CRIHB COVID-19 Updates
December 21, 2021
Please sign-in in the Group Chat with your name and Tribe or Indian Health Program name
COVID-19 cases in the United States

• Compared to a month ago, the pace of new cases nationally is up to 41%
• About three quarters of counties have high levels of transmission
• CDC expects a surge in COVID-19 cases in the coming days to weeks
Community transmission

Community Transmission in US by County

<table>
<thead>
<tr>
<th>Total</th>
<th>Percent</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>2541</td>
<td>78.86%</td>
</tr>
<tr>
<td>Substantial</td>
<td>392</td>
<td>12.17%</td>
</tr>
<tr>
<td>Moderate</td>
<td>196</td>
<td>6.08%</td>
</tr>
<tr>
<td>Low</td>
<td>67</td>
<td>2.08%</td>
</tr>
</tbody>
</table>

How is community transmission calculated?

CDC, 12/21/2021
New Confirmed Cases in California by Date

- **WAVE 1**: 331 cases in March, 12,807 cases in July
- **WAVE 2**: 53,711 cases in December
- **WAVE 3**: 33,407 cases in June, 26,273 cases in December

As of 12/20/2021. Source: CDPH

New Confirmed Deaths in California by Date

- **WAVE 1**: 219 deaths in April
- **WAVE 2**: 764 deaths in January
- **WAVE 3**: 1,114 deaths in March, 171 deaths in November

As of 12/20/2021. Source: CDPH
COVID-19 cases in AIAN, California
Hospitalization rates by race/ethnicity, United States
For the week ending on December 11, 2021, the graph to the right shows that the hospitalization rate among AIAN statewide was 8.3 per 100,000 (vs. 1.7 per 100,000 among Whites).
<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily New Cases</td>
<td>15.3/100k</td>
<td>COVID not contained, but daily new cases are at medium levels</td>
</tr>
<tr>
<td>Infection Rate</td>
<td>0.99</td>
<td>COVID is still spreading, but at medium levels</td>
</tr>
<tr>
<td>Positive Test Rate</td>
<td>2.7%</td>
<td>Indicates low testing positivity</td>
</tr>
<tr>
<td>Lab tests reported statewide</td>
<td>105,713,064</td>
<td></td>
</tr>
</tbody>
</table>

7-day test positivity rate*: 2.4%

*as of 11/10/21

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<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily New Cases</td>
<td>18.1/100k</td>
<td>COVID not contained, but daily new cases are at medium levels</td>
</tr>
<tr>
<td>Infection Rate</td>
<td>1.00</td>
<td>COVID is still spreading, but at medium levels</td>
</tr>
<tr>
<td>Positive Test Rate</td>
<td>2.3%</td>
<td>Indicates low testing positivity</td>
</tr>
<tr>
<td>Lab tests reported statewide</td>
<td>117,483,254</td>
<td></td>
</tr>
</tbody>
</table>

7-day test positivity rate*: 2.8%

*as of 12/19/21

California COVID-19 threat level: **High**
Omicron variant

• November 9 – First confirmed case in South Africa
• December 1 – First case detected in the United States (California)
• Spreads more easily
Where has Omicron been Detected in the United States

CDC is working with state and local public health officials to monitor the spread of Omicron. This map shows the states that have detected at least one case of COVID-19 illness caused by the Omicron variant. More Omicron variant surveillance data on CDC’s COVID Data Tracker.
Variants in California

As of December 15, 299,708 samples have been sequenced in California. In August 2021, 16% of cases in California have been sequenced so far. In July 2021, 23% of cases in California were sequenced. The table below shows the percent of specimens sequenced that are variants of concern or variants of interest statewide.

<table>
<thead>
<tr>
<th>Specimen Collection Month</th>
<th>Alpha</th>
<th>Beta</th>
<th>Gamma</th>
<th>Delta</th>
<th>Epsilon</th>
<th>Zeta</th>
<th>Eta</th>
<th>Iota</th>
<th>Kappa</th>
<th>Mu</th>
<th>Omicron</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-Dec</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>98.6%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

49 cases caused by Omicron in California
Data from California Department of Public Health (CDPH) does not include vaccines administered by Federal entities such as Indian Health Service, Department of Defense, U.S. Federal Bureau of Prisons, and Veterans Affairs.

