

Missouri Department of Health & Senior Services

Health Update:

Enhancing Public Health Surveillance for Variant SARS-CoV-2 Viruses in Missouri

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February 19, 2021

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SUBJECT: Enhancing Public Health Surveillance for Variant SARS-CoV-2 Viruses in Missouri

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This document will be updated as new information becomes available. The current version can always be viewed at <http://www.health.mo.gov>.

The Missouri Department of Health & Senior Services (DHSS) is now using four types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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The Missouri Department of Health and Senior Services (DHSS) is issuing this health update to provide information regarding the public health surveillance for variant SARS-CoV-2 viruses in Missouri. The Missouri State Public Health Laboratory (MSPHL) participates in the national SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES) project and National SARS-CoV-2 Strain Surveillance (NS3) System led by the Centers for Disease Control and Prevention (CDC). DHSS has also established sentinel surveillance to detect variant SARS-CoV-2 viruses through the collaboration with five regionally selected healthcare system laboratories in Missouri. To further enhance the public health surveillance for variant SARS-CoV-2 viruses, Missouri healthcare providers can submit specimens from eligible individuals to the MSPHL, if approved as appropriate for variant surveillance. Guidance on the specific requirements, risk factors, process to request testing, and shipping of specimens is included in this Health Update.

Viruses constantly change through mutation, and new variants of a virus are expected to occur over time. Multiple variants of the virus that causes COVID-19 have been documented in the United States and globally during this pandemic. DHSS continues to participate in national efforts to enhance surveillance and respond to variant SARS-CoV-2 viruses.

Several new variants emerged in the fall of 2020, and most notable among them are: United Kingdom (UK) variant known as B.1.1.7; South African variant known as B.1.351; and the variant from Brazil, known as P.1. Each of these variants have been [reported in the United States](#); over 1,200 cases of B.1.1.7 infection have been reported from 42 states. Efforts are ongoing to learn more about these variants to better understand their transmissibility, their role in cases of reinfection, and the effectiveness of currently authorized vaccines against them. New information about the virologic, epidemiologic, and clinical characteristics of these variants is rapidly emerging.

Variant SARS-CoV-2 virus surveillance is intended for public health purposes, and obtained information is not intended for clinical decision making in order to augment acute clinical care. The testing of specimens and subsequent identification of variant viruses is a multi-step process, and final results will take at least one week after the specimen is received. It is also important to consider the testing capacity for variant viruses at the MSPHL is limited, and therefore, DHSS may not be able accommodate all requests for this public health surveillance effort. Medical providers can request the submission of specimens to the MSPHL for variant virus detection and identification. Requests will be considered when each of the stated requirements **and** at least one of the stated select criteria are met.

Requirements (*Each of these is required for approval for specimen submission*)

- All persons must have been diagnosed with COVID-19 by a positive viral diagnostic test, such as RT-PCR, other nucleic acid amplification test, or an antigen test.
- The RT-PCR Ct value is no more than 28. Not required if Ct value is not available, or can't be obtained
- Specimens must meet the required MSPHL submission criteria for COVID-19 testing available at <https://health.mo.gov/lab/ncov.php>, **and** must be received by the MSPHL within 72 hours of collection, **or** have been stored frozen and shipped frozen using dry ice.
- Prior approval from DHSS is obtained prior to specimen submission.

Select Criteria (*At least one of these is also required for approval for specimen submission*)

1. RT-PCR test results demonstrate the "S-gene dropout". This criteria may change based on the frequency and distribution of the emerging virus variants.
2. Person developed onset of symptoms or tested positive (asymptomatic) within 14 days of returning from international travel.
3. Person developed onset of symptoms or tested positive (asymptomatic) within 14 days of exposure to a person meeting criteria #2 above.
4. Person is suspected of COVID-19 reinfection, including persons previously treated with monoclonal antibody, convalescent plasma, or antiviral drug Remdesivir.
5. Person is fully immunized with an approved COVID-19 vaccine per CDC guidelines and developed onset of symptoms greater than 14 days after receiving the final dose of vaccine.

Missouri healthcare providers can request the submission of specimens to the MSPHL for variant virus detection and identification by contacting DHSS Emergency Response Center at 1-800-392-0272, Monday through Friday, during the hours of 8:00 a.m. to 5:00 p.m. During the initial call, a DHSS staff member will ask questions to verify each of the "requirements" **and** at least one of the "select criteria" are met to approve specimen submission. Once approved, the specimen can be sent to the MSPHL for testing.

Submitting Specimens to the MSPHL: The submission of specimens to the MSPHL for testing and identification of variant SARS-CoV-2 viruses requires adhering to the following:

- Complete a MSPHL Test Request Form (TRF) for each specimen. The TRF is available online at <http://health.mo.gov/lab/>
- Must include that the specimen is submitted for variant virus surveillance on the TRF. It is also important to note on the TRF if vaccine breakthrough infection is suspected.
- Must include on the TRF what test was used to generate a positive result and the Ct values for each marker, as available.
- Specimen must contain at least 500 µL of viral transport media (VTM) or saline
- Store the specimens at -70°C pending shipment and ship on dry ice
- Affix shipping label to the outside of box and write: **SARS-CoV-2 Variant Surveillance** on box

SHIPMENT OF SPECIMENS

MSPHL Courier information is available at: <https://health.mo.gov/lab/courierservices.php> If you do not have access to the MSPHL Courier, please ship specimens by Fed Ex. Please do not ship samples for arrival at the MSPHL on weekends or holidays.

DO NOT SHIP CLINICAL SPECIMENS BY UPS.

For questions about packaging and shipping an approved specimen for variant virus surveillance to the MSPHL, please contact the MSPHL at 573-751-3334.

Variant testing of pre-approved specimens received at the MSPHL will include RT-PCR, viral sequencing, and sequencing analysis. Specimens with an RT-PCR Ct value at the MSPHL of 28 or greater will not be sequenced. Variant surveillance testing and identification is a multi-step process, and final results will take at least one week after specimen is received. Therefore, this surveillance effort is intended for public health purposes. It is critically important to continue to remind all persons diagnosed with COVID-19 of the importance of strictly adhering to the non-pharmaceutical interventions including, but not limited to, isolation and quarantine, social distancing, mask use, and good hand hygiene.

Missouri healthcare providers interested in submitting a specimen to the MSPHL for variant virus testing and identification or have questions regarding this health update should contact DHSS Emergency Response Center at 1-800-392-0272, Monday through Friday, during the hours of 8:00 a.m. to 5:00 p.m. For questions regarding the packaging and shipping an approved specimen for variant virus surveillance to the MSPHL, please contact the MSPHL at 573-751-3334.