



COLORADO

Department of Public Health & Environment

HEALTH ALERT NETWORK BROADCAST

MESSAGE ID: 03052021 16:30

FROM: CO-CDPHE

SUBJECT: HAN Update - COVID-19 Variant Update

RECIPIENTS: Local Public Health Agencies / IPs / Clinical Labs / EDs / ID Physicians / Coroners

RECIPIENT INSTRUCTIONS: Local Public Health Agencies - please forward to healthcare providers.

HEALTH ADVISORY UPDATE | COVID-19 Variant Update | March 5, 2021

Health care providers: Please distribute widely in your office

This information is for the public health and health care community. Do not post on a public web or social media site

Key points

- CDPHE has been conducting ongoing surveillance for COVID-19 variants since December 2020, when the first case of B.1.1.7 in Colorado was announced.
- As of March 5, 2021, the State Public Health Laboratory has identified 190 cases of the B.1.1.7 variant of concern (which was first identified in the United Kingdom) and 88 cases of the B.1.427/B.1.429 variant under investigation (which has been linked to outbreaks in California). No other known variants of concern or variants under investigation have been identified in Colorado to date.
- As of March 5, 2021, two deaths among cases with COVID-19 variants have been reported, one individual with the B.1.427/B.1.429 variant and one with the B.1.1.7 variant.
- Currently, the State Public Health Laboratory performs whole genome sequencing on all state-run samples positive for SARS-CoV-2 which have been identified as having a “S-drop” (Cycle threshold [Ct] value for other gene targets is < 30 which indicates sufficient virus for sequencing), a PCR result which often signifies a B.1.1.7 variant. Laboratories are requested to send all samples with S-drop identified to the State Public Health Laboratory for sequencing; details on specimen submission are below.
- In addition, the State Public Health Laboratory sequences a representative sample of specimens positive for SARS-CoV-2 from across the state in order to understand the frequency of other variants. Sequencing of a subset of COVID-19 positive samples from Colorado is also performed at CDC and commercial laboratories, contributing to the overall totals and enhancing surveillance capacity.
- CDPHE continues to require a full 14-day quarantine for all contacts of individuals with known or suspected COVID-19 variants.

Background information

On Dec. 29, 2020, the CDPHE State Public Health Laboratory identified the first case of COVID-19 in Colorado with the B.1.1.7 variant. Since then, CDPHE has identified a total of 278 variants – 190 B.1.1.7 and 88 B.1.427/B.1.429. Variant surveillance is ongoing; the State Public Health Laboratory sequences all samples identified as having an “S-drop” (Ct value <30) both from the state laboratory and submitted from other laboratories, samples from close contacts of variant cases, as well as a representative sample of specimens submitted from across the state. Updated information on variants identified in Colorado can be found at <https://covid19.colorado.gov/data> under “Case summary snapshot.”

Variants of concern, such as B.1.1.7, are variants that may spread more easily, cause more severe disease, reduce the effectiveness of treatments or vaccines, or are harder to detect using current tests. Variants under investigation (sometimes referred to as variants of interest), such as B.1.427/B.1.429, are variants that have different characteristics from the original virus, but do not at this time meet the criteria for a variant of concern.

In general, most variants will result in a positive result with standard COVID-19 diagnostic testing; however, the FDA issued a letter stating that some tests may be impacted by particular mutations to the SARS-CoV-2 virus. The letter can be found at:

<https://www.fda.gov/medical-devices/letters-health-care-providers/genetic-variants-sars-cov-2-may-lead-false-negative-results-molecular-tests-detection-sars-cov-2>

Variants identified in Colorado:

- The B.1.1.7 variant is an emerging COVID-19 **variant of concern** that was originally identified in the United Kingdom where it subsequently became the most prevalent form of the virus. The B.1.1.7 variant has now been reported in 48 U.S. jurisdictions, including Colorado (<https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant-cases.html>). This variant may be more easily transmitted than other variants. There is some evidence to suggest it may also result in more severe cases of COVID-19, but more studies are needed to confirm this finding. This variant is characterized by the inability to detect the S gene (which encodes spike proteins) in the ThermoFisher TaqPath PCR assay (detection of the ORF1ab and N genes is not affected). The State Public Health Laboratory performs sequencing on all samples with this characteristic “S-drop” result to look for the B.1.1.7 variant. We continue to ask all other laboratories performing the ThermoFisher TaqPath COVID-19 RT-PCR assay to forward any positive samples without a signal for the S gene and Ct values for N and Orf1ab <30 to the State Public Health Laboratory for sequence characterization. Additional instructions on specimen submission are below.

