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No powerpoint today.

Metrics – tier status

Nationally, it looks like case rates have paused in their decline, starting to level off just a little below the summer peak but way down from the biggest peak in January. Rates are starting to rise again in some states, including Michigan and New Jersey and, in general, are highest in east coast states with the Western US being relatively spared at the moment.

https://covid.cdc.gov/covid-data-tracker/?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcases-updates%2Fcases-in-us.html#trends_dailytrendscases

In California, we have not yet seen the end to our downward rate trend and rates are currently lower than they were in the fall between the summer and end-of-year peaks.

<https://covid19.ca.gov/state-dashboard/>

In El Dorado County, our rates have come down a lot, too. The week's metrics will be announced by the state around noon today. I am expecting that they will show us to be dipping into orange-tier levels with the most recent 7-day daily average rate of around 3 per 100,000 population. As always that's an assessment of data from the period of between 1 and 2 weeks prior to now. Our testing positivity has also dropped very low. I expect today's assessment to fall into the yellow tier at around 2% for both the overall and the health-equity populations. Having orange-and yellow tier values this week would mean that if we achieve values low enough to qualify for at least orange tier again next week, we would be assigned to the orange tier, which would take effect March 31. That is not a guarantee but will occur IF our numbers remain no higher than a case rate of 3.9 per 100,000 – again, we're at 3.0 right now – and no higher than 4.9% testing positivity – and we're at 1.9% now. We need to meet both metrics, but orange tier looks reasonably within reach next week.

Variants

The state has a web page devoted to variants now, which has information about which variants are being tracked, how many of the variants of concern have been detected in California, information about genetic sequencing efforts, and other technical details about the variants.

Variants occur through natural mutation of the virus when it replicates in infected people's tissues. The reasons a variant is of interest or concern is due to one or more of the following reasons...

- It may spread more easily
- It may cause more severe disease
- It may not be detectable by currently available viral tests
- It may not respond to medicines currently being used to treat COVID-19, or
- vaccines may not be effective in preventing its transmission or development of illness from it

Two variants that originated in California have been added to CDC’s list of variants of *concern*. They had previously been considered variants of *interest*. These two account for the vast majority of California specimens sequenced that are associated with variants of concern, numbering in the thousands, whereas the other variants of concern (B.1.1.7 – which originated in the UK, P1, which originated in Brazil, and B.1.351, which originated in South Africa) account for 479 with B1.1.7 accounting for all but 8 of them.) My understanding is that the California variants are of concern due to their apparent increased ability to spread but not due to any of the other concerns, at least at this time.

Variant	Numbers detected	% of total variants detected
B.1.427 (California)	2474	29%
B.1.429 (California)	5503	65%
B.1.1.7 (UK)	471	5.6%
P1 (Brazil)	4	0.05%
B.1.351 (South Africa)	4	0.05%

As of 3/19/2021

Of note, the numbers I gave represent the results from the genomic sequencing of samples of specimens – not all specimens are sequenced – so the actual numbers are likely much larger. Nevertheless, the proportions are probably pretty representative.

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/COVID-Variants.aspx>

Vaccine effectiveness

Speaking of the South African variant, the New England Journal of Medicine recently published findings from a vaccine study of the Astra Zeneca vaccine, which had previously proven to be about 75% effective against developing mild to moderate COVID-19 illness. In this study, performed after the emergence of the B.1.351 (or South African) variant showed the Astra Zeneca vaccine to be ineffective against that specific variant in preventing mild to moderate disease. However, the population studied only 18- to 65-year olds and none of the participants developed illness that required hospitalization. It is still unknown whether the Astra Zeneca vaccine is effective against severe disease from the B.1.351 variant, which is what really matters. In the prior trial, which was performed before that variant’s emergence, it was shown to be 100% effective against severe disease and death. Results of the trial performed in the US was recently published and shows high effectiveness but doesn’t report on viruses of concern which were not present in high numbers in the U.S. during the trial. Also, Astra Zeneca is considered the most accessible and inexpensive of all of the vaccines currently available, so don’t count it out as possibly being a major tool in the response to COVID-19 in the long run.

The more disease we can quickly prevent through vaccination and other means, the fewer new variants will develop.

<https://www.nejm.org/doi/10.1056/NEJMoa2102214>

Medications for COVID-19 early-stage treatment

At our last COVID-19 update, Supervisor Turnboo asked about medications to treat COVID-19, specifically an oral medication. I said I would research and report back today. To this point, the mainstays of treatment have been applied to hospitalized patients with some exceptions being made for high-risk people perhaps to receive monoclonal antibody treatment as outpatients although that requires intravenous infusion and is not practical for the general population.

Pharmaceutical companies have been working on developing outpatient medications that can be used to reduce the severity of COVID-19 disease once a person has contracted it. These are antivirals and can be likened to the brand-name Tamiflu (generically, oseltamivir) that is used to treat people with influenza. You'll recall that we had a promising antiviral, remdesivir, earlier in the pandemic, but data eventually showed that it was not overall effective in preventing severe COVID illness and death, so its use was discontinued.

A new antiviral, molnupiravir, is one of the front-runners among investigational oral antivirals for the early, outpatient treatment of COVID-19. It completed Phase II trial – 175 patients – early this year. It showed to be effective in that after taking this antiviral, no viable virus particles were detected when attempts were made at culturing specimens from study participants' nasal swabs. This drug is moving into the next phases of trials. Fingers crossed. Several other oral antivirals for outpatient use in COVID-19 are also in development.

<https://www.merck.com/news/ridgeback-biotherapeutics-and-merck-announce-preliminary-findings-from-a-phase-2a-trial-of-investigational-covid-19-therapeutic-molnupiravir/>

There is additional reading about antivirals and COVID-19, including the Scientific American article, "Why it's so hard to make antiviral drugs for COVID and other diseases"

<https://www.scientificamerican.com/article/why-its-so-hard-to-make-antiviral-drugs-for-covid-and-other-diseases/>

Schools update

Since our last update, the schools that had submitted safety reviews to CDPH for consideration in being allowed to continue to operate with less than 100% of in-classroom students spaced at a minimum of 4 feet had started to receive their approvals.

Then a judge in San Diego ruled that, statewide, the state could not enforce the 4-foot requirement or the case-rate requirement that was being applied differentially to different grades. While the latter is becoming a moot point since case rates have dropped, the 4-foot rule has already made it easier for our county's schools to offer full in-person learning again.

Updates have also been made to sports guidance that allows more youth sports competition although for the sports that pose more risk of COVID teams must follow the collegiate testing guidance. The guidelines are complex so I'm not going to go into details.

Vaccination efforts

We continue to use vaccine at the rate it comes to our county. Both partners and our own Red Hawk and Public Health clinics continue to go strong.

We continue to work with the state as do other counties to help them improve the functionality of the MyTurn vaccination application.