

[PHE study shows three-quarters of over-70s have COVID-19 antibodies](#)

However, only 5.6% were from natural infection, which shows that older adults are able to mount a very robust immune response to a single dose of COVID-19 vaccine.

PHE routinely tests samples from blood donors across the country, provided by NHS Blood and Transplant, to estimate the proportion of the population with antibodies to COVID-19. [This study uses 2 different tests](#) to measure 2 different antibodies: antibodies that are naturally produced after infection with the virus and antibodies that develop in response to infection or the vaccine. This allows us to determine what proportion of the population have developed antibodies after vaccination.

As age is the single greatest risk factor for severe disease and death from COVID-19, older people were among the first to be prioritised for vaccination. The high proportion with vaccine antibodies in this age group is therefore very reassuring.

The study found that the proportion of over-70s with vaccine antibodies started to increase from early January. This is in line with expectations as it takes 2 to 3 weeks to produce an antibody response after vaccination.

Conversely, the proportion with antibodies resulting from natural infection started to plateau at the same time, suggesting that the vaccine is preventing older people from getting COVID-19.

In the population as a whole, 37.7% of people had antibodies either from infection or vaccination.

Sixteen to 29 year olds remain the group with the highest proportion of antibodies after natural infection, indicating ongoing infection and transmission in younger people.

Dr Gayatri Amirthalingam, Consultant Epidemiologist at PHE, said:

Vaccines are the way out of this pandemic and provide the best protection from COVID-19, especially in those with the highest risk.

These data show that the COVID-19 immunisation programme is having a big impact on the number of older people that have antibodies after vaccination.

This suggests that a single dose of vaccine is producing a good immune response in those most at-risk and there is good indication that it is also reducing infection rates.

The latest vaccine effectiveness data from PHE show that in those aged over 70, both the Pfizer-BioNTech and Oxford-AstraZeneca vaccines reduce the risk of getting symptomatic disease by around 60% after a single dose. This protection lasts for several weeks.

In those aged over 80, protection against hospitalisation is around 80% and the Pfizer-BioNTech vaccine is 85% effective at stopping people aged over 80 from dying from COVID-19.

Dr Mary Ramsay, Head of Immunisation at PHE, said:

We published our first data on how well these vaccines are working in the real world around a month ago. Many millions more people have since been vaccinated and we now have even more confidence in the vaccines.

The latest data continue to show that both vaccines in use in the UK are still providing really good levels of protection against COVID-19. As well as reducing cases, if vaccinated people catch COVID-19, they are less likely to get serious illness and die.