MANAGEMENT DISCUSSION & ANALYSIS

March 31, 2020

May 7, 2020

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

This discussion and analysis should be read in conjunction with the unaudited interim consolidated financial statements of Oncolytics Biotech® Inc. as at and for the three months ended March 31, 2020 and 2019, and should also be read in conjunction with the audited consolidated financial statements and Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") contained in our annual report for the year ended December 31, 2019. The financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS").

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 2020

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.

Potential Impact of COVID-19

During the first quarter of 2020, there was a global outbreak of a novel coronavirus identified as as the SARS-coronavirus-2 (SARS-CoV-2) leading to the associated coronavirus infectious disease 2019 ("COVID-19"). In order to combat the spread of COVID-19, governments worldwide have enacted emergency measures including travel bans, legally enforced or self-imposed quarantine periods, social distancing and business and organization closures.

Our clinical and regulatory teams remain active and are working closely with our investigators to identify the most appropriate steps forward for each study. There has been no impact on the continuity of the manufacturing of pelareorep, and we are fully capable of supplying pelareorep to all ongoing clinical studies. Although it is too early to determine the absolute effects of the outbreak on specific trial timelines, it is anticipated that COVID-19 will impact clinical trial enrollment timelines to some degree. See "*Clinical Trial Program*" for further details on each study.

As COVID-19 is severely impacting global healthcare systems, we are committed to focusing on the safety of our employees and the patients in our trials while seeking adaptations to maintain clinical activities. We have adopted the FDA guidance issued for the COVID-19 pandemic: "FDA Guidance on Conduct of Clinical Trials of Medical Products during COVID-19 Pandemic: Guidance for Industry, Investigators, and Institutional Review Boards" to ensure patient safety and the appropriate use of healthcare resources.

Significant declines in stock markets have occurred as a result of COVID-19. The scale and duration of these developments remain uncertain, and the resulting economic downturn could further affect our operations and ability to finance our operations.

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.

First Quarter 2020 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-) metastatic breast cancer ("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®). 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 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 mBC 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 the first quarter of 2020, we continued study initiating activities including selecting and readying clinical trial sites. The timing of first patient enrollment was and may continue to be delayed by the COVID-19 pandemic.

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 microenvironment.

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.

In March 2020, we received a favourable assessment from the Safety Committee, which evaluated safety parameters from patients participating in the safety run-in phase of the trial, consisting of select patients from cohorts 2 and 3, along with the fully enrolled cohort 1. The study is continuing as planned, and we are expanding the number of clinical trial sites in an effort to offset any COVID-19 impact on enrollment. Therefore, at this time, we do not expect significant enrollment delays as a result of the COVID-19 pandemic, and plan to present updated data at the ESMO Breast Cancer conference in May 2020.

Additional checkpoint inhibitor combinations

Pancreatic cancer study combining pelareorep and Keytruda®

During the first quarter of 2020, 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.

At this time, we still expect to present the study data at the ASCO conference, as planned.

Multiple myeloma study combining pelareorep and Opdivo®

During the first quarter of 2020, 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

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.

Post Q1 2020 Developments:

On April 2, 2020, we announced positive clinical data published in a peer-reviewed journal highlighting that the combination of FOLFIRI, bevacizumab and pelareorep was well tolerated, with promising efficacy signals in colorectal cancer patients with KRAS mutated tumors. The article, entitled "Elucidation of Pelareorep Pharmacodynamics in a Phase I Trial in Patients with KRAS Mutated Colorectal Cancer," authored by Dr. Sanjay Goel, Department of Medical Oncology, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY, et al., was published on March 10, 2020, in *Molecular Cancer Therapeutics*.

The study enrolled 36 patients with KRAS mutation in a dose-escalation trial, of which 30 patients were assessable for response. The combination of FOLFIRI, bevacizumab and pelareorep was well tolerated, with promising signals of efficacy. Six patients received the recommended phase 2 dose (RP2D), at which a 50% overall response rate and a median overall survival (OS) of 25.1 months were observed, which compares favorably to the historical OS of 13.5 months (an 86% improvement). Among 30 evaluable patients, 6 (20%) had a partial response (PR) and 22 patients (73.3%) had stable disease (SD) as their best response, for a clinical benefit rate (PR + SD) of 93.3%.

Enhanced efficacy elicited by the administration of pelareorep was supported by evidence of an adaptive immune response occurring after each cycle of pelareorep treatment. Rapid maturation of dendritic cells was observed at 48 hours, from a baseline mean of 4.5% to a mean of 18.6% (4.1 fold change, p=0.000016), followed by an increase in absolute CD8 (2.4 fold change, p=0.00015) and CD4 (3.5 fold change, p=0.00015), on day 4. The most important observation was the activation of CD8 cells (CD8+ CD70+) on day 8, from a baseline mean of 1.5% to a mean of 18.8% (12.9 fold change, p=0.0009). These dramatic immune responses were only seen after pelareorep administration and not with the other medications alone, strongly suggesting that pelareorep is influencing these responses. In addition, on-treatment tumor biopsies revealed replicating virus (pelareorep), thereby demonstrating successful and efficient intravenous (systemic) delivery.

