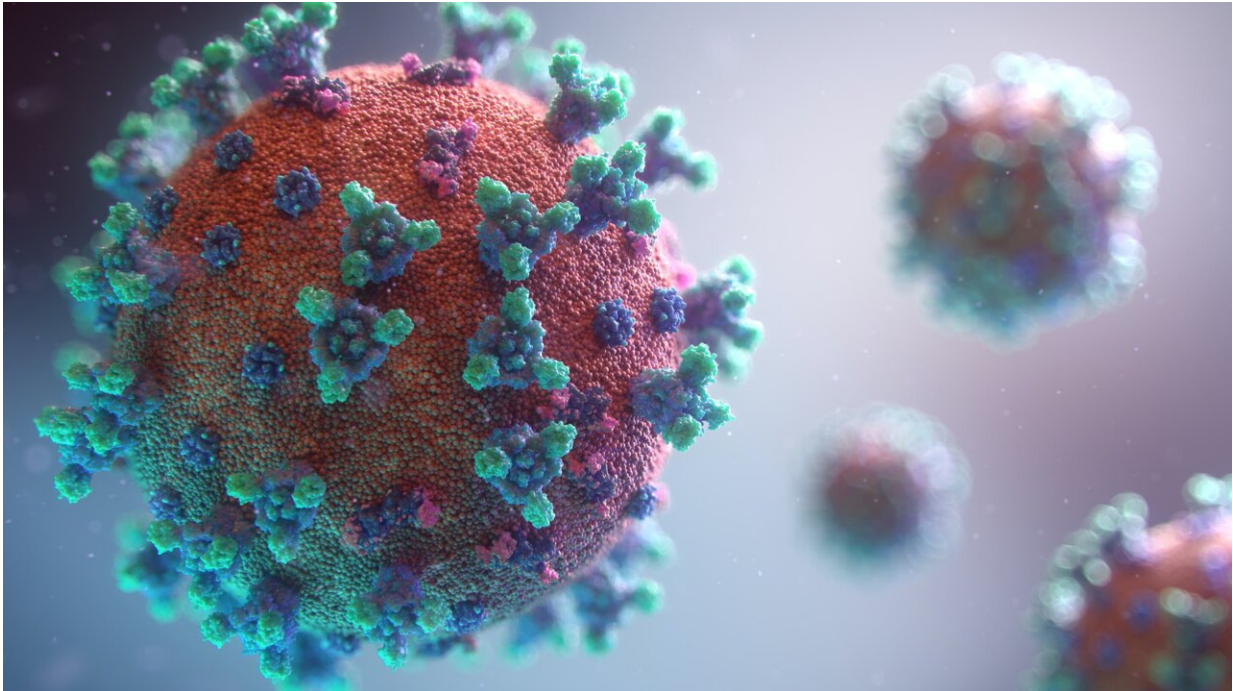


Aussie COVID-19 cases higher than reported

June 20 2022



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It is estimated that by the end of February 2022 at least 17% of the Australian adult population had recently been infected with SARS-CoV-2, the virus that causes COVID-19, according to results released today from Australia's most recent serosurvey of antibodies to the virus in blood donors. The vast majority of these infections are believed to have occurred during the omicron wave that began in December 2021. Based on survey results, the proportion of people infected was at least

twice as high as indicated by cases reported to authorities by the end of February 2022.

The serosurvey was conducted by the National Center for Immunization Research and Surveillance (NCIRS) and the Kirby Institute at UNSW Sydney, in collaboration with Australian Red Cross Lifeblood, Victorian Infectious Diseases Reference Laboratory and other research partners.

The highest proportion of adults with antibodies to SARS-CoV-2 was in Queensland (26%), followed by Victoria (23%) and New South Wales (21%), while Western Australia had the lowest (0.5%).

The serosurvey method detects higher proportions of infection than routine surveillance based on cases diagnosed and reported at the time of infection, which misses people who didn't present for a test or whose positive test result was not reported to authorities.

The national antibody survey was conducted in late February to early March 2022, approximately 6 weeks after the peak of the omicron wave in New South Wales, the Australian Capital Territory, Queensland and Victoria and prior to substantial transmission in Western Australia.

"The general pattern of antibody positivity in [blood donors](#) was consistent with the pattern in reported cases to the end of February 2022: New South Wales, Victoria and Queensland having had big outbreaks, and Western Australia having very limited community transmission," says Dr. Dorothy Machalek, lead investigator on the project from the Kirby Institute. "Similarly, young blood donors had the highest rate of infection, matching higher reported case numbers in this age group."

Researchers examined 5,185 de-identified samples from Australian blood donors aged 18–89 years for evidence of COVID-19–related antibodies. Two types of antibody to SAR-CoV-2 were tested: antibody

to the nucleocapsid protein, which provides an indication of past infection, and antibody to the spike protein, which can indicate past infection and/or vaccination.

Evidence of past infection was highest among donors aged 18–29 years at 27.2%, declining with increasing age to 6.4% in donors aged 70–89 years across Victoria, New South Wales and Queensland. In Western Australia, evidence of recent [infection](#) was extremely low across all age groups. Nationally, the proportion of the population with antibodies to the spike protein was far higher, at around 98%.

"As expected a very high proportion of the blood donors had antibodies to the spike protein of the COVID-19 virus, with little variation by age group and sex. This was likely due to high vaccination rates among blood donors, as well as in the wider population," says Professor Kristine Macartney, Director of NCIRS and Professor at The University of Sydney.

"Future rounds of the blood donor serosurvey will allow us to understand how many infections occur throughout 2022," Professor Macartney said. "We are also conducting a second national pediatric serosurvey that started collection in June and this will give us better insights into transmission in children and teenagers."

The ongoing blood donor survey, co-led by the Kirby Institute and NCIRS in collaboration with Australian Red Cross Lifeblood, also involves investigators at the Victorian Infectious Diseases Reference Laboratory at the Doherty Institute, NSW Health Pathology ICPMR, The University of Sydney and Murdoch Children's Research Institute.

The residual blood donation samples used in the survey were obtained from Lifeblood's processing centers across the country and delinked from any identifying information apart from age, sex and post code.

Individual results can therefore not be provided back to blood donors.

"Australian Red Cross Lifeblood encourages anyone wanting to contribute to this type of research to become a regular donor. There are many benefits to donating, including finding out your blood type," says Professor David Irving, Director of Research and Development at Australian Red Cross Lifeblood.

The next round of the Lifeblood donor survey has commenced from mid-June. This time point will estimate SARS-CoV-2 antibody prevalence following the spread of the Omicron BA.2 and other subvariants. Data are provided to all states, territories and the Commonwealth Government under the Australian National Disease Surveillance Plan for COVID-19.

Provided by Kirby Institute for Infection and Immunity in Society

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