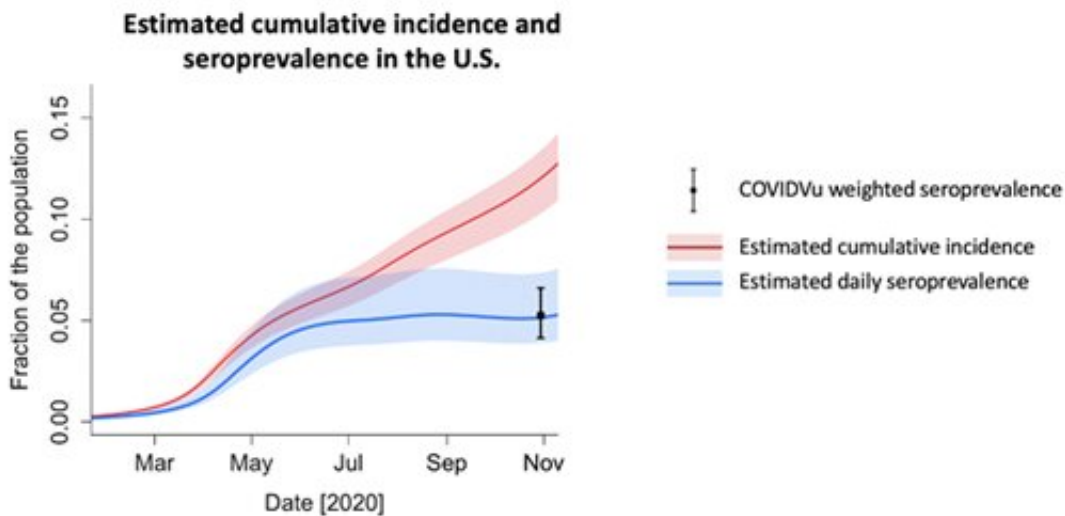


COVID-19 antibody study: 1 of every 8 Americans were infected by October 2020

March 9 2021, by Catherine Morrow



One in eight residents of the United States – more than 39 million people -- had been infected with SARS-CoV-2 by the end of October 2020, according to a “national probability sample” study conducted by Emory researchers. Credit: Emory University

In a first of its kind nationwide survey, Emory University researchers found that one in eight residents of the United States—more than 39 million people—had been infected with SARS-CoV-2 by the end of

October 2020.

The results from a "national probability sample" of antibody tests were given on Saturday, March 6 at the Conference on Retroviruses and Opportunistic Infections (CROI) as a Science Spotlight presentation.

"Early estimates of national prevalence had been developed among toward people who were symptomatic, who had some reason to be tested for the virus, or who were seeking care for other medical conditions." says lead author Patrick Sullivan, DVM, Ph.D., Charles Howard Candler Professor of epidemiology and global health at Emory's Rollins School of Public Health. "This was an effort to minimize those biases as much as possible. By mailing out test kits, we were able to include people who might not have experienced symptoms or might not have been unable to travel to be tested."

The study found that people living in metropolitan areas were 2.5 times more likely to have been infected than those living in non-metropolitan areas. Also, people who are Black and Hispanic were more likely than whites to have experienced SARS-CoV-2 infection (2.2 times and 3.1 times more, respectively). Roughly one in six of those infected at some point had been diagnosed with COVID-19 and reported to health departments, based on comparison with CDC reports.

In addition, in a survey of participants' attitudes toward vaccination, the study found that 32 percent said they were unsure or unwilling to receive a COVID-19 vaccine. Vaccine willingness was measured with a 5-point scale. The overall findings were: 12 percent Very Unlikely, 7 percent Somewhat Unlikely, 13 percent Unsure, 19 percent Likely, and 50 percent Very Likely.

Many population groups at higher risk for SARS-CoV-2 infection were more likely to be unsure or unwilling: Black vs White (46 vs 30 percent),

people working outside the home vs those working at home (38 vs 21 percent) and smokers vs nonsmokers (44 vs 29 percent). The surveys were completed from August to December 2020, overlapping with national news about the success of early vaccine clinical trials.

"Our findings demonstrate both a challenge and an opportunity for public health, because most of those who said they were unsure or unlikely to be vaccinated were not strongly opposed to vaccination," says Aaron Siegler, Ph.D., associate professor of epidemiology. "They could be convinced—and targeted interventions are underway to do that."

In the COVIDVu study, participants were randomly selected from a U.S. Postal Service database and sent invitations to provide samples. More than 4,600 people completed surveys and returned samples to a central laboratory by mail.

The number of people positive for SARS-CoV-2 antibodies at a given time rose to about 5 percent nationwide in the summer and peaked in September, according to the researchers' data. That fraction was stable through the fall, because of both new infections and fading levels of antibodies, while the cumulative number of people who had been infected continued to rise (see graph).

The researchers obtained both dried blood spots for antibodies and nose swab samples for RT-PCR. Antibody tests were conducted in a two-step confirmatory procedure described in this *Annals of Epidemiology* paper. Antibody tests were purchased from BioRad and EUROIMMUN, a division of PerkinElmer, and both tests have received Emergency Use Authorization from the FDA.

The COVID study included respondents from across the country, and additional projects surveying the states of California and Georgia in greater detail are underway. Follow-up samples collected in March and

June of 2021 will be able to differentiate between infected with SARS-CoV-2 and those who were vaccinated.

More information: COVIDVu Study: covidvu.emory.edu/

Provided by Emory University

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