

USET Tribal Epidemiology Center

Recommendations for Tribal Consideration

USET TEC COVID-19 Guidance 2020-007: Recommendations for Antibody Testing



Background

Covid-19, the disease caused by the novel coronavirus SARS-CoV-2, first appeared in China in late December 2019. Due to rapid spread, it was declared a pandemic by the World Health Organization on March 11, 2020. The virus was identified quickly and its genome was sequenced by scientists in China, who shared the genetic sequence with the world on January 12, 2020. This genetic sequencing led to the rapid development of polymerase chain reaction (PCR) tests to diagnose acute cases. This also has assisted in developing serological tests (tests for antibodies to SARS-CoV-2). The following recommendations are based on current information from the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and the US Food and Drug Administration (FDA).

Potential Uses for Antibody Testing

Testing for antibodies for SARS-CoV-2 has the following potential uses:

- To determine if a patient has been infected in the past with the virus (antibodies take at least 1 to 3 weeks to develop after a person is infected).
- To do seroprevalence studies to determine the rate of infection in a given population, as well as to determine a truer mortality rate for the disease.
- To identify potential donors for convalescent plasma for treatment of severe cases.

Cautions Regarding Antibody Testing

Be aware of the following regarding antibody testing:

- Not all people who are infected develop detectable antibodies to SARS-CoV-2.
- Currently, it is not known whether antibody production confers immunity. Therefore, these tests currently should not be used to determine who can go back to work, etc.
- Early in infection, antibodies may not be present at detectable levels; therefore, a negative antibody test early in an infection does not mean a person is not infected and/or contagious.
- It is also possible that an antibody test may become positive relatively early, while a person is still sick and contagious. Therefore, a positive antibody test does not mean that a person is not contagious.
- The actual sensitivity and specificity in the clinical setting of the various tests available is currently unknown.
- Some antibody tests may cross-react with other antibodies, such as other common human coronaviruses, giving false-positive results.

Recommendations

Until more is known, particularly about whether antibody production confers immunity, antibody testing for SARS-CoV-2 has limited usefulness in the clinical setting. This is a rapidly evolving field so recommendations may change. Results of any antibody testing must be considered in light of other evidence, such as patient symptoms, known exposure history, and the statistical performance of the test. An antibody test may be useful in certain cases:

- A patient who has symptoms and ancillary test findings (lab, imaging) suspicious for Covid-19 who tests negative on a molecular (PCR) test.
- A patient who had symptoms of Covid-19, but was never tested, and there is an important reason to know whether or not the patient actually had Covid-19 (but remember, it is unknown whether antibodies confer immunity).

The USET Tribal Epidemiology Center (TEC) is charged under the Indian Health Care Improvement Act with providing epidemiologic and public health support to federally recognized Tribal Nations in the Nashville Area. The USET TEC is a designated public health authority.