Office for National Statistics

Statistical bulletin

COVID-19 Schools Infection Survey, England: Round 6, June 2021

Initial estimates of staff and pupils testing positive for coronavirus (COVID-19) from the COVID-19 Schools Infection Survey across a sample of schools, within selected local authority areas in England. This Schools Infection Survey (SIS) is jointly led by the London School of Hygiene & Tropical Medicine, Public Health England and the Office for National Statistics.

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To be announced

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1 . Main points

- In June 2021 (Round 6), 0.27% of primary school pupils (95% confidence intervals: 0.05% to 0.84%), 0.42% of secondary school pupils (95% confidence intervals: 0.23% to 0.70%) and 0.27% of secondary school staff (95% confidence intervals: 0.07% to 0.71%) in school on the day of testing, tested positive for current infection for coronavirus (COVID-19).
- Prevalence of infection among pupils sampled in school was consistently lower than prevalence of infection among children in the wider community across all time periods; these findings support the hypothesis that over the school year "school gate" measures have reduced the risk of infection in school and the rapid asymptomatic testing programme may have enhanced this by keeping a higher proportion of infected pupils out of school in the summer term.
- The central estimates seen for seroconversion between Rounds 5 and 6 are the lowest seen at any point in the academic year; for primary school staff the seroconversion rate between Rounds 5 and 6 was 0.8 per 1,000 person-weeks, for secondary school staff, the seroconversion rate was 1.9 per 1,000 person-weeks.
- In June 2021, 25.16% of primary school staff (95% confidence intervals: 19.73% to 31.22%) and 23.36% of secondary school staff (95% confidence intervals: 20.66% to 26.22%) tested positive for SARS-CoV-2 antibodies; this difference is not statistically significant.
- By the end of June 2021, 92.93% of staff had received at least one dose and 70.47% had received both doses of a COVID-19 vaccination.
- 40% of primary school parents and 54% of secondary school parents would definitely want their child to have a COVID-19 vaccine if offered; only 3% of primary school parents and 6% of secondary school parents would definitely not want their child to have a COVID-19 vaccine, there has been no significant change in opinion since the previous questionnaire reported at Round 5.

Data presented are not intended to be generally applicable to all schools in England. The study was originally designed to oversample schools in areas of England where COVID-19 infection was highest at the start of the academic year (September 2020). Further information can be found in the methodology article.

The antibody tests used in this study detect antibodies produced following natural infection and not vaccination.

Have you been asked to take part in the study?

For more information, please visit the SIS participant guidance page.

If you have any further questions on the COVID-19 Schools Infection Survey (SIS), you can telephone IQVIA helpline on 0800 917 9679 or email iqvia.schoolinfectionsurvey@nhs.net.

2 . Pupils and staff testing positive for current coronavirus (COVID-19) infection

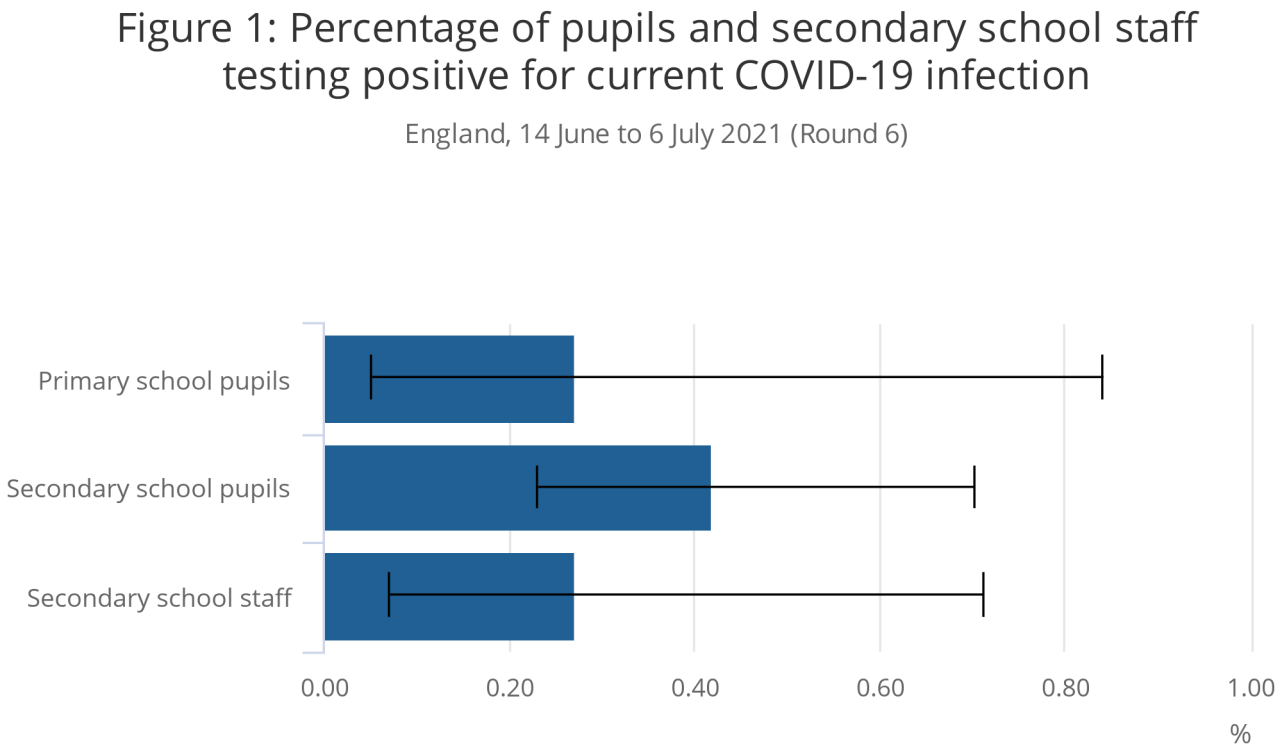
Of those present in the school building on the day of testing, 0.27% of primary school pupils tested positive (95% confidence intervals: 0.05% to 0.84%) compared with 0.42% of secondary school pupils (95% confidence intervals: 0.23% to 0.70%), the confidence intervals of this estimate overlap.