On May 4, 2020, we announced the publication of an abstract for an electronic-poster (ePoster) to be presented as part of the ESMO Breast Cancer Virtual Meeting on May 23 and 24, 2020. The abstract, *A window-of-opportunity study with atezolizumab and the oncolytic virus pelareorep in early breast cancer*, reported that pelareorep treated patients experienced productive and tumor cell-specific pelareorep replication, an increase in CD8+ T cells, and an upregulation of the immune-checkpoint marker PD-L1. Four of the six patients exhibited an increase in tumor-associated cellularity and tumor-infiltrating lymphocytes (CelTIL), the primary endpoint, which is significant as an increase in CelTIL is associated with a favorable response to treatment. Importantly, our biomarker of T cell clonality was found to correlate with changes in the tumor microenvironment and CelTIL. The abstract

was co-authored by Oncolytics Scientific Advisory Board member Dr. Aleix Prat, Head of Medical Oncology at the Hospital Clínic of Barcelona, Associate Professor of the University of Barcelona and the Head of the Translational Genomics and Targeted Therapeutics in Solid Tumors Group at August Pi i Sunyer Biomedical Research Institute (IDIBAPS), as well as several others at institutions across North America and Europe.

Manufacturing and Process Development

During the first quarter of 2020, we executed our first clinical fill with a second manufacturer, completed testing on that fill and prepared for drug product release to ensure continuous supply of pelareorep for our clinical development program. Labeling of this material for the applicable usage is currently ongoing. As well, we continued our activities to maintain clinical and commercial production capabilities to manufacture pelareorep at the 100 litre scale. Ongoing bulk manufacture and expanded filling capabilities are both part of 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 the first quarter of 2020, we had been issued over 393 patents including 49 US and 19 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
During the three month period ending March 31, 2020, 1,205,188 warrants in connection with our August 2019 underwritten public offering were exercised for gross proceeds of US$1,084,669.

U.S. "at-the-market" equity distribution agreement
During the three month period ending March 31, 2020, we sold 4,291,860 common shares for gross proceeds of US$13,296,331. We incurred share issue costs of $691,297.

Financial Impact

We estimated at the beginning of 2020 that our cash requirements to fund our operations for the year will be between $20 - $22 million. Our actual cash usage for the three month period ending March 31, 2020 was $3,955,257 for operating activities, $10,715 for the acquisition of property and equipment and $113,474 for the payment of office leases. Our net income for the period was $399,662, which included a non-cash change in fair value of warrant derivative gain of $4,151,982 and a foreign exchange gain of $1,704,805 primarily due to unrealized translation gain on U.S. dollar denominated cash balances.

Cash Resources

We ended the first quarter of 2020 with cash and cash equivalents totaling $30,567,480 (see *"Liquidity and Capital Resources")*.

Subsequent Events

Between April 1, 2020 and May 7, 2020, we issued 1,467,361 common shares for gross proceeds of US$2,183,115 through our October 2018 ATM equity offering sales agreement.

Pelareorep Development for the Remainder of 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 AWARE-1 (a window of opportunity study in early stage BC) interim data and announce interim data related to the REO 024 extension combination study (a clinical study in pancreatic cancer). While we are making every effort to maintain the timing of our future milestones, the full impact of the COVID-19 pandemic on them are not known. Patient safety is our foremost concern and we will provide updates as they become known.

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"*).

First Quarter Results of Operations

(for the three months ended March 31, 2020 and 2019)

Net income for the three month period ended March 31, 2020 was $399,662 compared to net loss of $4,938,751 for the three month period ended March 31, 2019. Net income for the three month period ended March 31, 2020 included a non-cash change in fair value of warrant derivative gain of $4,151,982 and a foreign exchange gain of $1,704,805 primarily due to unrealized translation gain on U.S. dollar denominated cash balances.

Research and Development Expenses ("R&D")

	2020 $	2019 $
Clinical trial expenses	**638,512**	827,178
Manufacturing and related process development expenses	**466,977**	920,105
Intellectual property expenses	**426,159**	469,373
Research collaboration expenses	**43,187**	34,976
Other R&D expenses	**849,364**	675,779
Share based payments	**105,447**	124,491
Research and development expenses	**2,529,646**	3,051,902

Clinical Trial Expenses

	2020 $	2019 $
Clinical trial expenses	**638,512**	827,178

Our clinical trial expenses for the first quarter of 2020 were $638,512 compared to $827,178 for the first quarter of 2019. In the first quarters of 2020 and 2019, our clinical trial program activities related primarily to the preparation and development of our breast cancer registration study. In the first quarter of 2020, these costs included continued patient enrollment and treatment for our AWARE-1 study, our portion (net of Pfizer's contribution) of trial initiation activities related to the BRACELET-1 study as well as key opinion leader activities. In the first quarter of 2019, these costs included startup activities for our AWARE-1 study.

In the first quarter of 2020, in addition to activities related to our breast cancer program, we also incurred close out costs related to our legacy clinical trials and consulting costs related to data management. In the first quarter of 2019, our other clinical activities included closing out our legacy clinical trials and costs related to patient enrollment in our checkpoint inhibitor pancreatic cancer study investigating Keytruda® in combination with pelareorep.

We still expect our clinical trial expenses to increase in 2020 compared to 2019. During 2020, we expect to make significant progress in 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 Expenses ("M&P")

	2020 $	2019 $
Product manufacturing expenses	**435,860**	853,443
Process development expenses	**31,117**	66,662
Manufacturing and related process development expenses	**466,977**	920,105

Our M&P expenses for the first quarter of 2020 were $466,977 compared to $920,105 for the first quarter of 2019. During the first quarter of 2020, our product manufacturing costs primarily related to a product fill and the associated consulting and testing expenses, as well as shipping and storage costs of our bulk and vialed product. During the first quarter of 2019, our product manufacturing costs primarily related to a training production run and shipping and storage costs of our bulk and vialed product. Our process development expenses for the first quarters of 2020 and 2019 focused on analytical development.

We still 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

	2020 $	2019 $
Intellectual property expenses	**426,159**	469,373

Our intellectual property expenses for the first quarter of 2020 were $426,159 compared to $469,373 for the first quarter of 2019. The change in intellectual property expenditures reflects the timing of filing costs associated with our patent base. At the end of the first quarter of 2020, we had been issued over 393 patents including 49 US and 19 Canadian patents, as well as issuances in other jurisdictions.

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

Research Collaboration Expenses

	2020 $	2019 $
Research collaboration expenses	**43,187**	34,976

Our research collaboration expenses were $43,187 for the first quarter of 2020 compared to $34,976 for the first quarter of 2019. Our research collaborations in the first quarters of 2020 and 2019 included studies investigating the interaction of the immune system and pelareorep.

We still 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

	2020 $	2019 $
R&D salaries and benefits	**706,027**	632,558
Other R&D expenses	**143,337**	43,221
Other Research and Development expenses	**849,364**	675,779

Our Other Research and Development expenses were $849,364 for the first quarter of 2020 compared to $675,779 for the first quarter of 2019. The change in R&D salaries and benefits in the first quarter of 2020 compared to the first quarter of 2019 was as a result of adding U.S. personnel to support our clinical program, partly offset by personnel cost recovery from Pfizer related to BRACELET-1.

The change in Other R&D expenses in the first quarter of 2020 compared to the first quarter of 2019 was primarily due to recruitment related costs as we look to expand our U.S. personnel.

We now expect our Other Research and Development expenses in 2020 to increase compared to 2019 as a result of our need for additional U.S. personnel to implement our clinical program and foreign exchange movements related to the strengthening of the U.S. dollar compared to the Canadian dollar.

Share Based Payments

	2020 $	2019 $
Share based payments	**105,447**	124,491

Non-cash share based payment expenses for the first quarter of 2020 were $105,447 compared to $124,491 for the first quarter of 2019. We incurred share based payment expenses associated with the vesting of options and share awards to officers and employees.

Operating Expenses

	2020 $	2019 $
Public company related expenses	**1,897,688**	767,320
Office expenses	**694,274**	708,949
Depreciation - property and equipment	**23,045**	48,338
Depreciation - right-of-use assets	**91,023**	90,773
Share based payments	**287,358**	176,432
Operating expenses	**2,993,388**	1,791,812

Our operating expenses for the first quarter of 2020 were $2,993,388 compared to $1,791,812 for the first quarter of 2019. 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. Our public company related expenses were $1,897,688 for the first quarter of 2020 compared to $767,320 for the first quarter of 2019. The change in our public company related expenses in the first quarter of 2020 was due to an increase in investor relations and business development activities and the associated professional expenses, as well as an increase in insurance premiums.

Office expenses include compensation costs (excluding share based payments), rent related to short term leases and other office related costs. During the first quarter of 2020, our office expenses of $694,274 remained consistent with $708,949 for the first quarter of 2019.

Non-cash share based payment expenses in the first quarter of 2020 were $287,358 compared to $176,432 in the first quarter of 2019. 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 now expect our operating expenses in 2020 to increase compared to 2019 primarily as a result of our continued investment in business development activities, increased insurance premiums, and increased investor relations activities.

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 income (loss) and comprehensive income (loss). Gains and losses resulting from the revaluation of the warrant derivative are non-cash and do not impact our cash flows.

	2020 $	2019 $
Change in fair value of warrant derivative	**4,151,982**	**—**

In the first quarter of 2020, we recognized a gain of $4,151,982 on the change in fair value of our warrant derivative compared to nil in the first quarter of 2019. The change in fair value in the first quarter of 2020 was as a result of several factors including changes in the market price of our shares to US$1.38 on March 31, 2020 from US$4.76 on December 31, 2019, and the revaluation on warrants exercised.

