair value measurement as these

warrants have not been listed on an exchange and therefore do not trade on an active market. As at December 31, 2019, the fair value of our warrant derivative was $8,508,764 (December 31, 2018 - nil).

Credit risk

Credit risk is the risk of financial loss if a counterparty to a financial instrument fails to meet its contractual obligations. We are exposed to credit risk on our cash and cash equivalents and other receivables from Pfizer connected to the BRACELET-1 study (see Note 13) in the event of non-performance by counterparties, but we do not anticipate such non-performance. Our maximum exposure to credit risk at the end of the period is the carrying value of our cash and cash equivalents and other receivables.

We mitigate our exposure to credit risk connected to our cash and cash equivalent by maintaining our primary operating and investment bank accounts with Schedule I banks in Canada. For our foreign domiciled bank accounts, we use referrals or recommendations from our Canadian banks to open foreign bank accounts and these accounts are used solely for the purpose of settling accounts payable or payroll.

We mitigate our exposure to credit risk connected to our Pfizer other receivable by entering into collaborations with global biopharmaceutical companies.

Interest rate risk

Interest rate risk is the risk that future cash flows of a financial instrument will fluctuate because of changes in market interest rates. We are exposed to interest rate risk through our cash and cash equivalents. We mitigate this risk through our investment policy that only allows investment of excess cash resources in investment grade vehicles while matching maturities with our operational requirements.

Fluctuations in market rates of interest do not have a significant impact on our results of operations due to the short term to maturity of the investments held.

Foreign exchange risk

Foreign exchange risk arises from changes in foreign exchange rates that may affect the fair value or future cash flows of our financial assets or liabilities. We are primarily exposed to the risk of changes in the Canadian dollar relative to the U.S. dollar, British pound and Euro as a portion of our financial assets and liabilities are denominated in such currencies. The impact of a $0.01 increase in the value of the U.S. dollar against the Canadian dollar would have increased our net comprehensive loss in 2019 by approximately $125,339. The impact of a $0.10 increase in the value of the British pound against the Canadian dollar would have increased our net comprehensive loss in 2019 by approximately $8,581. The impact of a $0.10 increase in the value of the Euro against the Canadian dollar would have increased our net comprehensive loss in 2019 by approximately $32,426.

We mitigate our foreign exchange risk by maintaining sufficient foreign currencies, through the purchase of foreign currencies or receiving foreign currencies from financing activities, to settle our foreign accounts payable.

Balances in foreign currencies at December 31, 2019 are as follows:

	US dollars $	**British pounds** £	**Euro** €
Cash and cash equivalents	9,676,360	26,751	33,664
Other receivables	1,500,000	—	—
Accounts payable and other liabilities	(1,378,860)	(6,345)	(310,086)
Warrant derivative	(6,551,250)	—	—
	3,246,250	20,406	(276,422)

Liquidity risk

Liquidity risk is the risk that we will encounter difficulty in meeting obligations associated with financial liabilities. We manage liquidity risk through the management of our capital structure as outlined in Note 16. Accounts payable are all due within the current operating period.

Note 18: Additional Cash Flow Disclosures

Net Change In Non-Cash Working Capital

	2019 $	2018 $	2017 $
Change in:			
Contract receivable	—	4,767,100	(4,767,100)
Other receivables	**(2,017,122)**	(13,924)	16,680
Prepaid expenses	**(2,012,605)**	475,077	(915,222)
Accounts payable and accrued liabilities	**1,347,365**	(1,858,170)	(384,641)
Contract liability	—	547,707	6,182,580
Other liabilities	**807,877**	(27,982)	—
Non-cash impact of foreign exchange	**78,708**	14,531	48,558
Change in non-cash working capital related to operating activities	**(1,795,777)**	3,904,339	180,855

Other Cash Flow Disclosures

	2019 $	2018 $	2017 $
Cash interest received	**274,094**	173,496	130,101
Cash taxes paid	**5,448**	15,728	136,163

Note 19: Indemnification of Officers and Directors

Our corporate by-laws require that, except to the extent expressly prohibited by law, we will indemnify our officers and directors against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment reasonably incurred in respect of any civil, criminal or administrative action or proceeding as it relates to their services to the Company. The by-laws provide no limit to the amount of the indemnification. We have purchased directors' and officers' insurance coverage to cover claims made against the directors and officers during the applicable policy periods. The amounts and types of coverage have varied from period to period as dictated by market conditions. We believe that we have adequate insurance coverage; however, there is no guarantee that all indemnification payments will be covered under our existing insurance policies.

There is no pending litigation or proceeding involving any of our officers or directors as to which indemnification is being sought, nor are we aware of any threatened litigation that may result in claims for indemnification.

Note 20: Economic Dependence

We are economically dependent on our toll manufacturers. We primarily use one toll manufacturer in the US to produce the clinical grade pelareorep required for our clinical trial program. Any significant disruption of the services provided by our primary toll manufacturer has the potential to delay the progress of our clinical trial program. We have used another toll manufacturer in the U.K. that has also produced clinical grade pelareorep at a smaller scale. We have attempted to mitigate this risk by producing sufficient pelareorep in advance of patient enrollment in a particular clinical trial.

Note 21: Other Expenses and Adjustments

We present our expenses based on the function of each expense. We include realized foreign exchange gains and losses, unrealized non-cash foreign exchange gains and losses and non-cash share based compensation associated with research and development activity as a component of research and development expenses. We include depreciation of property and equipment, depreciation of right-of-use-asset, share based compensation associated with operating activities, and transaction costs related to our warrant derivative as a component of operating expenses.

	2019 $	2018 $	2017 $
Included in research and development expenses:			
Realized foreign exchange (gain) loss	**(39,362)**	(1,995)	(120,794)
Unrealized non-cash foreign exchange loss (gain)	**356,081**	(608,111)	55,538
Non-cash share based compensation	**561,420**	680,541	230,141
Included in operating expenses			
Depreciation - property and equipment	**122,982**	95,375	90,768
Depreciation - right-of-use assets	**362,592**	—	—
Non-cash share based compensation	**908,733**	735,292	348,562
Transaction cost, warrant derivative	**233,143**	—	—
Onerous lease contract	—	67,588	—
Amortization - lease incentive liability	—	8,189	—

Note 22: Related Party Transactions

Compensation of Key Management Personnel

Key management personnel are those persons having authority and responsibility for planning, directing and controlling our activities as a whole. We have determined that key management personnel consists of the members of the Board of Directors along with certain officers of the Company.

	2019 $	2018 $	2017 $
Short-term employee compensation and benefits	**3,786,667**	2,680,621	2,596,082
Termination benefits	—	—	779,666
Share-based payments	**1,123,408**	1,067,195	459,298
	4,910,075	3,747,816	3,835,046

Assumption Agreement

In November 2017, with the signing of the Licensing Agreement with upfront license fees (see Note 12), the Company triggered a liability of US$178,125 to an officer as detailed in the Assumption Agreement (see Note 14). The liability was fully repaid in 2018.

Note 23: Subsequent Events

(a) Between January 1, 2020 and March 5, 2020, we issued 3,921,790 common shares for gross proceeds of US$12,726,383 through our October 2018 ATM equity offering sales agreement and we received gross proceeds of US$1,030,669 as a result of 1,145,188 August 2019 public offering warrants that were exercised.

(b) On February 25, 2020, we received the US$1,500,000 upfront payment of BRACELET-1 cost from Pfizer (see Note 13 for details).

Shareholder Information

For public company filings please go to www.sedar.com or contact us at:

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