The percentage of secondary school staff testing positive for current coronavirus (COVID-19) infection was 0.27% (95% confidence intervals: 0.07% to 0.71%). The number of positive test results in Round 6 from primary school staff is too small to present because of statistical disclosure criteria.

In Round 6, 50% of all COVID-19 Schools Infection Survey (SIS) positive cases were compatible with the Alpha variant compared with 84% in Round 5 and 96% in Round 4.

Figure 1: Percentage of pupils and secondary school staff testing positive for current COVID-19 infection

England, 14 June to 6 July 2021 (Round 6)



Source: Office for National Statistics – Coronavirus (COVID-19) Schools Infection Survey

Notes:

1. Data from 14 local authorities.
2. The number of positive test results from primary school staff are too small to present because of statistical disclosure criteria.

In Round 6, tests have been returned for 141 schools, of which 108 (77%) returned no positive cases among participants tested as part of the study, 13 primary schools (23% of primary schools) returned at least one positive case and 20 secondary schools (24%) returned at least one case. This is higher than in Round 5 where 11% of primary schools and 6% of secondary schools returned at least one positive case but lower than the Autumn 2020 term. In Round 2 (December 2020) 54% of primary schools and 62% of secondary schools returned at least one positive case.

When using comparable data across the rounds, the percentage of secondary school pupils testing positive for current COVID-19 infection in Round 6 (0.30%) has increased from the levels seen in Round 5 back to the levels seen in Round 4 (0.33%). There was little change in the percentage of primary school pupils testing positive in Round 6 compared with Round 5 (0.34% compared with 0.36% respectively); this can be seen in Figure 2.

The percentage of secondary school staff testing positive for current COVID-19 infection in Round 6 was similar to that seen in Round 4 and significantly lower than the Autumn term of 2020 (Round 1 and Round 2); this can be seen in Figure 3.

Figure 2: Percentage of primary and secondary school pupils testing positive for current COVID-19 infection across rounds

England, 3 to 20 November 2020 (Round 1), 30 November to 11 December 2020 (Round 2), 15 to 31 March 2021 (Round 4), 5 to 21 May 2021 (Round 5), and 14 June to 6 July 2021 (Round 6)

Notes:

1. To ensure consistent comparisons between rounds, only the 11 local authorities with coverage in all rounds and for at least two primary and two secondary schools in the sample are included in the total figures provided. These are not necessarily the same schools or participants tested between rounds.

2. The number of positive test results in Round 4 from primary school pupils are too small to present because of statistical disclosure criteria.

Data download

Figure 3: Percentage of primary and secondary school staff testing positive for current COVID-19 infection across rounds

England, 3 to 20 November 2020 (Round 1), 30 November to 11 December 2020 (Round 2), 15 to 31 March 2021 (Round 4), 5 to 21 May 2021 (Round 5) and 14 June to 6 July 2021 (Round 6)

Notes:

1. To ensure consistent comparisons between rounds, only the 11 local authorities with coverage in all rounds and for at least two primary and two secondary schools in the sample are included in the total figures provided. These are not necessarily the same schools or participants tested between rounds.

2. The number of positive test results for primary school staff are too small to present in Round 4, Round 5 or Round 6 because of statistical disclosure criteria.

