WHITE PAPER #3: COMMENTS ON MACRO EVENTS OF WEEK OF NOVEMBER 3, 2020

Before delving into the fundamentals, we'll take a moment to review the headline of the week, Pfizer's announcement of interim data around a vaccine. This information has been known for months and it's important to understand that the effect on OPKO's business is marginal at best:

- Most importantly, and a crucial point made by all three national labs, is that a vaccine requires multiple antibody tests taken after the first dose, the second dose and multiple intervals after that. All existing data shows that antibodies fade quickly, with the majority falling away within 8-12 weeks. All labs have a significantly higher antibody capacity than PCR testing capacity (for example, BRL has 400k daily antibody testing capacity vs. 70k/day pcr capacity), meaning each person being vaccinated will need multiple serology tests. Serology tests come at margins higher than average testing, and with the likely need of each person vaccinated needing at least four serology tests ($160 for four tests vs. $65 for one PR test for BRL), profits will likely be unchanged in the near-term.
- Pfizer gave an initial read-out of data – it will be weeks before they may even apply to the FDA. And even with approval, the medicine must be stored and transported at extraordinarily cold temperatures: temperatures that the majority of hospitals in the U.S. do not have refrigerators for, let alone trucks or other vehicles.
    - Indeed, the fragility of the vaccine requires assets most health settings don't possess. In a Reuters article, Amesh Adalja, senior scholar at Johns Hopkins Center for Health Security, described this temperature storage issue "one of the most challenging aspects of delivery of this vaccination." He went on to say, "This will be a challenge in all settings because hospitals even in big cities do not have storage facilities for a vaccine at that ultra-low temperature." Indeed, one of the most prestigious U.S. hospitals, the Mayo Clinic in Rochester, Minnesota, said it does not currently have that capability.

- Vaccines are generally thought to be ~75% effective; which means even those taking it will continue to need testing. Further, surveys show only 50% of people are willing to take the vaccine in the first year given the speed and politics around the process, mandating the need for further testing.
- Pfizer's announcement contained interim results after 94 cases of COVID-19 – Pfizer hasn't even submitted data yet to the FDA. But assuming they do and receive an emergency use approval, the company stated that it will only be able to produce a maximum of 100 million doses by April 1, 2021. Given each person needs two doses at 28-day intervals, that means 50 million people may be vaccinated by Q2, with it only working on 35 million who will receive 140 million serology tests and all 50 million will need to receive PCR testing to confirm the vaccine is working. Vaccination does change much our normalized laboratory EBITDA.
    - As President-Elect Joe Biden stated after Pfizer's press release, "it's clear that this vaccine, even if it is approved, will not be widely available for many months yet to come."
    - Even Pfizer admits there are remaining hurdles, including the need for additional safety data, a regulatory review and distribution at 94 degrees below zero

Fahrenheit. Further, at the start of 2021 it will only have enough doses for 25 million people.

- Despite FDA approval, at least three states, New York, California and Washington, have stated they will not administer the vaccine until their own independent review is conducted, given the political nature of the vaccine process.
- Even if allowed, most experts agree that on the fastest timeline, between approval, manufacturing and distribution, the majority of people won't get a vaccine until 2022.
- Despite the flu vaccine being around for years, the flu continues to be widespread, indicating testing will continue, especially as the coronavirus mutates, with at least eight different strains of COVID-19 currently known in the U.S.
- Finally, as we show below, we generally do not have COVID-19 testing directly in our numbers, and it would help the base business, which was down an average of ~30% for the LH, DGX and BRL in 2Q and 3Q, to return faster.

We will also briefly address the election results. Note that the previous CARES package had allocated $25 billion to the healthcare industry, with $11 billion allocated to states for testing and testing related activities -- though not specifically to labs -- and much of this remains unspent as President Trump frequently complained that more testing meant more positive cases. Multiple members of Congress signed a letter that the next stimulus should be more targeted to directly granting money to labs to build infrastructure and more rapid testing. Prior to the election, Democrats and Republicans had already agreed on tripling that number to $75 billion with allocation for national testing. Note that BioReference received 16.2 million in the approximately six months since the previous CARES package was initially passed; a yearly run rate of ~33 million. At $75 billion, without including the specific language on national testing allocation, this **implies an additional $100 million of fcf to BRL** next year. Note that the CARES Act also loosened rules on NOLs, allowing a longer carryback period and an additional 20% of income to be shielded at the statutory rate of 21%, a 4% earnings benefit (as well as the transfer of some NOLs being attractive to an acquirer). On Nov 8th, Biden released his COVID-19 plan, which goes even further. Under this plan, Biden will

(i) **Double the number of drive-through testing sites** (this is one of BioReference's core competencies, as they already operate over 600 sites in a partnership with Google, HHS and Rite Aid, as well as with CVS.) Further, OPKO's Dr. Frost stated at the annual shareholder meeting that BioReference's partners pay for all costs at drive-through sites, including for items like PPE, making margins extraordinarily high on these drive-through sites, which are also flexibly opened to fit with demand.

(ii) Ensure all Americans have reliable, free testing: national testing demand will be increasing and stabilizing for a significant length of time.

(iii) Investing in rapid and at-home testing, such as the most advanced home testing kit available we believe BioReference is releasing shortly, which now will likely be subsidized.

(iv) Re-establish the Pandemic Testing Board and replace the federal infrastructure that had been gutted "in order to predict, prevent, and mitigate pandemic threats." This goes to our point regarding the increased permanent strategic importance of the big three labs, with or without the existence of COVID-19.

(v) Biden has already established a COVID-19 testing Board, on which two of the three co-chairs have specific ties to Bio-Reference and are among the most vocal proponents of increasing national testing by large magnitudes. Co-Chair and former Surgeon General Vivek Murthy stated that increasing testing is "the most important" component of re-opening the economy and that the Biden administration would have "a laser focus on ensuring that people get … adequate testing…That means a national plan." Murthy also assisted the National Basketball Association on its COVID-19 re-opening where BioReference was selected as the exclusive test provider and not a single player tested positive for COVID-19 following the season's restart. There's no question Murthy and BioReference CEO Jon Cohen, who previously worked in public service for Governor Patterson of New York, worked closely together. Indeed, BioReference created a new division in Washington D.C., titled "Strategic Ventures." The second o-chair is a Yale professor, an outspoken advocate for national testing and for saliva-based home tests, which we believe BioReference will be unveiling the most advanced version of shortly (more on this below).