Foreign Exchange Gain (Loss)

	2020 $	2019 $
Foreign exchange gain (loss)	**1,704,805**	**(145,018)**

Our foreign exchange gain was $1,704,805 for the first quarter of 2020 compared to a loss of $145,018 for the first quarter of 2019. The foreign exchange gain (loss) incurred in the first quarter of 2020 and 2019 was primarily due to unrealized translation gain (loss) on U.S. dollar denominated cash balances.

Commitments

As at March 31, 2020, we were committed to payments totaling approximately $5,667,553 for activities related to our clinical trial, manufacturing and collaboration programs which are expected to occur over the next two years. All of these committed payments are considered to be part of our normal course of business.

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 March 31, 2020, we recorded nil (December 31, 2019 - US$1,500,000) in other receivables related to an upfront payment of BRACELET-1 cost from Pfizer per the terms of the collaboration agreement with US$502,560 (December 31, 2019 - US$652,306) in other liabilities representing future trial costs to be incurred.

Leases
Our portfolio of leases consists of office spaces with initial 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.

Our total undiscounted lease liability as at March 31, 2020 is as follows:

Maturity analysis - contractual undiscounted cash flows	
	March 31, 2020
Less than one year	384,788
One to five years	96,010
More than five years	—
Total undiscounted lease liability as at March 31, 2020	480,798

Summary of Quarterly Results

	2020	2019						2018
	Mar	Dec	Sept	June	Mar	Dec	Sept	June
Revenue	—	—	—	—	—	—	—	—
Net income (loss)[1][2]	400	(19,402)	(3,529)	(5,254)	(4,939)	(4,819)	(3,336)	(4,211)
Basic earnings (loss) per common share[1][2]	$ 0.01	$ (0.71)	$ (0.16)	$ (0.26)	$ (0.27)	$ (0.28)	$ (0.20)	$ (0.27)
Diluted loss per common share[3]	$ (0.04)	$ (0.71)	$ (0.16)	$ (0.26)	$ (0.27)	$ (0.28)	$ (0.20)	$ (0.27)
Total assets[4]	34,553	19,658	16,285	15,302	16,461	14,865	18,150	20,693
Total cash[4]	30,567	14,148	12,299	12,276	14,214	13,700	16,214	18,741
Total long-term debt	—	—	—	—	—	—	—	—
Cash dividends declared[5]	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

(1) Included in consolidated net income (loss) and earnings (loss) per common share between March 2020 and July 2019 are non-cash change in fair value of warrant derivative gain (loss) of $4,151,982, $(12,486,310) and $(122,498), respectively. There was no change in fair value of warrant derivative gain (loss) between June 2019 and April 2018.

(2) Included in net income (loss) and earnings (loss) per common share between March 2020 and April 2018 are quarterly share based payment expenses of $392,805, $658,662, $250,384, $260,184, $300,923, $483,016, $236,607, and $157,092, respectively.

(3) Included the effect of dilutive warrant derivative, stock options and share awards. See Note 7 of our interim consolidated financial statements.

(4) We issued 5,618,660 common shares for net cash proceeds of $18.4 million in 2020 (2019 - 14,798,704 common shares for net cash proceeds of $21.5 million).

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

Liquidity and Capital Resources

2020 Financing Activities

Public offering

During the three month period ending March 31, 2020, 1,205,188 warrants in connection with our August 2019 underwritten public offering were exercised for gross proceeds of US$1,084,669.

U.S. "at-the-market" equity distribution agreement

During the three month period ending March 31, 2020, we sold 4,291,860 common shares for gross proceeds of US$13,296,331. We incurred share issue costs of $691,297.

2019 Financing Activities

Common Stock Purchase Agreement

During the three month period ending March 31, 2019, we issued 1,379,024 common shares for gross proceeds of US$2,663,768 million and 11,348 commitment shares. The commitment common shares valued at fair value of US$21,998 were recorded as share issue costs in addition to cash share issue costs of $3,757.

U.S. "at-the-market" equity distribution agreement

During the three month period ending March 31, 2019, we sold 243,584 common shares for gross proceeds of US$535,661. We incurred share issue costs of $38,034.

Liquidity

As at March 31, 2020, we had cash and cash equivalents and working capital positions as follows:

	March 31, 2020 $	December 31, 2019 $
Cash and cash equivalents	**30,567,480**	14,148,021
Working capital position	**30,070,210**	14,570,105

We do not have any debt other than trade accounts payable and lease liabilities, 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 5 of our interim consolidated financial statements). 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 anticipate that the expected cash usage from our operations in 2020 will be between $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 to fund our presently planned operations to the end of 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 2020.

Financial Instruments and Other Instruments

Our financial instruments consist of cash and cash equivalents, other receivables, other liabilities, accounts payable and warrant derivative. As at March 31, 2020, 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 March 31, 2020, the fair value of our warrant derivative was $462,039 (December 31, 2019 - $8,508,764).

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 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 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.

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 income in 2020 by approximately $170,000. The impact of a $0.10 increase in the value of the British pound against the Canadian dollar would have increased our net comprehensive income in 2020 by approximately $1,300. The impact of a $0.10 increase in the value of the Euro against the Canadian dollar would have decreased our net comprehensive income in 2020 by approximately $28,000.

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 March 31, 2020 are as follows:

	US dollars $	**British pounds £**	**Euro €**
Cash and cash equivalents	16,140,020	27,520	23,706
Accounts payable and other liabilities	(779,086)	(280)	(286,338)
Warrant derivative	(325,678)	—	—
	15,035,256	27,240	(262,632)

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 10 of our interim consolidated financial statements. Accounts payable are all due within the current operating period.

Other MD&A Requirements

We have 39,289,208 common shares outstanding at May 5, 2020. If all of our options, restricted share units and performance share units (2,465,550), common share purchase warrants with a $9.025 exercise price (1,730,894) and common share purchase warrants with a US$0.90 exercise price (478,938), were exercised or were to vest, we would have 43,964,590 common shares outstanding.

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

Disclosure Controls and Procedures

There were no changes in our internal controls over financial reporting during the quarter ended March 31, 2020 that materially affected or are reasonably likely to materially affect, our internal controls over financial reporting.

Interim Consolidated Financial Statements
(unaudited)

Oncolytics Biotech® Inc.
March 31, 2020 and 2019

ONCOLYTICS BIOTECH INC.
INTERIM CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
(unaudited)

As at	Notes	March 31, 2020 $	December 31, 2019 $
Assets			
Current assets			
Cash and cash equivalents	*3*	**30,567,480**	14,148,021
Other receivables	*9*	**127,495**	2,068,772
Prepaid expenses		**3,210,313**	2,713,591
Total current assets		**33,905,288**	18,930,384
Non-current assets			
Property and equipment		**290,194**	296,768
Right-of-use assets		**357,290**	430,713
Total non-current assets		**647,484**	727,481
Total assets		**34,552,772**	19,657,865
Liabilities And Shareholders' Equity (Deficit)			
Current Liabilities			
Accounts payable and accrued liabilities		**2,778,237**	3,173,218
Other liabilities	*9*	**712,982**	847,215
Lease liabilities		**343,859**	339,846
Warrant derivative	*4*	**462,039**	8,508,764
Total current liabilities		**4,297,117**	12,869,043
Non-current liabilities			
Contract liability	*8*	**6,730,287**	6,730,287
Lease liabilities		**93,355**	166,429
Total non-current liabilities		**6,823,642**	6,896,716
Total liabilities		**11,120,759**	19,765,759
Commitments and contingencies	*9*		
Shareholders' equity (deficit)			
Share capital Authorized: unlimited Issued: March 31, 2020 – 37,817,113 December 31, 2019 – 32,198,453	*5*	**333,789,397**	311,077,859
Warrants		**3,617,570**	3,617,570
Contributed surplus	*6*	**29,472,344**	29,338,849
Accumulated other comprehensive income		**759,313**	464,101
Accumulated deficit		**(344,206,611)**	(344,606,273)
Total shareholders' equity (deficit)		**23,432,013**	(107,894)
Total liabilities and equity (deficit)		**34,552,772**	19,657,865

See accompanying notes

ONCOLYTICS BIOTECH INC.
INTERIM CONSOLIDATED STATEMENTS OF INCOME (LOSS) AND COMPREHENSIVE INCOME (LOSS)
(unaudited)

For the three month period ending March 31,	Notes	2020 $	2019 $
Expenses			
Research and development	*6, 13, 14, 16*	**2,529,646**	3,051,902
Operating	*6, 13, 14*	**2,993,388**	1,791,812
Loss before the following		**(5,523,034)**	(4,843,714)
Change in fair value of warrant derivative	*4*	**4,151,982**	—
Foreign exchange gain (loss)	*13, 16*	**1,704,805**	(145,018)
Interest income, net		**65,909**	49,981
Net income (loss)		**399,662**	(4,938,751)
Other comprehensive income (loss) items that may be reclassified to net income (loss)			
Translation adjustment		**295,212**	(59,433)
Net comprehensive income (loss)		**694,874**	(4,998,184)
Earnings (loss) per common share			
Basic	*7*	**0.01**	(0.27)
Diluted	*7*	**(0.04)**	(0.27)

See accompanying notes

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

	Notes	Share Capital $	Warrants $	Contributed Surplus $	Accumulated Other Comprehensive Income $	Accumulated Deficit $	Total $
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 loss		—	—	—	(59,433)	(4,938,751)	(4,998,184)
Issued pursuant to incentive share award plan	*5*	36,845	—	(36,845)	—	—	—
Issued pursuant to Common Stock Purchase Agreement	*5*	3,562,608	—	—	—	—	3,562,608
Issued pursuant to "At the Market" Agreement	*5*	710,293	—	—	—	—	710,293
Share based compensation	*6*	—	—	300,923	—	—	300,923
Share issue costs	*5*	(70,970)	—	—	—	—	(70,970)
As at March 31, 2019		289,431,837	3,617,570	28,524,691	548,071	(316,422,136)	5,700,033
As at December 31, 2019		311,077,859	3,617,570	29,338,849	464,101	(344,606,273)	(107,894)
Net income and other comprehensive income		—	—	—	295,212	399,662	694,874
Issued pursuant to stock option plan	*5*	134,985	—	(49,835)	—	—	85,150
Issued pursuant to incentive share award plan	*5*	209,475	—	(209,475)	—	—	—
Issued pursuant to "At the Market" Agreement	*5*	17,529,109	—	—	—	—	17,529,109
Issued pursuant to warrant derivative exercised	*4, 5*	5,529,266	—	—	—	—	5,529,266
Share based compensation	*6*	—	—	392,805	—	—	392,805
Share issue costs	*5*	(691,297)	—	—	—	—	(691,297)
As at March 31, 2020		**333,789,397**	**3,617,570**	**29,472,344**	**759,313**	**(344,206,611)**	**23,432,013**