3. The number of positive test results for secondary school staff are too small to present in Round 5 because of statistical disclosure criteria.

Data download

Schools have undertaken a range of measures to limit transmission of COVID-19. These measures could be categorised into two types: measures to limit the number of people on the school site with COVID-19 infection ("school gate" measures, such as excluding bubbles and asymptomatic testing), and measures to limit the likelihood of transmission occurring within the school site (such as enhanced cleaning and social distancing within the school).

To get a better understanding of how successful "school gate" measures have been in limiting the number of people in school with a COVID-19 infection, we looked at the difference between the prevalence of infection among children sampled in school as part of SIS and the wider community prevalence among children taken from the Coronavirus (COVID-19) Infection Survey (CIS).

SIS is not intended to be generalisable to England as a whole but does have good representation in the North West. Therefore, data for SIS local authorities in the North West were compared with the CIS data published for the North West region. This table can be found in the accompanying dataset. It is important to note that these estimates are based on small samples. This means there is a higher degree of uncertainty in the regional estimates, as indicated by larger confidence intervals, which can be found in the accompanying dataset.

Prevalence of infection among children sampled in school was consistently lower than prevalence of infection among children in the wider community across all time periods. In the autumn term 2020 (Rounds 1 and 2), the SIS prevalence was approximately 50 to 60% lower than the CIS prevalence. In the summer term (Round 6), after the rapid asymptomatic testing programme had been launched, SIS prevalence was approximately 90% lower than CIS.

Although direct causation is unknown, these findings support the hypothesis that over the school year "school gate" measures have reduced the risk of infection in school. Furthermore, the rapid asymptomatic testing programme may have enhanced this by keeping a higher proportion of infected students out of school in the summer term.

This is not an exact like for like comparison, the notes in the accompanying dataset provide more details on the key differences between the two data sources.

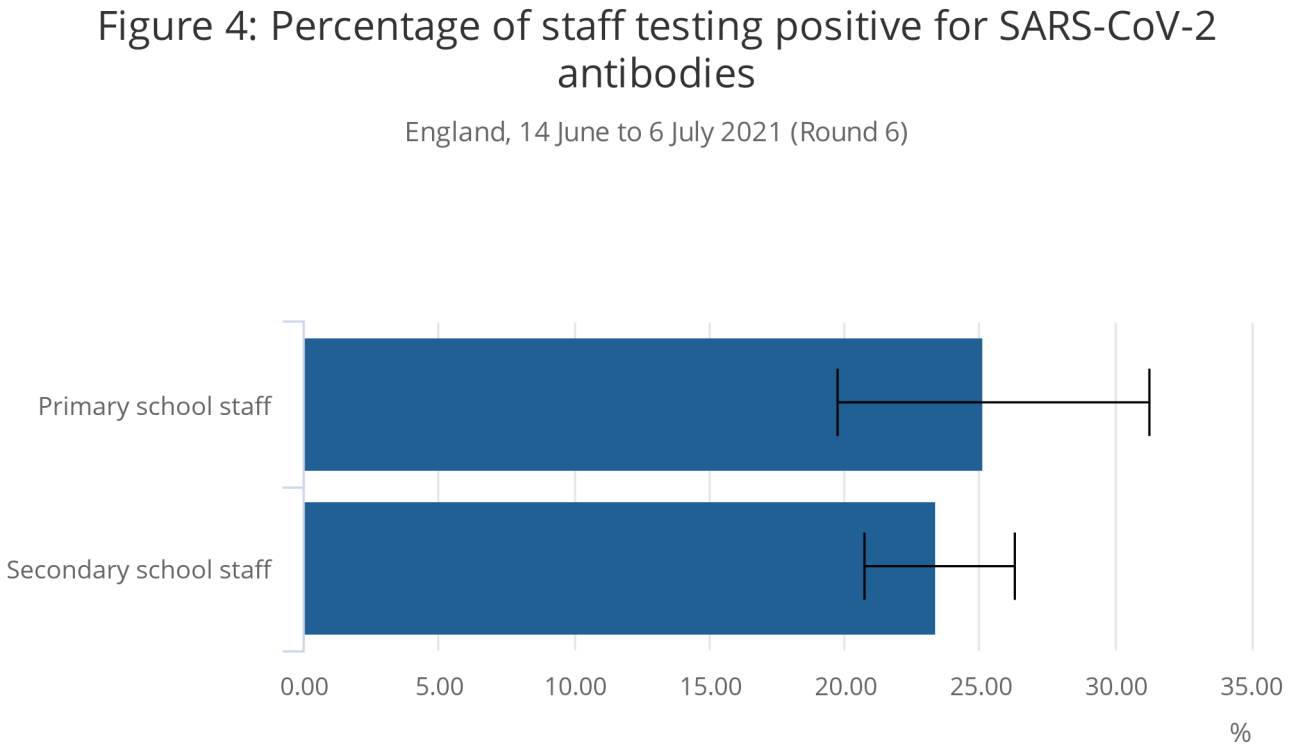
3 . Staff testing positive for coronavirus (COVID-19) antibodies

