

PHE's SIREN (SARS-CoV-2 Immunity and Reinfection EvaluatioN) study has performed regular antibody and PCR testing on 20,787 healthcare workers, including frontline clinical staff and those in non-clinical roles, from 102 NHS trusts since the study commenced in June. 6,614 of these participants tested positive for COVID-19 antibodies upon recruitment.

Of the 44 potential reinfections identified by the study, 2 were designated 'probable' and 42 'possible', based on the amount of confirmatory evidence available. If all 44 cases were confirmed, it would represent an 83% rate of protection from reinfection, while if only the 2 'probable' reinfections were confirmed, the rate would be 99%. Further research is ongoing to clarify this range.

The study found that antibody protection after infection lasts for at least 5 months, on average, and scientists are currently studying whether protection may last for longer. This means that many people who contracted the disease in the first wave may now be vulnerable to catching it again.

Both of the 2 'probable' reinfections reported having experienced COVID-19 symptoms during the first wave of the pandemic, but were not tested at the time. Both patients reported that their symptoms were less severe the second time. None of the 44 potential reinfection cases were PCR tested during the first wave, but all tested positive for COVID-19 antibodies at the point of recruitment to the study.

The study will continue to follow participants for 12 months to explore how long any immunity may last, the effectiveness of vaccines and to what extent people with immunity are able to carry and transmit the virus.