Oncolytics Biotech® Inc. 2017 Letter to Shareholders

To all of our shareholders,

I am delighted to report that Oncolytics made significant progress during 2017 and has plans that could deliver an even more productive 2018. In addition to a new management team, growing clinical and regulatory teams, scientific presentations and the dosing of our first patient in a phase 1b relapsing myeloma study in combination with Celgene's Revlimid® and Imnovid®, I would like to emphasize the following as highlights from the past year.

Positive Phase 2 Data

Early in the year, we reported a statistically significant increase of 7 months (10.4 months to 17.4 months) in median overall survival from our phase 2 metastatic breast cancer (mBC) study of intravenously-administered REOLYSIN®, also known as pelareorep, the company's proprietary immuno-oncology (I-O) viral agent, given in combination with paclitaxel. Data from the study were presented during the American Academy of Cancer Research (AACR) Annual Meeting, in Washington, DC. This was the first instance that any I-O viral agent demonstrated a statistically significant median overall survival advantage in a randomized clinical study. At the time of the data announcement, we stated our intention to design a registrational study in mBC with overall survival as the primary endpoint, and completion of such a study could guide pelareorep to commercialization and additional value for shareholders.

Fast Track Designation

In the second quarter last year, pelareorep was awarded fast track designation by the United States Food and Drug Administration (FDA) for the treatment of mBC. The FDA's fast track process is designed to facilitate the development, and expedite the review of drugs that treat serious conditions and fill an unmet medical need. Fast track designation supports more frequent dialogue with the FDA during development and in certain situations, enables the FDA to take action on a registrational application more rapidly than under the standard review process and could ultimately result in a faster path to approval and create shareholder value sooner.

Supportive Regulatory Feedback

In September last year, Oncolytics reported a successful End-of-Phase 2 meeting with the FDA for pelareorep in combination with paclitaxel, for the treatment of hormone receptor positive, HER2 receptor negative (HR+/HER2-) mBC patients. The purpose of the meeting was to discuss the preclinical and clinical programs, including the design of the phase 3 registration study to support a future Biologics License Application (BLA) submission in the U.S. Towards the end of 2017, Oncolytics also received a supportive Final Advice Letter from the European Medicines Agency (EMA) suggesting that a single phase 3 study may be acceptable to form the basis of a Marketing Authorization Application (MAA) in Europe for the proposed use of pelareorep in combination with paclitaxel, for the treatment of HR+/HER2- mBC. This letter, and other advice from the EMA, was very much in line with the feedback and advice received from the FDA in September. Based on the feedback from the two agencies, we now plan to provide details of our pivotal phase 3 registration study following the evaluation and completion of discussions with clinical advisors and potentially partners.

Partnership Deal

At the end of the year, Oncolytics and Adlai Nortye entered into an $86.6 million regional licensing agreement for pelareorep covering China, Hong Kong, Macau, Singapore, South Korea and Taiwan. Under the terms of the agreement, Oncolytics became eligible for upfront, licensing fee and milestone payments

of $21.2 million to support its planned phase 3 registration study, and is eligible to receive up to an additional $65.4 million upon the achievement of certain clinical, regulatory and commercialization milestones.

We believe this deal validates not only our technology, but also our approach to developing pelareorep, as well as its potential as a novel I-O. We continue to engage in discussions with other potential partners regarding additional collaborative clinical work and potentially a larger geographic registration partnership.

Listing on NASDAQ

During 2017, Oncolytics raised net proceeds of $10.6 million through an underwritten public offering that enhanced our funding profile. Since then, the company's board and management have determined that re-obtaining a NASDAQ listing could unlock latent value and help narrow the valuation gap between Oncolytics and our U.S.-listed peers. Such a listing, from a position of strength and strong fundamentals, would likely enhance liquidity in the secondary market for the company's shares, attract new investors and provide access to a significantly deeper pool of capital.

Since leaving the NASDAQ in November 2015, Oncolytics has maintained the listing requirements necessary for a NASDAQ-listed company and now only needs to comply with the exchange's minimum closing share price requirement in order to regain its listing. Management proposed and our shareholders approved a share consolidation that will ensure we meet this prerequisite. It is our belief that a NASDAQ listing will ensure that shareholders are more fully rewarded for any and all value creation that occurs as a result of our development plans.

Focused Clinical Progress

While our focus remains on our phase 3 registration pathway in metastatic breast cancer, we also plan to engage in partner-sponsored phase 2 combinations studies to further develop our profile in immuno-oncology and to deliver value-driving clinical data in advance of data from the registrational phase 3 trial. This strategy will look to include a window of opportunity study in mBC using pelareorep and the standard of care in a neoadjuvant setting and a pancreatic study to be managed by Dr. Devalingam Mahalingam at North Western University in combination with Merck's pembrolizumab (KEYTRUDA®). We also plan to initiate a basket study with one or more high-profile checkpoint inhibitors that may include hepatocellular carcinoma, breast cancer, colorectal carcinoma, non-small cell lung cancer and/or bladder cancer. This basket study could provide valuable biomarker data and efficacy data in combination with checkpoint inhibitors and could significantly raise the company's profile in the I-O space in a relatively short period of time. I think it is also very important to note that this set of phase 2 trials will be collaborative work, largely funded by partnering companies, clinical investigators and medical centers. Moreover, these trials could deliver near term clinical data and value.

Another Productive Year Ahead Anticipated

Looking forward into 2018, Oncolytics continues to advance a number of important strategic initiatives. Our primary objective in the coming year will be to advance pelareorep, in combination with paclitaxel, into a phase 3 registration study for the treatment of HR+/HER2- mBC. Guidance from the FDA and the EMA both support a single registrational study for potential approval in the United States and Europe. We intend to initiate this trial before the end of the third quarter of 2018.

Concurrent with this goal will be efforts to secure Special Protocol Assessment and a strategic partnership or partnerships covering additional geographies outside of the United States.

Our proposed share-consolidation and relisting on NASDAQ should facilitate achieving these initiatives through increasing the accessibility of our company to new and larger stakeholders.

On behalf of the entire management team at Oncolytics Biotech, Inc., I would like to thank each and every one of our shareholders for their ongoing support. We are looking forward to 2018.

Yours very truly,

/s/ Dr. Matt Coffey
President and CEO