

Update on SARS-CoV-2 Variants of Concern, Testing and Treatment for COVID-19

Ongoing surveillance for SARS-CoV-2 variants (variants) has resulted in the detection of 116 variants of concern as of April 19. The North Dakota Department of Health (NDDoH) is providing this update on variant surveillance in North Dakota and other updates regarding testing for SARS-CoV-2. Eighty-six reported variants are the B.1.1.7 variant, 29 of the California variants (B.1.427 and B.1.429) and one B.1.151 variant have been reported. Variants have been reported from 15 counties that are widely distributed throughout North Dakota. Variants are being reported out of Burleigh, Barnes, Cass, Grand Forks, Logan, McLean, Morton, Nelson, Richland, Sheridan, Stark, Traill, Walsh, Ward and Williams counties.

The United States Centers for Disease Control and Prevention (CDC) has classified SARS-CoV-2 variants into three broad categories.

1. Variants of Interest
 - a. Have genetic markers that are predicted to affect transmission, diagnostics, therapeutics or immune escape
 - b. Includes B.1.526, B.1.525 and P.2
2. Variants of Concern
 - a. Evidence of impact on diagnostics, therapeutics or vaccines along with disease severity and increased transmissibility
 - b. Includes B.1.1.7, B.1.351, B.1.427, B.1.429 and P.1
3. Variants of High Consequence
 - a. A variant of high consequence has clear evidence that prevention measures or medical countermeasures have significantly reduced effectiveness relative to previously circulating variants
 - b. There are currently no variants in this category in the United States

Data is emerging that some of these variants of concern can impact the effectiveness of monoclonal antibody therapy. COVID-19 cases at increased risk for severe disease and severe outcomes are recommended to receive monoclonal antibody therapy. **On April 16, 2021 the Food and Drug Administration revoked the emergency use authorization for Bamlanivimab, when administered alone.** More information can be found [here](#).

Table 1 provides the number of each variant reported in North Dakota. The table also provides information reported to the Food and Drug Administration on the impact of current therapies on virus neutralization for key SARS-CoV-2 variant substitutions. More information regarding treatment and variants can be found by clicking on the links below the table.

Table 1

Variant	No. Identified in North Dakota	Fold Reduction in Susceptibility		
		<i>Bamlanivimab and Etesevimab</i>	<i>Bamlanivimab alone</i>	<i>Casirivimab and Imdevimab</i>
B.1.1.7	86	No Change	No Change	No Change
B.1.351	1	>45	>2360	No Change
P.1	0	>511	>2360	No Change
B.1.427/B.1.429	29	7.4	>1020	No Change

<http://pi.lilly.com/eua/bam-and-ete-eua-factsheet-hcp.pdf>

<https://www.regeneron.com/sites/default/files/treatment-covid19-eua-fact-sheet-for-hcp.pdf>

<https://www.fda.gov/media/143603/download>

<https://www.fda.gov/drugs/drug-safety-and-availability/fda-authorizes-revisions-fact-sheets-address-sars-cov-2-variants-monoclonal-antibody-products-under>

The NDDoH Laboratory Services Section asks that positive COVID-19 samples are submitted for surveillance whole genome sequencing (WGS). Please submit for all hospitalized patients in addition to any outpatient specimens. This testing is for epidemiologic information only so no reports will be reported back to providers or patients.

Providers are encouraged to vaccinate their patients as soon as possible with any of the available vaccines. All the vaccines are showing high levels of efficacy against the B.1.1.7 variant. Although some studies have shown a reduction in neutralization of some variants by vaccine induced antibodies, all the vaccines are likely to be highly effective in preventing serious illness, hospitalizations and deaths. The Pfizer® vaccine is showing high efficacy against disease caused by the B.1.351 variant.

Testing continues to be play an important role in our response to COVID-19. Providers are encouraged to test patients who present with symptoms of COVID-19, including GI symptoms, that may be overlooked but have been identified as symptoms associated with SARS-CoV-2 infections. As a reminder, providers need to consider GI symptoms in the differential of a COVID-19 diagnosis before clearing children and adults to go back to child-care, school or work. The school and childcare attendance decision tree can be found [here](#) and [here](#). Both antigen and NAAT testing can be used to help with diagnosis of COVID-19. Patients with symptoms consistent with COVID-19 that test negative with an antigen tests, should be tested with an NAAT test. Finally, NAAT testing allows for specimen submission of local positive results to the North Dakota Department of Health, Laboratory Services Section for possible whole genome sequencing, if indicated.

Additional information on variants may be found at Centers for Disease Control and Prevention (CDC) website [here](#). The CDC guidance for treatment is available [here](#). Providers who have questions, comments or suggestions may contact the NDDoH by calling 1-800-472-2180 or 701-328-2378.

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Health Alert Requires immediate action or attention; highest level of importance

Health Advisory May not require immediate action; provides important information for a specific incident or situation

Health Update Unlikely to require immediate action; provides updated information regarding an incident or situation

HAN Info Service Does not require immediate action; provides general public health information

##This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations##