Community-level Seroprevalence Surveys

CDC wants to learn more about the spread of COVID-19 in communities.

Updated June 1, 2020

CDC wants to learn more about the percentage of people in select counties and communities in the United States who have been infected with SARS-CoV-2, the virus that causes COVID-19. Learning about infections in these communities can help CDC to understand more about how COVID-19 might be spreading in other communities with similar populations.

Looking for Past Infections in the Community

To better understand the percentage of infections in a community, CDC is collaborating with state and county health departments to conduct community-level seroprevalence surveys. These surveys use laboratory tests to check a person's blood for antibodies, which can show if that person had a past infection with the virus that causes COVID-19. Antibodies are specific proteins made in response to infections. Antibodies are detected in the blood of people who are tested after infection; they show an immune response to the infection. Antibodies most commonly become detectable 1-3 weeks after symptom onset or infection. Antibody test results are especially important for detecting previous infections in people who had few or no symptoms. It is not known yet if having antibodies to the virus that causes COVID-19 can protect someone from getting infected again, or, if they do, how long this protection might last. CDC and its partners plan to study this issue.

Systematic Sampling

Community-level seroprevalence surveys test blood with serology (antibody) tests for antibodies that show previous SARS-CoV-2 infection in people sampled from select counties or communities. The selection of participants is completed in a systematic way using sampling methods. Sampling is a way to help keep the results meaningful and balanced; it means that you might not be selected, but your neighbor could be. Sampling provides a more representative population so that testing results might apply to other similar populations. People who have been sick and those who have not been sick may be selected to make sure we can get a broad picture of the disease.

Impact of the Results

The results can also help to identify areas where we can work with communities to help increase public awareness of actions that persons and communities can take to help slow the transmission of the virus, known as community mitigation strategies. CDC is working with state and county health departments to learn more about how COVID-19 is spreading in communities by performing serology tests in households in various communities. These community-level seroprevalence surveys are taking place in locations across the United States. Descriptions of these surveys are provided below.

In addition to these community-level surveys, CDC also is collaborating with public health and private partners on a variety of seroprevalence surveys of different sizes, locations, populations, and purposes. This includes large-scale geographic surveys to better understand how the virus is spreading through the U.S. population over time and

smaller-scale surveys focusing on specific populations such as healthcare workers or pregnant women.

Seroprevalence Survey (looking for COVID-19 antibodies using blood tests) in Georgia

Seroprevalence Investigation in Metro Atlanta.

About this survey

CDC partnered with the Georgia Department of Public Health, Fulton County, and Dekalb County Boards of Health to conduct a community-level seroprevalence survey within these counties. Specific areas within these counties were randomly selected using U.S. Census Bureau census blocks. This survey included 60 census blocks areas, 30 in each county. The census blocks are small geographic areas defined by the U.S. Census Bureau and were chosen at random (meaning every household had an equal opportunity of being selected, such as by flipping a coin). Teams visited randomly selected homes within these blocks in late April and early May, 2020. They completed surveys and collected blood samples from consenting household members. Blood samples were sent to the CDC laboratory and are being tested for SARS-CoV-2 antibodies.

Results from this investigation will help us estimate the percentage of people in these counties that have SARS-CoV-2 antibodies. These findings can help us better understand the extent of community spread. The overall summary results (without personal identifiers) will be available after they are analyzed. This was the first community-level seroprevalence survey for SARS-CoV-2 conducted by CDC in collaboration with state and county health departments. CDC is evaluating additional sites across the country for conducting other community-level seroprevalence surveys.

CDC Seroprevalence Survey Types

CDC is collaborating with public health and private partners on a variety of surveys of different sizes, locations, populations studied, and purposes. The seroprevalence surveys CDC is conducting include:

- Large-scale Geographic Seroprevalence Surveys
- Community-level Seroprevalence Surveys
- Special Populations Seroprevalence Surveys

Learn more

Page last reviewed: June 1, 2020
Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases