



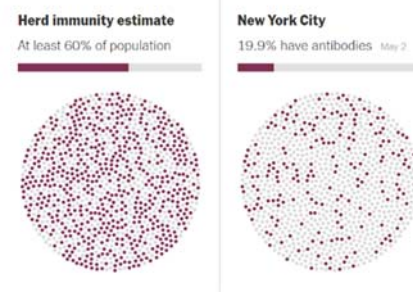
May 29, 2020

To: Distribution

From: Pandemic Working Group

Re: **COVID-19: Herd Immunity ~ COVID and Aerosols ~ Golden State ~ Breaking News**

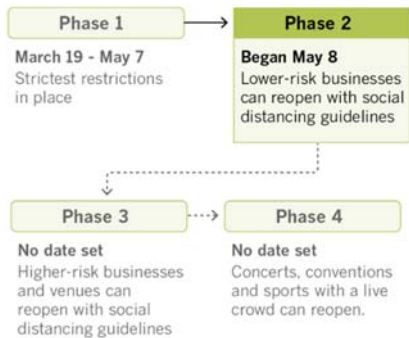
Herd Immunity in Color. As reported in the New York Times yesterday (and as we have reported in past issues), herd immunity to a pandemic is commonly accepted to be a state in which 60% or more of the population has already been infected by, and is therefore immune to, future infection. Think about it this way – assume the coronavirus has a transmission rate (remember the “R” factor) of 2.5 to 3; this means that, without either social measures or a vaccine, an infected person will typically transmit to 2.5 to 3 other persons. Once we reach a point at which 60% or more of the population has had the disease, however, then most of those “other persons” are not subject to infection, and the contagion contracts. However, we are not there yet. As depicted by NYT, this is what herd immunity would look like versus the actual state of immunity in New York City (by some estimates). This level of immunity, alone, is not sufficient to keep the pandemic from spreading. Thus, until we have vaccines and therapeutics (which are in the works), it is necessary to continue using non-pharmaceutical interventions, like social distancing, face coverings, and handwashing to keep the rate of transmission down.



Coronavirus as an Aerosol. On a related note, as reported by WebMD and Medscape yesterday, Kimberly Prather, PhD of the University of California San Diego, is finding increasing evidence that coronavirus travels primarily through the air via aerosols. Aerosols are not just a common term for hairspray. Rather, they describe particles so tiny – measuring in microns (millionths of a meter) – that they float freely through the air. Dr. Prather leads a large, government-funded research center at UCSD to study how viruses travel and, if you will, behave through the air. Based upon how quickly the disease spread throughout the world, particularly its spread in restaurants, aircraft and cruise ships, she is beginning to postulate that aerosol transmission is an important pathway for this virus. Dr. Prather explains that when a person sneezes or coughs, large droplets laden with viral particles are expelled, but typically fall to the ground within seconds. By contrast, viruses released through talking would more likely take the form of aerosols, which, while being far less potent than those released by a sneeze or cough, could still hang in the air currents longer. As a defense against aerosol transmission, Dr. Prather highly recommends – as

does the CDC – that we wear face coverings whenever we are in public or expect to be in enclosed spaces with non-family members for extended periods of time.

### The State of the Golden State.



As reported in the L.A. Times, the number of confirmed coronavirus cases in California has crossed 100,000. We are now the fourth state to have done so (with New York having more than tripled that number). The rising case count does not necessarily mean that outbreaks are spreading, however – in fact, as we reported earlier in the week, the rate of testing is exceeding the rate of new cases. All counties within the state have proceeded to at least Phase 2 of reopening, as defined by California Governor Gavin Newsom. A graphic explanation of these phases (also from the L.A. Times) appears to the left. Many counties have reopened further, in light of favorable pandemic curves. As

you may recall, counties retain a degree of discretion to manage the contagion consistent with the governor’s overall mandate. As depicted in the graphic to the right (also from the L.A. Times), those counties with the least restrictions appear in green and those with the most appear in a pale color. At this stage, some of the most populous counties (Los Angeles and certain counties proximal to San Francisco) are still holding the line. In short, the state is loosening coronavirus controls in a stepwise fashion, typically with less populous counties leading and more urban areas following.



Breaking News. This just in, as reported by CBS Los Angeles, Sacramento has just granted a request by Los Angeles County to reopen dine-in restaurants and hair salons. With this variance in hand, the county will take to defining the criteria for reopening. So, you locals should be on the look-out, because your favorite dining spots may be removing their “closed” signs in the very near future. Have a great weekend – TD.

If you have any questions or comments on this advisory, please contact either [kellyw@amvac.com](mailto:kellyw@amvac.com) or [timd@amvac.com](mailto:timd@amvac.com) .