Figure 4 shows the percentage of staff testing positive for SARS-CoV-2 antibodies in Round 6 (14 June to 6 July 2021); 25.16% of primary school staff tested positive (95% confidence intervals: 19.73% to 31.22%) compared with 23.36% of secondary school staff (95% confidence intervals: 20.66% to 26.22%).

The antibody test used in this study detects antibodies produced following natural infection; antibodies resulting from coronavirus (COVID-19) vaccination will not be detected. This is different to the antibody test used in the Office for National Statistics (ONS) COVID-19 Infection Survey (CIS), which will detect antibodies from vaccination as well as infection. The figures reported in this bulletin are therefore lower than those estimated for the community population in the CIS.

Figure 4: Percentage of staff testing positive for SARS-CoV-2 antibodies

England, 14 June to 6 July 2021 (Round 6)



Source: Office for National Statistics – Coronavirus (COVID-19) Schools Infection Survey

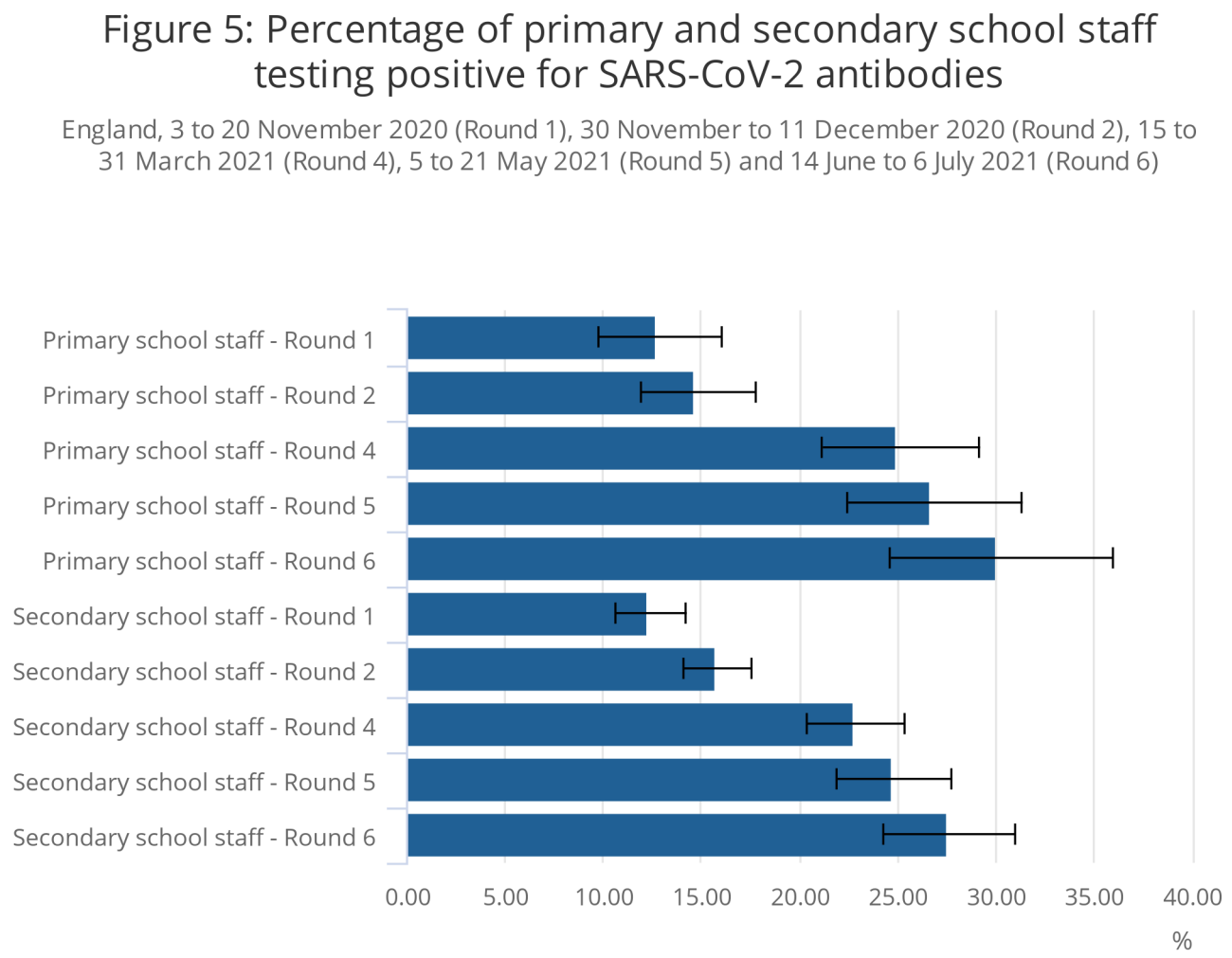
Notes:

1. Data from 14 local authorities.

The percentage of staff testing positive for SARS-CoV-2 antibodies continued to increase, for both primary school and secondary school staff throughout the academic year; this can be seen in Figure 5.

Figure 5: Percentage of primary and secondary school staff testing positive for SARS-CoV-2 antibodies

England, 3 to 20 November 2020 (Round 1), 30 November to 11 December 2020 (Round 2), 15 to 31 March 2021 (Round 4), 5 to 21 May 2021 (Round 5) and 14 June to 6 July 2021 (Round 6)



Source: Office for National Statistics – Coronavirus (COVID-19) Schools Infection Survey

Notes:

1. To ensure consistent comparisons between rounds, only the 11 local authorities with coverage in all rounds and for at least two primary and two secondary schools in the sample are included in the total figures provided. These are not necessarily the same schools or participants tested between rounds.

Local authority results can be found in the accompanying dataset. Confidence intervals are wide, so all estimates should be interpreted with caution, however, the general trends observed are in line with expectations given infection trends in the wider community.

Seroconversion rates

In the case of the coronavirus (COVID-19); antibody seroconversion is the incidence of SARS-CoV-2 antibody test results changing from negative to positive and will capture both symptomatic and asymptomatic infections that may have been missed between testing rounds.

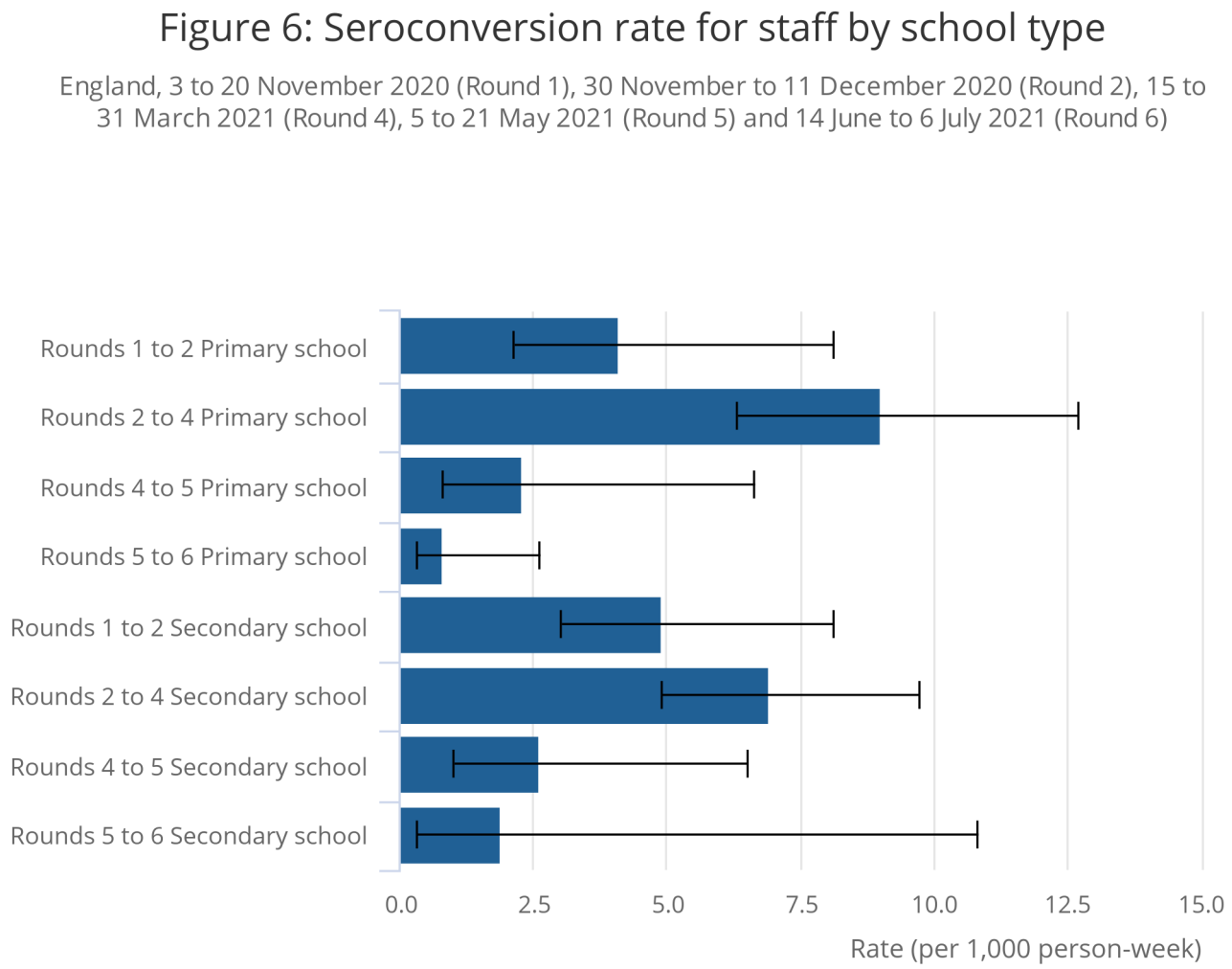
To account for the different follow-up times between the rounds (on average the follow-up time between Rounds 1 and 2 was three weeks, 15 weeks between Rounds 2 and 4, eight weeks between Rounds 4 and 5, and six weeks between Rounds 5 and 6), the seroconversion rate has been calculated and expressed per 1,000 person-weeks. More details on this approach are available in the methodology note.

