CAN CARE HOME STAFF AND RESIDENTS GET INFECTED WITH COVID-19 MORE THAN ONCE?

People living and working in care homes who have been infected with COVID-19 before are unlikely to get infected a second time.

Between June 2020 and February 2021, we investigated whether people in care homes can get infected with COVID-19 more than once. We looked at blood and nasal swab test results from 2,000 staff and residents in 100 Four Seasons Health Care homes across England. The results showed that people in care homes who have previously been infected with COVID-19 are unlikely to get infected a second time, but it is important to get the vaccine to get the best level of protection.

WHAT IS THE VIVALDI STUDY?

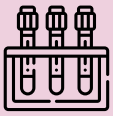
Researchers on the VIVALDI Study are investigating the impact of COVID-19 on care homes and what can be done to prevent infection from spreading among staff and residents. The study was set up in June 2020 and is collecting information from over 50,000 care home staff and residents across more than 300 care homes in England.

WHY DID WE DO THIS STUDY?

The COVID-19 pandemic has hit care homes very hard. Care home staff and residents have higher rates of infection, hospital admissions and deaths compared to other people. Despite this, at the beginning of the pandemic, there was very little information about what was happening in care homes.

WHAT DID WE WANT TO FIND OUT?

Most people who are infected with COVID-19 develop antibodies against the disease 1-2 weeks after infection. Working-age adults with antibodies are unlikely to get COVID-19 a second time. As we get older, however, our immune system slows down and the antibodies that we produce might not protect as well against infection. We wanted to know if older residents in care homes who have COVID-19 antibodies are also protected from new infection.



WHAT DID WE DO?

We invited staff and residents from a sub-set of 100 Four Seasons Health Care homes taking part in the VIVALDI study. At this time most care home staff and residents were not vaccinated, and the new variants were not identified. We collected information on the age and sex of participants but did not have good quality information about their ethnicity.

Between June and October 2020, participants gave us up to three blood samples. The samples were tested for COVID-19 antibodies.

GLOSSARY

Antibody
Produced by the body to fight specific infections.

Care Home
A residential facility for people who need extra help with looking after themselves.

Care Home Resident
A person who lives in a care home.

COVID-19
Coronavirus disease (COVID-19) is a highly contagious respiratory infection caused by the SARS-CoV-2 virus.

COVID-19 Related Death
Death within 28 days of a positive swab test for COVID-19.

Immunity
The ability to resist a particular infection by the action of the body's immune system.

Infection
The invasion of the body by an infectious agent like bacteria or a virus.

Nasal Swab Test
A device inserted in the nose, used to look for active COVID-19 infection.

Older Adult
A person aged 65 years and over.

Working-age Adult
A person aged under 65 years.

Using these samples, we could tell who **had** been infected with COVID-19 before October 2020 (people **with** COVID-19 antibodies in their blood) and who **had NOT** been infected (people **without** COVID-19 antibodies in their blood).

Since July 2020, all care home staff and residents have been tested regularly for COVID-19 infection. This was done with nasal swab tests that were organised through the national testing programme. We used the results from these swab tests to pick out individuals who had a new COVID-19 infection after October 2020. We combined the information from the blood and nasal swab tests and split the participants into two groups. We then compared the number of infections in these groups.

Group 1: Those who did NOT have COVID-19 antibodies in their blood by October 2020, and who later had a COVID-19 infection as shown by a positive swab test.

Group 2: Those who had COVID-19 antibodies in their blood by October 2020, but who later had a second COVID-19 infection as shown by a positive swab test.

WHAT DID WE FIND?

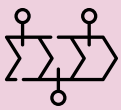
People **with** COVID-19 antibodies at the start of the study (indicating they had been infected before) were much less likely to get a new COVID-19 infection compared to people **without** antibodies.

In an average month between October 2020 and February 2021, **7** out of 100 residents **without** antibodies had a COVID-19 infection. Only **1** out of 100 residents **with** antibodies at the start of the study had a second COVID-19 infection. In the same period, **3** out of 100 staff members **without** antibodies were infected with COVID-19. Only **1** out of 100 staff **with** antibodies at the start of the study had a second COVID-19 infection.

WHAT DOES THIS MEAN FOR CARE HOMES?

The findings suggest that people living and working in care homes who have already been infected with COVID-19 have a reduced risk of further infection. This is good news, but we do not, however, know how long this protective effect lasts. It is therefore important for everyone to get vaccinated (even if you have been infected with COVID-19) to get the best long-term protection against COVID-19.

WHAT HAPPENS NEXT?



We are now working with staff and residents across 300 care homes to investigate how much protection vaccination provides against infection and for how long. This will help us to work out how often people need to be re-vaccinated, and when it might be safe to relax social distancing measures in care homes.

This summary was produced in partnership with patient and public representatives.

Read the full report:
Incidence of SARS-CoV-2 infection according to baseline antibody status in staff and residents of 100 long term care facilities (VIVALDI): a prospective cohort study
www.thelancet.com/journals/lanhl/article/PIIS2666-7568(21)00093-3/fulltext

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Preventing COVID-19 in care homes

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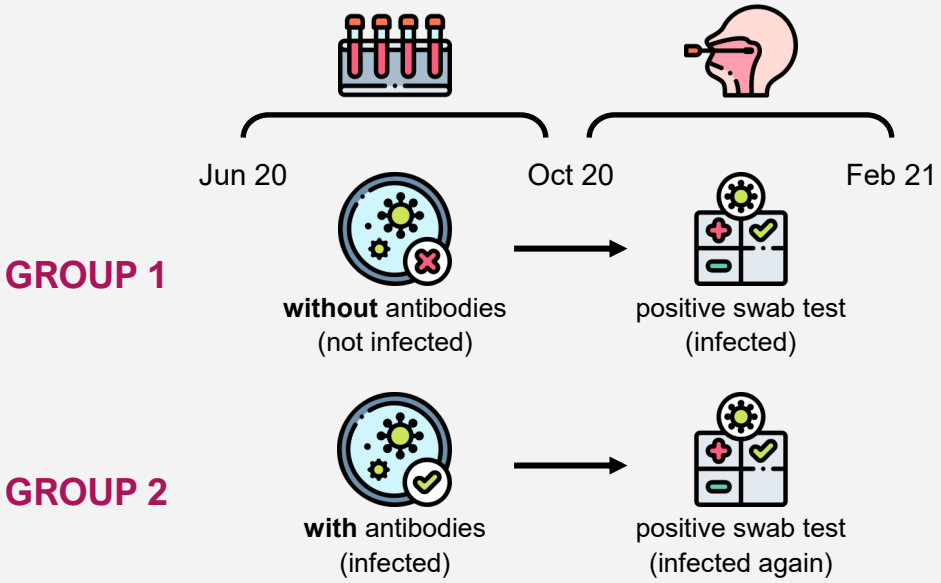
WHAT DID WE WANT TO FIND OUT?

We wanted to know if care home staff and residents who had COVID-19 before can get a second infection.

WHAT DID WE DO?

We looked at blood samples from care home staff and residents in 100 care homes across England. We wanted to see who had COVID-19 antibodies in their blood (indicating COVID-19 infection) **before** October 2020. We later looked at nasal swab results to see who had COVID-19 **after** October 2020.

We then compared the blood and nasal swab tests and split the participants into two groups.



WHAT DID WE FIND?

In an average month between October 2020 and February 2021, care home staff and resident who had COVID-19 before were less likely to get a second infection.