62,762,797
Doses administered

3,055,332
People partially vaccinated

26,478,495
People fully vaccinated

Doses administered by county of residence

<table>
<thead>
<tr>
<th>County</th>
<th>Doses Administered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>16,177,639</td>
</tr>
<tr>
<td>San Diego</td>
<td>5,610,346</td>
</tr>
<tr>
<td>Orange</td>
<td>5,172,338</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>3,774,773</td>
</tr>
<tr>
<td>Alameda</td>
<td>3,044,546</td>
</tr>
</tbody>
</table>

As of 12/20/2021. Source: CDPH
Fully vaccinated by race/ethnicity, California

AIAN = 52.8%

Note: Population estimates do not include “other” or “unknown” race and ethnicity categories, therefore their percentage of state population is not available. Some race/ethnicity groups in this county may have small populations. Where the county of residence was not reported, the county where vaccinated is used. Data is not shown where there are fewer than 11 records in a group.

Source: California Department of Public Health, accessed 12/20/2021
New guidance in California

• As of December 15, 2021, the California Department of Public Health requires masks to be worn in all indoor public settings irrespective of vaccine status through January 15, 2022.

• New travel advisory, all travelers arriving in California must test for COVID-19 within three to five days after arrival, regardless of vaccination status.

• Mega events (concerts, sports) require proof of vaccination, or a negative COVID-19 test.
How to reach us for questions:

Clinical-related assistance:
Thomas Kim, MD, MPH
Medical Director/Epidemiologist
tkim@crihb.org

Community or grant-related assistance:
Kathleen Jack, MPH
Deputy Director, Research and Public Health
kjack@crihb.org

Epidemiologic or data-related assistance:
Aurimar Ayala, MPH
Epidemiology Manager
aayala@crihb.org

Submit CTEC TA online request:
https://crihb.org/technical-assistance-request-form/
Omicron and the Covid-19 Vaccine in an Ever-Evolving Pandemic

Thomas J. Kim, MD, MPH
Pandemic update on Omicron
Omicron Variant

From the New York Times Covid-19 Variant Tracker
Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

Source: Johns Hopkins University CSSE COVID-19 Data

Contagiousness
Share of SARS-CoV-2 sequences that are the omicron variant

Share of omicron variant in all analyzed sequences in the preceding two weeks.

Source: CoVariants.org and GISAID
Note: This share may not reflect the complete breakdown of cases, since only a fraction of all cases are sequenced. Recently-discovered or actively-monitored variants may be overrepresented, as suspected cases of these variants are likely to be sequenced preferentially or faster than other cases.
Dominance of Omicron Variant in US

United States: 9/12/2021 – 12/18/2021

Collection date, week ending

- Nowcast On
- Nowcast Off

United States: 12/12/2021 – 12/18/2021 NOWCAST

<table>
<thead>
<tr>
<th>WHO label</th>
<th>Lineage #</th>
<th>US Class</th>
<th>%Total</th>
<th>95%PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta</td>
<td>B.1.617.2</td>
<td>VOC</td>
<td>26.6%</td>
<td>5.1-65.8%</td>
</tr>
<tr>
<td>Omicron</td>
<td>B.1.1.529</td>
<td>VOC</td>
<td>73.2%</td>
<td>34.0-94.9%</td>
</tr>
<tr>
<td>Other*</td>
<td>Other*</td>
<td>Other*</td>
<td>0.1%</td>
<td>0.0-0.4%</td>
</tr>
</tbody>
</table>
Dominance of Omicron Variant

United States
73% on Dec 20
13% on Dec 11
Dominance of Omicron Variant in US

United States: 12/12/2021 – 12/18/2021

WHO Lineage | US Class | %Total | 95%PI
--- | --- | --- | ---
**Delta** | B.1.617.2 | 26.6% | 5.1-65.8%
**Omicron** | B.1.1.529 | 73.2% | 34.0-94.9%
Other | Other* | 0.1% | 0.0-0.4%

Collection date, week ending

- Nowcast On
- Nowcast Off

United States: 12/12/2021 – 12/18/2021 NOWCAST

USA
Daily new confirmed COVID-19 cases & deaths per million people
7-day rolling average. Limited testing and challenges in the attribution of cause of death means the cases and deaths counts may not be accurate.

New cases (per 1M)

New deaths (per 1M)

Source: Johns Hopkins University CSSE COVID-19 Data

Severity
Daily new confirmed COVID-19 cases & deaths per million people

7-day rolling average. Limited testing and challenges in the attribution of cause of death means the cases and deaths counts may not be accurate.

