

Health Advisory:

Emergence of Delta Variant of Coronavirus Causing COVID-19 in USA

06.23.2021

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 and 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, and/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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Health Advisory
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FROM: Robert Knodell, DHSS Acting Director

SUBJECT: Emergence of Delta Variant of Coronavirus Causing COVID-19 in USA

The Missouri Department of Health and Senior Services (DHSS) is issuing this Health Advisory to provide the latest information regarding the emergence of the Delta variant. The increase in this highly transmissible variant underscores the importance of continued testing for COVID-19 for patients with compatible symptoms, as well as individuals who are not fully vaccinated and have been exposed to SARS-CoV-2 but may be asymptomatic. Social distancing and appropriate masking remain very important countermeasures. Vaccination is the most effective and long-lasting tool for protection from this infection. The DHSS continues to encourage all eligible persons to get vaccinated against COVID-19.

The Delta variant (B.1.617.2, formerly India variant) of COVID-19 causing coronavirus originated and rapidly spread in India, and is emerging in the United States, as well as in many other countries. On June 15, 2021, the CDC named Delta variant a variant of concern (VOC) in the United States. As of mid-June 2021, the CDC estimates the Delta variant is accounting for 20% of new cases in the United States. The variant virus proportions estimate based on the CDC sequence data of human samples shows the highest proportion of cases is in HHS Region 7 (Missouri, Kansas, Iowa, and Nebraska), comprising 34.8% of all variant viruses detected. This is an increase from 1.6% just one month ago. Genetic surveillance of COVID-19 cases by the Missouri DHSS in collaboration with the University of Missouri detected at least one case of Delta virus in 35 counties across all regions of the State. The highest proportion of Delta virus is detected in the Southwest region of the State, which accounts for just over 67% of all Delta variants identified. The ongoing DHSS surveillance of sewage samples, most recently available from 23 wastewater treatment facilities across the state, reveals presence of Delta virus at 16 locations.

Viral mutations naturally occur in the genome of many viruses, including SARS-CoV-2 which causes COVID-19. Unlike the human genome which is slow to mutate, RNA viruses, such as SARS-CoV-2, are able to quickly mutate. Once the mutation occurs, it may alter the viral function (for example, enhance receptor binding), or may have no effect on how virus functions. A new virus variant emerges when the virus develops one or more mutations that differentiate it from the predominant virus variants circulating in a population.

Accumulating data shows that Delta virus may have increased binding with human ACE receptors and increased transmissibility when compared to previously emerged variant viruses. New Public Health England (PHE) research suggests the Delta variant is associated with a 64% increased risk of household transmission compared with the Alpha variant (B.1.1.7, formerly UK variant), and is 40% more transmissible outdoors. Analysis of data from Scotland just published in *The Lancet* indicated that Delta variant approximately doubles the risk of hospitalization compared with the Alpha variant.

Variants of concern, such as Delta virus, may also reduce vaccine effectiveness, which may be evident by a high number of vaccine breakthrough cases or a very low vaccine-induced protection against severe disease. One recent study revealed that Delta variant is 6.8-fold more resistant to neutralization by sera from COVID-19 convalescent and mRNA vaccinated individuals. A pre-print study released by PHE on May 22, 2021 found that two doses of the Pfizer-BioNTech vaccine were 88% effective against symptomatic infection with the Delta variant versus 93.4% for the Alpha variant. However, one dose was only 33% effective against symptomatic infection with the Delta variant versus 50% for the Alpha variant. The PHE data also shows the Pfizer/BioNTech vaccine is 96% effective against hospitalization, after two doses, in those who experience Delta virus infection. These new findings underscore importance of receiving two doses of COVID-19 vaccination and adhering to the typical regimen of injections.

Clinical knowledge regarding differences in symptoms caused by the Delta virus infection is currently limited. According to the patient data from the UK where the Delta variant now accounts for 91% of the Covid-19 cases, disease caused by this variant may not present in typical fashion with cough and fever. An ongoing U.K.-based study (Zoe Covid Symptom Study) enables public to enter their COVID symptoms on a smartphone application for the scientists to then analyze the data.

Analysis of such data shows that top symptoms of Delta variant infection are headache, followed by runny nose and sore throat, while fever and cough were less common; loss of smell was not in the top ten. Most cases were in young people who had not yet been vaccinated, and that the variant appeared to be far more transmissible with every person infecting several others. Implication of such findings is that infected persons may not perceive themselves as having COVID-19 symptoms and not seek health care accordingly, and health providers may not pursue an appropriate testing.

The Missouri DHSS urges health care providers and the public to be vigilant for the possibility of Delta virus infection. Social distancing and appropriate masking remain very important countermeasures. Vaccination is the most effective and long-lasting tool for protection from this infection. The DHSS continues to encourage all eligible persons to get vaccinated against COVID-19.

Missouri healthcare providers and public health practitioners: Please contact your local public health agency or the Missouri Department of Health and Senior Services' (DHSS) Bureau of Communicable Disease Control and Prevention at 573-751-6113 or 800-392-0272 (24/7) with questions regarding this health advisory.