

Statistical bulletin

Coronavirus (COVID-19) Infection Survey, antibody data, UK: 29 June 2022

Headline results of antibody data, by UK country and age, from the Coronavirus (COVID-19) Infection Survey. This survey is delivered in partnership with University of Oxford, University of Manchester, UK Health Security Agency (UKHSA) and Wellcome Trust, working with the University of Oxford and partner laboratories to collect and test samples.

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1 . Main points

In this bulletin, we report percentages of the population that are estimated to have antibodies against SARS-CoV-2, the specific virus that causes coronavirus (COVID-19).

In the week beginning 30 May 2022, the percentage of people estimated to have antibodies against SARS-CoV-2 at or above the antibody level of 179 ng per millilitre (ng/ml):

- in England, was 97.6% of adults (95% credible interval: 97.3% to 97.8%)
- in Wales, was 97.4% of adults (95% credible interval: 96.8% to 97.9%)
- in Northern Ireland, was 97.7% of adults (95% credible interval: 96.5% to 98.5%)
- in Scotland, was 97.2% of adults (95% credible interval: 96.7% to 97.6%)

About this bulletin

Our antibody positivity estimates are subject to continuous review as the coronavirus pandemic evolves.

We have made several improvements to our antibody modelling. One of them is to better account for changes in the sample dilution used in the antibody tests. This has resulted in some small changes to the antibody positivity estimates since they were last updated. Additionally, we have become aware of an issue with antibody laboratory results from 28 January to 3 March 2022. As a result, all estimates over this period are subject to change as they require reprocessing of some results. Recent trends have not been affected by these changes.

In this bulletin we report weekly antibody positivity estimates at or above the antibody level of 179 ng/ml for those aged 16 years and over by age group. Antibody estimates for children in Great Britain aged 12 to 15 years have been updated in our dataset. Estimates for those aged 8 to 11 years are subject to further quality assurance, and have not been updated in this publication. Results for those aged 8 to 15 years in Northern Ireland have not been updated in this release, as they are undergoing further development.

We have not reported antibody positivity estimates at or above the 42 ng/ml level since our [Coronavirus \(COVID-19\) Infection Survey, antibody data, UK: 20 April 2022 bulletin](#). This is because all age groups have been at or nearly at 100% antibody positivity at or above 42 ng/ml for some time. Positivity estimates at or above the 800 ng/ml level were produced in the edition of this bulletin that was [published on 4 May 2022](#). However, they have not been updated because of additional development taking place on these statistics. In this release, we have removed the previously published 42 ng/ml level data and 800 ng/ml level data from the dataset. Estimates at or above the 42 ng/ml and 800 ng/ml levels in previous datasets are therefore not comparable with estimates at or above the 179 ng/ml level in this release.

Further information on antibody test level, and the link between antibodies and infections can be found in our recent blog post: [Relationship between COVID-19 infections and antibodies: What do the data show?](#)

Antibody positivity estimates for UK countries and regions in England can be found in our [Coronavirus \(COVID-19\) antibody data for the UK: dataset](#).

2 . Antibodies by age group

In the week beginning 30 May 2022, the percentage of the adult population estimated to have antibodies against SARS-CoV-2 at or above the level of 179 nanograms per millilitre (ng/ml) remained high across the UK.

Figure 1: The percentage of the population estimated to have antibodies against SARS-CoV-2 remained high for UK adults in the week beginning 30 May 2022

Modelled percentage of the adult population with levels of antibodies against SARS-CoV-2 at or above 179 nanograms per millilitre (ng/ml), by age group, UK countries, 7 December 2020 to 5 June 2022

Notes:

1. All results are provisional and subject to revision.
2. These statistics refer to antibody tests for individuals living in private households.
3. In Northern Ireland, the number of people sampled is low compared with England, Wales and Scotland; therefore, adults aged 50 to 69 years are included in the same age group, and those aged 70 years and over are included in the same age group.
4. All estimates are subject to uncertainty, given that a sample is only part of the wider population. A [credible interval](#) gives an indication of the uncertainty of an estimate from data analysis.
5. The denominators used for antibodies are the total for each age group in the sample at that particular time point, then post-stratified by the mid-year population estimate.
6. We have become aware of an issue with antibody laboratory results from 28 January to 3 March 2022. As a result, all estimates over this period are subject to change on account of the reprocessing of some results.

Download the data

[.xlsx](#)

3 . Coronavirus (COVID-19) Infection Survey data

[Coronavirus \(COVID-19\) antibody and vaccination data for the UK](#)

Dataset | Released 29 June 2022

Antibody data by UK country and regions in England from the Coronavirus (COVID-19) Infection Survey.

4 . Glossary

Antibodies

We measure the levels of antibodies in people who live in private households to understand who has had coronavirus (COVID-19) in the past and the impact of vaccinations. It takes between two and three weeks after infection or vaccination for the body to make enough antibodies to fight the infection. Antibodies can help prevent individuals from getting the same infection again. Once infected or vaccinated, antibodies remain in the blood at low levels and can decline over time.

SARS-CoV-2

This is the scientific name given to the specific virus that causes COVID-19.