See accompanying notes

ONCOLYTICS BIOTECH INC.
INTERIM CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

For the three month period ending March 31,	Notes	2020 $	2019 $
Operating Activities			
Net income (loss) for the period		**399,662**	(4,938,751)
Depreciation - property and equipment	*13*	**23,045**	48,338
Depreciation - right-of-use-assets	*13*	**91,023**	90,773
Share based compensation	*6, 13, 14*	**392,805**	300,923
Interest expense on lease liabilities		**18,209**	20,414
Unrealized foreign exchange (gain) loss		**(1,427,756)**	84,028
Change in fair value of warrant derivative	*4*	**(4,151,982)**	—
Net change in non-cash working capital	*12*	**699,737**	1,008,584
Cash used in operating activities		**(3,955,257)**	(3,385,691)
Investing Activities			
Acquisition of property and equipment		**(10,715)**	(2,766)
Cash used in investing activities		**(10,715)**	(2,766)
Financing Activities			
Proceeds from exercise of stock options	*6*	**85,150**	—
Proceeds from exercise of warrant derivative	*5*	**1,433,142**	—
Proceeds from Common Stock Purchase Agreement	*5*	**—**	3,529,672
Proceeds from "At the Market" equity distribution agreement	*5*	**16,837,813**	672,259
Payment of lease liabilities		**(113,474)**	(123,905)
Cash provided by financing activities		**18,242,631**	4,078,026
Increase in cash		**14,276,659**	689,569
Cash and cash equivalents, beginning of period		**14,148,021**	13,699,881
Impact of foreign exchange on cash and cash equivalents		**2,142,800**	(175,639)
Cash and cash equivalents, end of period		**30,567,480**	14,213,811

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 interim consolidated financial statements for the period ended March 31, 2020, were authorized for issue in accordance with a resolution of the Board of Directors (the "Board") on May 7, 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 used 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.

During the first quarter of 2020, significant declines in stock markets have occurred as a result of COVID-19. The scale and duration of these developments remain uncertain, and the resulting economic downturn could further affect our operations and ability to finance our operations.

Note 2: Basis of Financial Statement Presentation

Our interim consolidated financial statements include our financial statements and the financial statements of our subsidiaries as at March 31, 2020 and are presented in Canadian dollars, our functional currency.

Our accounts are prepared in accordance with International Financial Reporting Standards ("IFRS") issued by the International Accounting Standards Board ("IASB"). 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 interim consolidated financial statements have been prepared in compliance with International Accounting Standard 34 *Interim Financial Reporting.* The notes presented in these interim consolidated financial statements include only significant events and transactions occurring since our last fiscal year end and are not fully inclusive of all matters required to be disclosed in our annual audited consolidated financial statements. Accordingly, these interim consolidated financial statements should be read in conjunction with our most recent annual audited consolidated financial statements, for the year ended December 31, 2019. We have consistently applied the same accounting policies for all periods presented in these interim consolidated financial statements as those used in our audited consolidated financial statements for the year ended December 31, 2019.

Note 3: Cash Equivalents

Cash Equivalents
Cash equivalents consist of interest bearing deposits with our bank totaling $28,189,168 (December 31, 2019 – $13,058,092). The current annual interest rate earned on these deposits is 1.71% (December 31, 2019 – 1.17%).

Note 4: 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 5). 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.

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 and comprehensive 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 $
As at December 31, 2019	1,684,126	8,508,764
Exercised	(1,205,188)	(4,096,123)
Change in fair value	—	(4,151,981)
Foreign exchange impact	—	201,379
As at March 31, 2020	478,938	462,039

During the three month period ending March 31, 2020, we received cash proceeds of US$1,084,669 with respect to 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:

	March 31, 2020	December 31, 2019
Fair value per warrant	US$0.68	US$3.89
Underlying share price	US$1.38	US$4.76
Risk-free interest rate	0.17%	1.59%
Expected hold period to exercise	1.0 year	1.0 year
Expected share price volatility	90.00%	90.00%
Expected dividend yield	Nil	Nil

