April 22, 2020

To: All Domestic Employees

From: Pandemic Working Group

Re: **COVID-19: Earliest US Detection ~ Infection Tests ~ CA Reopening ~ Clean Air & Nat'l Parks**

First California Case Came Early. As reported by the San Francisco Chronicle, officials in Santa Clara County, California announced that autopsies have revealed one resident there died of coronavirus on February 6 and another on February 17, making them the earliest known victims of the pandemic domestically. Neither had had any travel history just prior to the infection, which suggests that this was a community transmission and that the virus had been present, though unrecognized, for some time before their demise.

In a related story, the New York Times reported that early signs of the virus were reported sporadically in early January in Chicago, Phoenix and Los Angeles. However, on January 15, a 35-year old man returned to Seattle from a visit to Wuhan and, upon reporting to work, presented COVID symptoms and, the next day, was diagnosed with the coronavirus. 68 people with whom that person was in touch were tested and monitored for weeks, and none tested positive. Despite those efforts, according to genome researchers at the University of Washington, a genetically similar version of the virus apparently spread to the Seattle area then popped up in 14 other states as far away as Connecticut, as well as in Australia, Iceland, Mexico, Uruguay, Canada and the UK. That same version of the virus now accounts for a quarter of all US cases made public by genomic sequencers. This is not to say that the Wuhan traveler transmitted the virus to these places. It is more likely that numerous persons infected at the same time unwittingly carried the virus. As researchers piece together this puzzle, these discoveries underscore the importance of infection testing, which is the topic of our next story.

Supply Chain and Testing Kits. Yesterday we focused on antibody tests (which show immunity after the fact of infection). Today we turn to polymerase chain reaction (PCR or "swab") testing for current infection. Simply put, if we could test for infection on a large scale, we could isolate carriers (many of whom present mild symptoms) and prevent contagion, which is imperative until a vaccine is found. Even with entire sectors of the economy shut down, the US has only tested about 1.2% of the population, and test kits remain in short supply. Understandably, many are asking, "Why?" According to today's "Journal" podcast from the Wall Street Journal, the story goes like this.

Typical PCR tests require specialized swabs (for samples deep within the sinus cavity), certain chemicals and diagnostic equipment, which typically have a 5+ hour turnaround time. Weeks ago,

Abbot Laboratories revealed to the Administration that it had developed a test unit with a 5-15 minute turnaround time. On March 30, the President presented this innovation to the public, promising to have 800 units sent to the states promptly. However, the new units require specialized cartridges (filled with chemicals), and, apparently unbeknownst to the White House, those cartridges were not available – in fact, as of today, only several hundred thousand are in supply. Accordingly, labs turned to conventional equipment. Unfortunately, the company that supplies 80% of the specialized swabs to the world is in Northern Italy (which is still in a state of strict lockdown) and has a 60-day backlog of orders. In addition, while the federal coronavirus team had originally taken charge of orchestrating the test kit initiative, this matter has largely been shuttled off to the states, which are now scrambling to line up labs and medical device suppliers. While experts differ on how broadly our states should be testing for COVID, it is certain that our governors cannot begin in earnest until the supply chain catches up with demand.

California Plan for Reopening. Today, California Governor Gavin Newsom outlined his approach toward reopening the state. As reported by Lucy Cooney (via the L.A. Times), he is sticking to his plan of slowly easing restrictions based upon increased testing, tracking infected people, developing therapies, ensuring hospital surge capacity, and establishing social distancing for businesses and schools. He will seek to expand testing from 14,500 per day to 25,000 per day by month's end and reports that President Trump has promised 100,000 swabs this week and 250,000 next week. Turning to antibody tests, the governor projects that the state will offer 1.5 million serological tests at 130 locations and adds that California is the first state to recommend tests for asymptomatic persons working or living in high risk settings.

Final Word from Kelly Willmott. Today marks the 50th anniversary of the first Earth Day, and with this year's theme focused on climate change, we see improved air quality across the U.S. The most striking improvements, as reported by Bloomberg and NASA, are in areas with the worst air pollution, such as Seoul, South Korea and India, where residents are viewing the Himalayas for the first time in several decades. However, these gains come at an extreme cost, due to some of the strongest government mandates restricting travel and industry.

But it's also a good idea to take a break from the 24/7 news cycle, as we've seen in the photos posted by AMVAC employees around the world who are participating in our Social Distance Virtual 5K (get your entries in by April 30!). This week marks #NationalParkDay and we can reflect on our favorite trips to the National Parks and Monuments, plan our next adventures, and take a virtual tour of many beautiful parks at https://www.nps.gov/subjects/npscelebrates/national-park-week.htm. Being a native Californian, my favorite National Parks include Yosemite, Sequoia & Kings Canyon, Joshua Tree, Haleakala and Hawaii Volcanoes; I hope to visit Acadia in Maine and many other regional and state parks when it is safe to do so. Above (L to R) are Brady, Bender and myself at Yosemite in 2016.

If you have any questions or comments on this advisory, please contact either kellyw@amvac.com or timd@amvac.com .