In Colorado, the prevalence of B.1.1.7 was initially estimated at 1-3%, and now is estimated to be closer to 3-6% of all cases. CDC estimates that B.1.1.7 could be the predominant variant in the U.S. by March (<https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e2.htm>).

- The B.1.427/B.1.429 variant (sometimes referred to by L452R, a mutation shared by both lineages, or CAL.20C) is currently considered a **variant under investigation** and has become prevalent in California. A currently unpublished study suggests that this variant may be more easily transmitted and more likely to be associated with severe disease.

Additional variants not yet identified in Colorado

- B.1.351 is a **variant of concern** that was first identified in South Africa. In addition to spreading more easily and quickly than other variants, B.1.351 is a concern because trials have shown that vaccines may be less effective against this variant. There is some evidence to indicate that one of the spike protein mutations, E484K, may affect neutralization by some polyclonal and monoclonal antibody therapies. As of March 4, 2021, B.1.351 has been reported in 17 U.S. jurisdictions.
- The P.1 **variant of concern** emerged in Brazil, and was first detected in the United States in late January 2021. This variant is less well studied but has mutations in common with B.1.351, including E484K, that may affect its ability to be neutralized by antibodies previously generated through infection or vaccination or by polyclonal or monoclonal antibody therapies. Recent preprint studies have suggested that P.1 may be significantly more transmissible. As of March 4, 2021, P.1 has been reported in 7 U.S. jurisdictions.
- The B.1.526 variant has been reported to be spreading in New York City, but has not yet been classified as a variant of concern. It is also associated with the E484K spike mutation.

Recommendations / guidance

- Laboratories performing the ThermoFisher TaqPath COVID-19 RT-PCR assay should forward any positive samples without a signal for the S gene and Ct values for N and Orf1ab <30 to the State Public Health Laboratory for sequence characterization (cycle threshold or Ct value for other gene targets is < 30 which indicates sufficient virus for sequencing). Please submit samples to the State Public Health Laboratory through the LabOnline portal: <https://labonline.cdphe.state.co.us/Account/SignIn> or contact cdphe_molecular.lab@state.co.us to have the COVID-19 sequencing test option added to your LabOnline profile. Include Ct values with all samples submitted. Please clearly label the specimens as “B.1.1.7 Surveillance.”

- Whole genome sequencing (WGS) for COVID-19 is a surveillance activity and not a diagnostic test. Under CLIA regulations, the State Public Health Laboratory is not permitted to report the WGS results directly back to the submitter. Communication about variant exposures will occur through the epidemiology investigation of the cases.
- CDPHE continues to require a full 14-day quarantine for contacts of confirmed or suspected variant cases. As always, patients being tested who are suspected to have COVID-19 should receive isolation instructions (<https://covid19.colorado.gov/how-to-isolate>) and are advised to ask their contacts to quarantine (<https://covid19.colorado.gov/how-to-quarantine>). Contacts under quarantine are encouraged to seek testing with a PCR-based test on or around day seven of quarantine or if symptoms develop; this testing cannot be used to shorten quarantine for contacts of a variant which must ALWAYS be 14 days.
- All Coloradans should continue to get tested if they are symptomatic or have been exposed to a person with COVID-19 and follow protocols for isolation and quarantine recommended by public health.
- We continue to recommend that all Coloradans who are able to receive the COVID-19 vaccine get one when they become eligible. Although research is ongoing, all authorized vaccines are likely to be effective against currently circulating variants.

More information

- CDC Science Brief: Emerging SARS-CoV-2 Variants: <https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/scientific-brief-emerging-variants.html>
- CDPHE COVID-19 web page: covid19.colorado.gov
- CDPHE COVID-19 vaccine web pages: covid19.colorado.gov/vaccine
- CDPHE COVID-19 vaccine hotline: 1-877-CO VAX CO (1-877-268-2926)
- CDC COVID-19 web page: <https://www.cdc.gov/coronavirus/2019-ncov/index.html>
- For questions about COVID-19 in Colorado, call the **CDPHE Disease Reporting Line: 303-692-2700** or 303-370-9395 (after hours)
- Health care provider FAQs from CDC: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html>
- CDC Clinician Outreach and Communication Activity (COCA) Calls: <https://emergency.cdc.gov/coca/calls/index.asp>
- List of updated CDC guidance: <https://www.cdc.gov/coronavirus/2019-ncov/whats-new-all.html>

CDPHE Disease Reporting Line: 303-692-2700 or 303-370-9395 (after hours)