July 1, 2019

Greetings:

With today marking the beginning of another new quarter and second half to the year, I wanted to reflect on our achievements from the first half of the year. Looking ahead, we have a number of exciting catalysts anticipated before the end of 2019, which I have summarized, below.

From speaking with investors every day, we understand that the versatility and depth of our platform can be both attractive and complex. In addition, recognizing that the recent months have been turbulent for Inovio's stock and its shareholders, I want to stress that I believe that some of the most recent challenges have overshadowed and tinted some extremely positive developments that showcase Inovio's growth and continued success on the company's developments towards treating HPV related diseases. I have summarized some of these developments from 1H19 below.

1H19 notable developments & highlights include:

- Second patient achieved full remission from HPV-H&N cancer with MEDI0457 plus checkpoint inhibitor
- Completed enrollment for VGX-3100 REVEAL 1 study (first of two Phase 3 studies); Initiated REVEAL 2 study
- Reported on novel HPV therapy INO-3106 against rare respiratory tract tumors in pilot study
- Received third indication milestone for MEDI0457 in Phase 2 development from AstraZeneca
- Received European Medicines Agency certification (ATMP) for VGX-3100
- Established collaboration with QIAGEN to develop diagnostic test for VGX-3100
- Completed enrollment of INO-5401 in GBM study 3 months ahead of schedule
- Became the first company to advance Lassa fever vaccine (fully funded by CEPI) into a clinical trial

- Started first-in-human trial for dMAb; first subject dosed in February
- Presented DNA encoded BiTE (dBTE) data at AACR; results published in *JCI Insight*

- Total institutional ownership as of March 31, 2019 rose to ~47%. Over the last year, total institutional ownership has increased 80% to 47% from 26%
- New analyst coverage from Cantor Fitzgerald and National Securities, each issuing a "buy" recommendation and $12 price target; total analyst coverage is 8 with a consensus "buy" rating and median price target of $10.25

In addition to the clinical developments involving our dMAb and dBTE technology, along with advancements being done within our infectious disease and cancer combination programs, I wanted to highlight the handful of achievements associated with our HPV immunotherapies (bolded). As you will see on what I bolded, Inovio has performed tremendous efforts on building a robust portfolio and commercial package for VGX-3100. Moreover, its sister product (MEDI0457) continues to be evaluated in multiple Phase 2 studies by our global partner AstraZeneca. I want to reiterate that MEDI0457 remains an important part of its cancer combination portfolio, as AZ has MEDI0457 listed under the company's

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pipeline. While we were certainly disappointed to see the decisions for the preclinical programs, which they obtained in the 2015 licensing deal, to not move forward into clinical, we understand the decision was to focus on the later stage asset. As some of you may have observed, major pharma companies have been scaling back on R&D costs to focus more on the robust and later stage assets, and I believe you will see more of these proactive efforts from major pharma companies ahead of November elections with curbing of drug pricing being a high campaign topic.

I believe all of you should feel very confident and proud on the milestones that we have achieved in the first half of this year. Looking ahead, I have bulleted some of the targeted milestones, in no particular order, that we expect to occur during the second half.

2H19 anticipated catalysts include but are not limited to:

- VGX-3100: Interim data expected from Phase 2 studies targeting VIN and AIN
- INO-5401: interim data from our Phase 2 GBM study, which completed enrollment of 52 patients 3 months ahead of schedule as well as updates on our bladder cancer study
- General Updates/Publications: dBTE publication, MERS vaccine publication, Zika publication, HIV publication, and interim data from our Zika dMAb clinical study

In addition to some of the anticipated catalysts mentioned above, we also still have an active clinical collaboration agreement with the Parker Institute to evaluate a novel cancer immunotherapy combination trial. While we plan to provide updates when the clinical programs are active, moving forward, we will not be mentioning anticipated partnership announcements under milestones within the investor deck, which includes activities associated with the Parker Institute.

As a reminder, we encourage you to visit our investor page (ir.inovio.com) where you can find continued updates within our investor deck and under the “Shareholder Resources” section.

We appreciate your continued interest in Inovio and look forward to providing you with a more elaborate update and guidance on our upcoming second quarter earnings call in August.

Have a wonderful Independence Day holiday.

Best,
Ben

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