Figure 6 shows the seroconversion rate of staff testing positive for SARS-CoV-2 antibodies; between Rounds 5 and 6 the seroconversion rate for primary school staff was 0.8 per 1,000 person-weeks (95% confidence intervals: 0.3 to 2.6 per 1,000 person-weeks). This rate is lower than previous seroconversion rates seen over the academic year.

The secondary school staff had a seroconversion rate between Round 5 and 6 of 1.9 per 1,000 person weeks (95% confidence intervals: 0.3 to 10.8 per 1,000 person-weeks). The confidence intervals are wide so should be interpreted with caution; however, these are the lowest seen at any point in the academic year.

Figure 6: Seroconversion rate for staff by school type

England, 3 to 20 November 2020 (Round 1), 30 November to 11 December 2020 (Round 2), 15 to 31 March 2021 (Round 4), 5 to 21 May 2021 (Round 5) and 14 June to 6 July 2021 (Round 6)



Source: Office for National Statistics – Coronavirus (COVID-19) Schools Infection Survey

Notes:

1. For coronavirus, seroconversion is the incidence of SARS-CoV-2 antibody test results changing from negative to positive.

4 . Staff vaccination rates

Staff vaccination data were obtained by linking to the National Immunisation Management System (NIMS). Details of the data matching can be found in our methodology article. Of the staff participating where immunisation status was available, 92.93% had received at least one vaccination dose by the end of June 2021 (95% confidence intervals: 91.13% to 94.45%), an increase from 86.60% at the end of May 2021, and from 62.94% at the end of March 2021. Of these members of staff, 70.47% had received both doses (95% confidence intervals: 67.50% to 73.32%), an increase from 43.13% at the end of May 2021, and up from 1.01% at the end of March 2021.

Vaccination data by age and local authority results can be found in the accompanying dataset.

As our vaccination rates relate to school staff in 14 local authorities and cannot be generalised to all school staff in England, the data in this bulletin will differ from the administrative data on vaccinations published weekly by NHS England. The administrative data cover all vaccinations given to individuals who have an NHS number and are currently alive in the resident population.

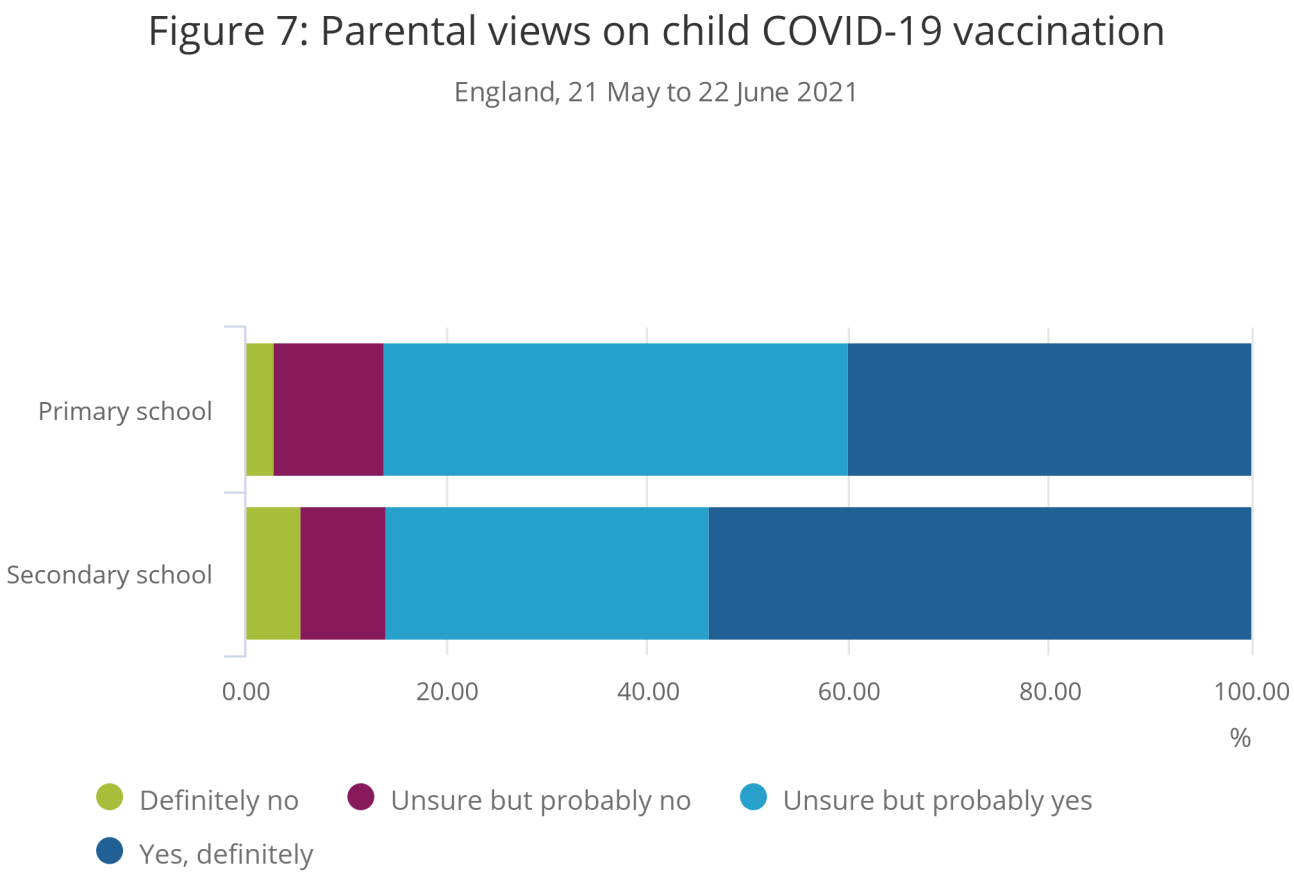
5 . Parental views on child vaccination

Between 21 May and 22 June 2021, parents were asked to complete a short questionnaire about their views towards their children receiving a coronavirus (COVID-19) vaccination. Analysis was carried out on 1,728 responses received from parents with children under the age of 16 years (a response rate of 11%) and has been weighted to be representative of all children under 16 years in the COVID-19 Schools Infection Survey (SIS) local authorities (as SIS oversamples local authorities in the North West of England these findings are not necessarily generalisable to England as a whole).

In response to the question "If a COVID-19 vaccine was offered to your child, would you want them to have the vaccine?", 40% of primary school parents and 54% of secondary school parents responded that they "Yes, definitely" would want their child to have a COVID-19 vaccine. Some 3% of primary school parents and 6% of secondary school parents said they would "Definitely not" want their child to have a vaccine, as seen in Figure 7. There has been no significant change in opinion since the previous questionnaire reported in Round 5.

Figure 7: Parental views on child COVID-19 vaccination

England, 21 May to 22 June 2021



Source: Office for National Statistics – Coronavirus (COVID-19) Schools Infection Survey

Notes:

1. Data from 14 local authorities.
2. Responses from parents with a participant under 16 years have been included in the analysis.

More about coronavirus

- Find the latest on coronavirus (COVID-19) in the UK.
- Explore the latest coronavirus data from the ONS and other sources.
- View all coronavirus data.
- Find out how we are working safely in our studies and surveys.

6 . COVID-19 Schools Infection Survey data

COVID-19 Schools Infection Survey
Dataset | Released 11 August 2021
Estimates from Round 6 of the COVID-19 Schools Infection Survey.

7 . Collaboration

The COVID-19 Schools Infection Survey analysis was produced by the Office for National Statistics (ONS) in collaboration with our research partners at the London School of Hygiene & Tropical Medicine and Public Health England.

8 . Glossary

Confidence interval

A confidence interval gives an indication of the degree of uncertainty of an estimate, showing the precision of a sample estimate. The 95% confidence intervals are calculated so that if we repeated the study many times, 95% of the time the true unknown value would lie between the lower and upper confidence limits. A wider interval indicates more uncertainty in the estimate. Overlapping confidence intervals indicate that there may not be a true difference between two estimates. For more information, see our methodology page on statistical uncertainty.

Statistical significance

A result is said to be statistically significant if it is likely not caused by chance or the variable nature of the samples. For more information, see our methodology page on statistical uncertainty.

Seroconversion rate

In the case of the coronavirus (COVID-19), antibody seroconversion is the incidence of SARS-CoV-2 antibody test results changing from negative to positive and will capture both symptomatic and asymptomatic infections that may have been missed between testing rounds. To account for the different follow-up times between testing rounds in the COVID-19 Schools Infection Survey (SIS) a seroconversion rate has been calculated and expressed per 1,000 person-weeks, to allow for meaningful comparisons.

A seroconversion rate of 1.4 per 1,000 person-weeks suggests that, out of 10,000 people on average 14 changed from negative (no antibodies) to positive (antibodies against SARS-CoV-2 detected by the test) each week between the testing rounds. More details on this methodology are available. Note that after the infection, it takes some time before the antibody levels can be detected by the test. Therefore, people who have been recently infected may not yet have a detectable antibody level.

9 . Measuring the data

Data presented in this bulletin are from Round 6 (with comparisons with Round 1, Round 2, Round 4 and Round 5) of the COVID-19 Schools Infection Survey (SIS). These findings are for current coronavirus (COVID-19) infection for pupils and staff, and SARS-CoV-2 antibodies for staff only.

Estimates have been weighted and are representative of the ethnicity, gender, and age for all pupils in the sampled local authorities.

Our methodology article provides further information about response rates, survey design, how we process data and how data are analysed.

Reference period

The results presented in this bulletin are from virus swab and antibody tests conducted in schools in England between 14 June and 6 July 2021 – referred to as Round 6. Testing for current infection in SIS is carried out using nasal swab (PCR) tests. This study is independent to the rapid asymptomatic testing introduced in schools using lateral flow devices (LFD).

Results have also been presented from tests conducted in schools in England between 3 and 20 November 2020 – referred to as Round 1, between 30 November and 11 December 2020 – referred to as Round 2, between 15 and 31 March 2021 referred to as Round 4, and between 5 and 21 May 2021 – referred to as Round 5.

Round 3 was due to take place in late January 2021. Testing within schools for this round was cancelled because of restricted attendance in schools during the national lockdown.

Response rates

In Round 6, 141 schools took part in testing (57 primary and 84 secondary).

In Round 6 of testing, 3,819 staff participated in at least one current COVID-19 infection or SARS-CoV-2 antibody test. This is around 30% of eligible staff in the sampled schools.

Before the beginning of Round 4, participation was offered to all year groups in secondary schools (excluding Year 11) to improve the sample size. Some 63 out of the 84 secondary schools that took part in Round 6 testing had extended participation to other year groups.

In Round 6 of testing, 12,485 pupils (4,243 primary and 8,242 secondary) took part in at least one current COVID-19 infection or COVID-19 antibody test. The estimated response rate for secondary school pupils, in the year groups that participation was offered to, was 17%. The estimated response rate for primary school pupils was 24%. Details of previous rounds response rates can be found in the accompanying dataset.

Quality

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in our methodology article.

Data cleaning and quality assurance is being carried out on data collected as part of the study on an ongoing basis. All estimates presented in this bulletin are provisional results. Estimates may therefore be revised in future publications.

10 . Strengths and limitations

Please refer to further Strengths and limitations of the COVID-19 Schools Infection Survey in the Round 2 bulletin.

11 . Related links

COVID-19 Schools Infection Survey, England: Round 5, England: May 2021
Bulletin | Released 1 July 2021
Initial estimates of staff and pupils testing positive for coronavirus (COVID-19) from the COVID-19 Schools Infection Survey across a sample of schools, within selected local authority areas in England.

Coronavirus (COVID-19) Infection Survey, antibody and vaccination data, UK
Article | Updated fortnightly
Antibody and vaccination data by UK country and regions in England from the Coronavirus (COVID-19) Infection Survey.

Coronavirus (COVID-19) Infection Survey, UK
Bulletin | Updated weekly
Estimates for England, Wales, Northern Ireland and Scotland.

Coronavirus and higher education students: England, 24 May to 2 June 2021
Bulletin | Released 17 June 2021
Experimental statistics from the Student COVID-19 Insights Survey (SCIS) in England. Includes information on the behaviours, plans, opinions and well-being of higher education students in the context of guidance on the coronavirus (COVID-19) pandemic.

Coronavirus (COVID-19) latest insights
Article | Updated as and when data become available
A roundup of the latest data and trends about the coronavirus (COVID-19) pandemic from the ONS and other sources.