



Coronavirus Disease 2019 (COVID-19)



Multistate Assessment of SARS-CoV-2 Seroprevalence in Blood Donors

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CDC is conducting a nationwide COVID-19 seroprevalence survey of blood donors to:

- Understand the percentage of people in the United States who have antibodies against SARS-CoV-2, the virus that causes COVID-19.
- Track how this percentage changes over time.

This study is the largest nationwide COVID-19 seroprevalence survey to date. CDC is collaborating on this project with the National Institutes of Health (NIH), the Food and Drug Administration (FDA), Vitalant Research Institute (VRI), Westat Inc., and numerous blood collection organizations across the United States. CDC is providing technical assistance and financial support to VRI and collaborating institutions.

Conducted under [REDS-IV-P \(Recipient Epidemiology and Donor Evaluation Study IV Pediatric\) program](#) [↗](#), this seroprevalence survey expands an ongoing project called the [RESPONSE study](#) [↗](#) (REDS-IV-P Epidemiology, Surveillance and Preparedness of the Novel SARS-CoV-2 Epidemic) funded by the NIH. From March to August 2020, the RESPONSE study collected existing blood donation samples from six U.S. regions (about 1000 samples per month) for testing for SARS-CoV-2 antibodies.

The expanded seroprevalence survey includes more than 60 regions, representing all 50 states and Puerto Rico. Since July 2020, anonymous blood donation samples (about 2,000 per month) from each region are being collected and tested. The survey will continue until January 2022. A larger number of samples are being collected from blood centers in regions that encompass multiple states or are racially and ethnically diverse. Overall, about 1.5 million samples will be tested. For each region, the seroprevalence will be estimated for the region overall and by age group, sex, and race/ethnicity.

Information on blood donation samples tested

When blood is donated in the United States, small samples are taken from each blood donation to find out the donor's blood type. The blood is also screened for certain infectious diseases to make sure it is safe for transfusion to patients. VRI and collaborating organizations will collect these reserved donation samples and test for

antibodies to SARS-CoV-2. The serology test is different than the nasal swab test and cannot determine if a person had SARS-CoV-2 infection when the blood was drawn. Instead, it provides information on if a person was infected in the past. It typically takes 1 to 3 weeks after infection for a person with SARS-CoV-2 to produce detectable antibodies.

Interpreting Antibody Results from This Survey

This survey has limitations that should be considered when interpreting the results:

- People who donate blood may differ from the general population. People who donate blood are generally healthy, non-pregnant adults. Younger people and people from certain racial and ethnic groups may be underrepresented among those who donate blood. Additionally, people who do not donate blood (e.g., live in institutionalized settings) are not included in this survey. Although CDC will use statistical methods to account for differences in age, sex, ethnicity, race, and location of residence, the seroprevalence estimates may not be the same as the true seroprevalence among the total population.
- The results of an antibody test can sometimes be positive for people who were not previously infected with SARS-CoV-2. This is more common in communities with low infection rates. This is known as a false-positive result and can make it look like more people have been infected in the community than really were.
- The results of an antibody test can sometimes be negative for people who were previously infected with SARS-CoV-2. This is known as a false-negative result. It is possible that some people can be infected with SARS-CoV-2 but do not make detectable antibodies. It is also possible that antibody levels may decrease over time. When this happens, it can make it look like fewer people have been infected in the community than really were.
- We do not know if having SARS-CoV-2 antibodies protects someone from getting infected with SARS-CoV-2 again. Other studies are planned to learn more about SARS-CoV-2 antibodies, including how long the antibodies last, if they provide protection against getting infected again.
- This seroprevalence survey was not designed to look at risk factors for infection, such as a person's occupation or underlying health conditions.

Safety of US blood supply

There have been no reported cases of people getting SARS-CoV-2, the virus that causes COVID-19, from a blood transfusion. Generally, respiratory viruses such as SARS-CoV-2 are not spread by blood transfusion.

Even so, people who want to donate blood are evaluated for any current or past illness. If they are ill at the time of donation, they cannot donate blood. For example, they must have normal body temperature on the day of donation. See [FDA recommendations for blood donation among persons diagnosed with or suspected to have COVID-19](#) [🔗](#) for more information.

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Content source: [National Center for Immunization and Respiratory Diseases \(NCIRD\), Division of Viral Diseases](#)