Note 5: Share Capital

Authorized:
Unlimited number of no par value common shares

Issued:	Shares	
	Number	**Amount $**
Balance, December 31, 2018	17,399,749	285,193,061
Issued pursuant to incentive share award plan	323,301	391,917
Issued pursuant to Common Stock Purchase Agreement[(a)]	2,494,943	5,403,385
Issued pursuant to "At the Market" equity distribution agreement[(b)]	4,425,040	8,476,454
Issued pursuant to public offering[(c)]	4,619,773	3,314,429
Issued pursuant to warrant derivative exercised[(c)]	2,935,647	9,152,869
Share issue costs	—	(854,256)
Balance, December 31, 2019	32,198,453	311,077,859
Issued pursuant to stock option plan	37,796	134,985
Issued pursuant to incentive share award plan	83,816	209,475
Issued pursuant to "At the Market" equity distribution agreement[(b)]	4,291,860	17,529,109
Issued pursuant to warrant derivative exercised[(c)]	1,205,188	5,529,266
Share issue costs	—	(691,297)
Balance, March 31, 2020	**37,817,113**	**333,789,397**

(a) 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 March 31, 2020, we have reached that limit. We can terminate the Agreement at any time at our sole discretion without any monetary cost or penalty.

During the period ending March 31, 2020, we sold nil (March 31, 2019 - 1,379,024) common shares for gross proceeds of nil (March 31, 2019 - US$2,663,768) and issued nil commitment shares (March 31, 2019 - 11,348). The commitment shares have been valued at fair value of nil (March 31, 2019 - US$21,998) and have been recorded as share issue costs in addition to cash share issue costs of nil (March 31, 2019 - $3,757).

(b) 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 a 19-month period through the facilities of the Nasdaq Capital Market in the United States. During the period ending March 31, 2020, we sold 4,291,860 common shares (March 31, 2019 - 243,584) for gross proceeds of US $13,296,331 (March 31, 2019 - US$535,661). We incurred share issue costs of $691,297 (March 31, 2019 - $38,034).

(c) 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. 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 first quarter of 2020, our share capital included fair value of $4,096,123 in addition to gross proceeds of US$1,084,669 for the 1,205,188 warrants that were exercised (see Note 4).

Equity Warrants

On June 1, 2017, pursuant to an underwritten public offering, 16,445,000 units were sold for gross proceeds of $11,511,500. Each unit included one common share and one common share purchase warrant. Following the 2018 share consolidation, 9.5 common share purchase warrants entitled the holder to purchase one common share in the capital of the Company until June 1, 2022, at an exercise price of approximately $9.025. These warrants were classified as equity.

The following table summarizes our outstanding equity warrants:

	Number of Warrants Outstanding[(1)]	Warrant $
As at December 31, 2019	16,443,500	3,617,570
As at March 31, 2020	16,443,500	3,617,570

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

Note 6: 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 March 31:

	2020		2019	
	Stock Options	Weighted Average Exercise Price $	Stock Options	Weighted Average Exercise Price $
Outstanding, beginning of the period	**2,246,947**	**5.31**	1,249,361	8.73
Granted during the period	**60,000**	**5.23**	—	—
Forfeited during the period	**—**	**—**	(1,841)	6.56
Exercised during the period	**(37,796)**	**2.25**	—	—
Outstanding, end of the period	**2,269,151**	**5.36**	1,247,520	8.73
Options exercisable, end of the period	**1,370,822**	**7.34**	841,439	10.74

The following table summarizes information about the stock options outstanding and exercisable at March 31, 2020:

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	4.56	0.96	66,667	0.75
$1.43 - $1.79	883,333	3.70	1.45	283,342	1.45
$1.80 - $3.39	358,544	4.86	2.73	266,545	2.72
$3.40 - $7.13	451,849	4.51	4.06	339,618	4.02
$7.14 - $63.84	475,425	2.28	16.74	414,650	18.11
	2,269,151	3.79	5.36	1,370,822	7.34

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 granted during the period was determined using the Black-Scholes valuation model using the following weighted average assumptions:

	2020	2019
Risk-free interest rate	**1.63%**	N/A
Expected hold period to exercise	**3.0 years**	N/A
Expected share price volatility	**110.84%**	N/A
Expected forfeiture rate	**3.67%**	N/A
Expected dividend yield	**Nil**	N/A
Weighted average fair value of options	**$3.51**	N/A

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 March 31:

	2020	2019
Outstanding, beginning of the period	**209,657**	260,755
Granted during the period	**20,660**	9,113
Vested and released during the period	**(79,606)**	(10,929)
Outstanding, end of the period	**150,711**	258,939

(1) The weighted average fair value of the RSUs granted was $3.08 in 2020 (2019 - $2.48).

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 March 31:

	2020	2019
Outstanding, beginning of the period	**61,051**	63,156
Vested and released during the period	**(4,210)**	(2,105)
Outstanding, end of the period	**56,841**	61,051

We have reserved 3,781,711 common shares for issuance relating to our outstanding equity compensation plans. Compensation expense related to stock options, RSUs and PSUs was $392,805 for the period ending March 31, 2020 (March 31, 2019 - $300,923).

Note 7: Earnings (Loss) Per Common Share

The basic and diluted earnings (loss) per share have been calculated based on the following net income (loss) and weighted average shares outstanding:

		2020		2019
Net income (loss) available for common shareholders - basic	**$**	**399,662**	$	(4,938,751)
Effect of warrant derivative		**(1,957,715)**		—
Net loss available for common shareholders - diluted	**$**	**(1,558,053)**	$	(4,938,751)
Weighted average number of shares - basic		**35,865,707**		18,425,919
Effect of stock options and share awards		**706,186**		—
Effect of warrant derivative		**661,178**		—
Weighted average number of shares - diluted		**37,233,071**		18,425,919
Earnings (loss) per common share - basic	**$**	**0.01**	$	(0.27)
Loss per common share - diluted	**$**	**(0.04)**	$	(0.27)

The effect of any potential exercises of warrants, stock options, RSUs and PSUs outstanding is excluded from the calculation of diluted loss per share in periods where the effect would be anti-dilutive.

Note 8: Contract Liability

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 March 31, 2020, we were entitled to 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, which we expect to record in revenue over the next five years, is as follows:

	March 31, 2020 $	December 31, 2019 $
Balance, beginning of the period	**6,730,287**	6,730,287
Regional licensing agreement	—	—
Revenue recognized in the period	—	—
Balance, end of the period	**6,730,287**	6,730,287
Contract liability - non-current	**6,730,287**	6,730,287
	6,730,287	6,730,287

Note 9: Commitments

We are committed to payments totaling $5,667,553 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 March 31, 2020, we recorded nil (December 31, 2019 - US$1,500,000) in other receivables related to an upfront payment of BRACELET-1 cost from Pfizer per the terms of the collaboration agreement with US$502,560 (December 31, 2019 - US$652,306) 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.

Leases
Our portfolio of leases consists of office spaces with initial 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.

Our total undiscounted lease liability as at March 31, 2020 is as follows:

Maturity analysis - contractual undiscounted cash flows	
	March 31, 2020
Less than one year	384,788
One to five years	96,010
More than five years	—
Total undiscounted lease liability as at March 31, 2020	480,798

Note 10: 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 (deficit) and cash and cash equivalents in the definition of capital.

	March 31, 2020 $	December 31, 2019 $
Cash and cash equivalents	**30,567,480**	14,148,021
Shareholders' equity (deficit)	**23,432,013**	(107,894)

We do not have any debt other than trade accounts payable and lease liabilities, 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 5). 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 2020.

Note 11: Financial Instruments

Our financial instruments consist of cash and cash equivalents, other receivables, other liabilities, accounts payable and warrant derivative. As at March 31, 2020, 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 March 31, 2020, the fair value of our warrant derivative was $462,039 (December 31, 2019 - $8,508,764).

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 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 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.

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 income in 2020 by approximately $170,000. The impact of a $0.10 increase in the value of the British pound against the Canadian dollar would have increased our net comprehensive income in 2020 by approximately $1,300. The impact of a $0.10 increase in the value of the Euro against the Canadian dollar would have decreased our net comprehensive income in 2020 by approximately $28,000.

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 March 31, 2020 are as follows:

	US dollars $	**British pounds** £	**Euro** €
Cash and cash equivalents	16,140,020	27,520	23,706
Accounts payable and other liabilities	(779,086)	(280)	(286,338)
Warrant derivative	(325,678)	—	—
	15,035,256	27,240	(262,632)

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 10. Accounts payable are all due within the current operating period.

Note 12: Additional Cash Flow Disclosures

Net Change In Non-Cash Working Capital

	2020 $	2019 $
Change in:		
Other receivables	**1,941,277**	(46)
Prepaid expenses	**(496,722)**	(419,933)
Accounts payable and accrued liabilities	**(394,981)**	1,406,436
Other liabilities	**(134,233)**	(19,693)
Non-cash impact of foreign exchange	**(215,604)**	41,820
Change in non-cash working capital related to operating activities	**699,737**	1,008,584

Other Cash Flow Disclosures

	2020 $	2019 $
Cash interest received	**84,118**	70,395
Cash taxes paid	**—**	—

Note 13: Other Expenses and Adjustments

The following details highlight certain components of the research and development and operating expenses classified by nature. The foreign exchange gain (loss) as presented separately on the face of the consolidated statement of income (loss) and comprehensive income (loss) is also classified as a research and development expense. Remaining research and development and operating expenses include personnel costs and expenses paid to third parties.

	2020 $	2019 $
Research and development expenses		
Non-cash share based compensation	**105,447**	124,491
Operating expenses		
Depreciation - property and equipment	**23,045**	48,338
Depreciation - right-of-use-assets	**91,023**	90,773
Non-cash share based compensation	**287,358**	176,432

Note 14: 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.

	2020 $	2019 $
Short-term employee compensation and benefits	**793,632**	703,789
Share-based payments	**253,187**	269,099
	1,046,819	972,888

Note 15: Subsequent Events

Between April 1, 2020 and May 7, 2020, we issued 1,467,361 common shares for gross proceeds of US$2,183,115 through our October 2018 ATM equity offering sales agreement.

Note 16: Comparative Figures

Reclassification was made to prior period's figure to conform to the current period's presentation.

Shareholder Information

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

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