Credible interval

A credible interval gives an indication of the uncertainty of an estimate from data analysis. A 95% credible interval is calculated so that there is a 95% probability of the true value lying in the interval.

5 . Measuring the data

Reference dates

The antibody positivity estimates for the most recent week in this publication include data from 30 May to 5 June 2022.

Our [Coronavirus \(COVID-19\) Infection Survey: methodology article](#) provides further information around the survey design, how we process data, and how data are analysed. Our [Quality and Methodology Information](#) explains the strengths and limitations of the data, methods used, and data uses and users.

More [information on measuring the data](#) is available in the Coronavirus (COVID-19) Infection Survey statistical bulletin.

Survey data

The analysis on antibodies in this bulletin is based on blood test results taken from a randomly selected subsample of individuals aged 8 years and over who live in private households. The survey excludes those in hospitals, care homes and other communal establishments. The blood samples are used to test for antibodies against SARS-CoV-2.

Antibodies and immunity

Antibody positivity is defined by having a fixed concentration of antibodies in the blood. A negative test result occurs if there are no antibodies, or if antibody levels are too low to reach a level at the time of testing. It does not mean that their antibody level is at zero or that a person has no protection against COVID-19. Additionally, there are other parts of the immune system that will offer protection, for example, a person's T-cell response. This will not be detected by blood tests for antibodies. [A person's immune response is affected by a number of factors](#), including health conditions and age.

Our [blog on antibodies and immunity](#) gives further information on the link between antibodies and immunity and the vaccine programme. Our [blog on vaccine effectiveness](#) provides information on the effectiveness of vaccinations against Alpha and Delta variants, which is based on research conducted by partners from the University of Oxford.

Measuring antibody positivity

Our 179 nanograms per millilitre (ng/ml) [level is based on research by our academic partners](#), and reflects the percentage of adults who would have been likely to have a strong enough antibody response to provide some protection from getting a new COVID-19 infection with the Delta variant. This level is higher than our previously reported standard level of 42 ng/ml. Antibody levels below this do not mean that a person has no antibodies or immune protection at all. This antibody level was identified as providing a 67% lower risk of getting a new COVID-19 infection with the Delta variant after two vaccinations with either Pfizer or AstraZeneca vaccines, compared with someone who was unvaccinated and had not had COVID-19 before. It is unlikely that this level will provide equivalent protection against the Omicron variant, and we will keep the level used in our analysis of antibodies under regular review.

The [test used for spike antibodies measures](#) their concentration in ng/ml. The antibody level of 179 ng/ml corresponds to 100 binding antibody units (BAU)/ml, using the World Health Organization's (WHO) standardised units (enabling comparison across different antibody assays).

Further information on antibody test levels, and the link between antibodies and infections can be found in our recent [blog post: Relationship between COVID-19 infections and antibodies: What do the data show?](#)

6 . Related links

[Coronavirus \(COVID-19\) Infection Survey, UK](#)

Bulletin | Updated weekly

Estimates for England, Wales, Northern Ireland and Scotland. This survey is being delivered in partnership with the University of Oxford, University of Manchester, UK Health Security Agency and Wellcome Trust.

[Coronavirus \(COVID-19\) Infection Survey, characteristics of people testing positive for COVID-19, UK](#)

Bulletin | Updated fortnightly

Characteristics of people testing positive for COVID-19 from the Coronavirus (COVID-19) Infection Survey, including antibody data by UK country, and region and occupation for England. Antibodies data published before 3 February 2021 are available in this series.

[Coronavirus \(COVID-19\) Infection Survey technical article: Characteristics associated with third vaccination uptake: 21 April 2022](#)

Technical article | Released 21 April 2022

Analysis of populations in the UK by likelihood of having received a third vaccination against COVID-19 using the Coronavirus (COVID-19) Infection Survey. This survey is being delivered in partnership with University of Oxford, University of Manchester, UK Health Security Agency and Wellcome Trust.

[Coronavirus \(COVID-19\) Infection Survey technical article: Cumulative incidence of the number of people who have tested positive for COVID-19, UK: 22 April 2022](#)

Technical article | Released 22 April 2022

Analysis of the number of people in the UK who have tested positive for COVID-19 using the Coronavirus (COVID-19) Infection Survey. This survey is being delivered in partnership with University of Oxford, University of Manchester, UK Health Security Agency and Wellcome Trust.

[Coronavirus \(COVID-19\) Infection Survey Technical Article: Impact of vaccination on testing positive in the UK: October 2021](#)

Technical article | Released 18 October 2021

The reduction in risk of testing positive for COVID-19 associated with vaccination overall and by different vaccine types using data from the Coronavirus (COVID-19) Infection Survey. Two time periods were analysed; when the Alpha variant was dominant in the UK (1 December 2020 to 16 May 2021), and when the Delta variant was dominant (17 May to 14 August 2021).

[Coronavirus \(COVID-19\) Infection Survey QMI](#)

Methodology | Last revised 16 July 2021

Quality and Methodology Information for the Coronavirus (COVID-19) Infection Survey (CIS), detailing the strengths and limitations of the data, methods used, and data uses and users.