New cases (per 1M)

United Kingdom

New deaths (per 1M)

Source: Johns Hopkins University CSSE COVID-19 Data
Weekly new hospital admissions for COVID-19 per million people

Source: Official data collated by Our World in Data
Tracking Covid-19 in California and in your region

4,935,461 total confirmed cases
26,273 new cases (0.5% increase)
13.0 cases per 100K (7-day average)
County 7-day average per 100,000

County Positivity Rate changes

Hospital and ICU admissions
Tracking Covid-19 in California and in your region

4,935,461 total confirmed cases
26,273 new cases (0.5% increase)
13.0 cases per 100K (7-day average)
Covid-19 Vaccine and Omicron
Vaccine Evasion – Neutralizing Antibody Studies

Photo by Julia Koblitz on Unsplash
Early Study Take-Aways

- Omicron compromises effectiveness of vaccines
- But protection is not completely gone
- Result: more “breakthrough” infections
Adding Booster Doses

- Neutralizing antibody tests
- Antibodies from a person with a booster dose
- Neutralization to Omicron is 80-90%
- Result: presumed strengthened protection against infection, hospitalization and death
Current Understanding

• Omicron is more transmissible (2-3x)
  • Evidence of vaccine evasiveness
  • Inherent ability?

• Unknown if Omicron causes more/less severe disease

• 2 doses mRNA vaccine protection
  • Modestly against infection
  • Still decent against hospitalization/deaths

• 3 doses mRNA vaccine protection
  • Strongly presumed effective against infection
  • Strongly presumed effective in preventing hospitalization/deaths

• Previously infected individuals
  • Unknown though expected protection
<table>
<thead>
<tr>
<th></th>
<th>Good News</th>
<th>Bad News</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission/spread</td>
<td>We know how to reduce by mitigation measures (masks, especially, medical grade, distancing, ventilation, air filtration)</td>
<td>Cases doubling every 2-3 days 3-fold higher transmission than Delta for household contacts</td>
</tr>
<tr>
<td>Vaccine effectiveness (Pfizer)</td>
<td>Gets to ~75% with a booster (duration ?)</td>
<td>Drops to ~35% with only 2-doses Booster got to 95% with Delta</td>
</tr>
<tr>
<td>Illness severity/virulence</td>
<td>Markedly less hospitalizations than prior variants; cases mostly mild</td>
<td>A lot more cases, so even when less severe absolute numbers can be high</td>
</tr>
<tr>
<td>Immune escape</td>
<td>It’s blunted by the 3rd shot</td>
<td>Reduced vaccine effectiveness Monoclonal antibodies less effective Key driver of rapid spread</td>
</tr>
<tr>
<td>Reinfection</td>
<td>Prior Covid plus vaccination provides solid protection</td>
<td>At least 2.5X increased compared with prior variants (UK data: 3-8 X Delta)</td>
</tr>
</tbody>
</table>
We can do a lot

- Do all possible to encourage initial vaccination and booster doses
- Keep wearing masks indoors
- Distance when possible
- Use rapid tests as available
- Follow isolation/quarantine instructions
- Stay connected with people safely over the holidays
You’ve got to have a lot of humility with these viruses. I know less about viruses than I did 10 years ago.”

- Dr. Michael Osterholm
Director of the Center for Infectious Disease Research and Policy,
University of Minnesota
Topics discussed:
- COVID-19 cases in the U.S.
- Current COVID-19 case trends in California
- COVID-19 Variant in California
- COVID-19 cases in American Indian/Alaska Native (AIAN) communities
- New guidance in California
- Omicron and the COVID-19 Vaccine

Case trends nationally:
- New cases are up 41% since compared to November
- COVID-19 surge expected as we approach the holidays

Case trends in California:
- As of 12/20/21, there are around 26,273 new confirmed cases
- Transmission persists
- Since last month, there are increases in daily new cases and infections rates
- Slight decrease in positive test rates

COVID-19 Variants:
- Omicron was first detected in the U.S. in California on December 1st, 2021
- Delta is still the most prevalent variant. However, only a small percent of cases are sequenced each month so Omicron rates may increase as sequencing occurs

COVID-19 Trends in AIAN:
- Compared with 15,964 cases in October, there are now 17,081 cases in December
- 52.8% of AIAN are vaccinated, which is much lower than other racial/ethnic groups
- As of December, AIAN are still experiencing higher rates of COVID-19 hospitalizations compared to other racial/ethnic groups in California

New Guidance in California:
- As of December 15th, 2021, the California Department of Public Health requires masks to be worn in all indoor public settings
- New travel advisory, all travelers arriving in California must test for COVID-19 within three-five days
- Mega events require proof of vaccination, or a negative COVID-19 test

Omicron and the COVID-19 Vaccine
- Omicron is 2-3 times more transmissible than Delta
- Omicron is 3-8 times more likely to cause breakthrough infections
- 73% of new cases in the U.S. are the Omicron variant
- The Omicron variant will become the dominant variant in the next few weeks
- Although protection is not completely gone, Omicron does compromise the effectiveness of vaccines
- Studies show that those with booster doses have a strengthened protection against infection, hospitalization, and death
- Three doses of the mRNA vaccine are recommended (i.e., two initial mRNA vaccines with the booster dose)
- Continue to wear mask and social distance, if possible