

SIREN

SARS-CoV2 Immunity & Reinfection Evaluation

PARTICIPANT NEWSLETTER

Dear SIREN Participants,

Welcome the first issue of the SIREN study Participant's Newsletter! With the 31st March 2021 marking the end of recruitment into the study, this significant milestone gives us the opportunity to reflect on all the achievements so far and celebrate the contribution of every participant and research team member to date.

Since our launch last summer, SIREN has become one of the world's largest studies investigating COVID-19 and re-infection in healthcare workers. Through your contribution, SIREN has provided critical data to inform the UK's public health response to COVID-19. The value of each sample you have provided and every questionnaire you have completed cannot be underestimated, it is only through your participation that we have been able to learn so much. We want to welcome all new participants to the study and thank you all for your vital contribution. Through this newsletter, we aim to share some of the exciting updates of the study with you as we look forward to the next stage of the study.

Does a prior infection protect against reinfection?

One of the main aims of the SIREN study is to better understand whether prior COVID-19, and antibodies to the SARS-CoV-2 virus, protect against a second infection.

Our first results on reinfection rates were released as a preprint in January and these results have now been updated to include even more recent data, collected from 25,661 of you. The paper has now been published in the Lancet and is available to read [here](#). Between 18 June 2020 and 11 January 2021, we were able to detect 155 possible or probable re-infections in 8,278 of you who had previously been infected with SARS-CoV-2. Through comparing rates of infection with those who had not been infected before, a prior infection was shown to be associated with an 84% lower rates of infection, with protection lasting 7 months on average, and a 93% lower rate of COVID-19 with symptoms.

Vaccine effectiveness

Following the vaccine rollout, the SIREN study is now one of the key ways we are able to measure how well vaccines work, providing critical data to inform the government's roadmap for lifting restrictions as we come out of lockdown.

Our analysis of vaccine effectiveness among SIREN participants were released as a pre-print in February 2021 and soon became one of the most downloaded pre-prints on the Lancet site ever! [The final results were published in the Lancet last week](#) and showed that one dose of the Pfizer vaccine reduced the risk of getting infected with SARS-CoV-2 by 70%, compared to those who had not received a vaccine. After the second dose, protection was even higher, with an 85% reduced risk of infection.

We are also pleased to report that COVID-19 vaccine coverage within the SIREN cohort is very high. However, our analysis did identify some factors associated with lower coverage. We found that participants were less likely to have been vaccinated if they had a prior infection, were from ethnic minority backgrounds, especially participants identifying as Black, or if they worked as porters, security guards or midwives.

It is crucial that vaccines are rolled-out to everyone equally and as quickly as possible. Understanding potential barriers to people accepting the vaccine are vital for informing national strategy. It would be great if SIREN participants could be champions for COVID-19 vaccination, at home, and work and in your communities.

If you have not yet been vaccinated, we recommend you discuss this with an appropriate medical professional. As our data show, vaccination is very effective in preventing SARS-CoV-2 infections, protecting yourselves, your families and your patients.

What are we looking at next?

Over the coming months, we will be able to study antibody response over time; if you currently have some protection from COVID-19, how long will this last?

Through continuing to collect data, we will be able to learn about the duration of the antibody response after both infection and vaccination. We will also be working hard to characterise and learn more about factors associated with reinfections and infections following vaccination ("vaccine failures"), as well as the impact of new variants. As the pandemic evolves, these results will be of huge value to policy makers in the UK.

That is why your support is vital in continuing this research.

Participant's Webinar on Thursday 29th April at 15:30

More than 1,000 SIREN participants joined us for the first webinar in early February. Following the publication of our results, we're holding a second webinar on Thursday 29th April at 15:30. This will be an opportunity to learn more about the study and the results so far, as well as to ask your questions. The event will be hosted on MS Teams and you can join us on the day by clicking on this [link](#). We look forward to seeing you there!

A recording will also be available after the event for those of you who cannot attend tomorrow.

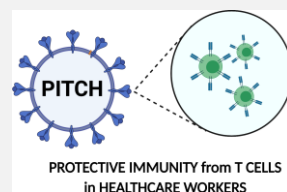
SIREN IN NUMBERS

>44,500
Participants
enrolled



Spotlight: PITCH, a SIREN associated study

As well as the main SIREN study, some of you are also part of one of our associated studies. PITCH,



which runs alongside SIREN at three of our study sites, aims to understand the immune response to the SARS-CoV-2 virus in more detail, focusing on T-cell responses; a type of white blood cell that is an essential part of the immune system.

Last month the [PITCH](#) study team [released a pre-print on their results](#) looking at the immune response following one dose of the Pfizer vaccine, comparing responses between those who had been previously infected and those who had not. After a single vaccine dose, the T-cell response was six times higher in the group who had previously had the virus, compared to those who had never been infected. But after a second dose of the vaccine, the response was comparable between the two groups. These results highlight the importance of getting the second dose, so everyone can benefit from this "booster" effect.

