

Statistical bulletin

# COVID-19 Schools Infection Survey, England: Round 5, England: May 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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Release date:  
1 July 2021

Next release:  
11 August 2021

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# 1 . Main points

- In May 2021 (Round 5), 0.65% of primary school pupils (95% confidence intervals: 0.27% to 1.29%) and 0.05% of secondary school pupils (95% confidence intervals: 0.01% to 0.18%) tested positive for current infection for COVID-19.
- For Round 5 we are unable to report staff current infection to COVID-19 because of the low numbers testing positive.
- For primary school staff, the seroconversion rate between Round 4 and 5 was 1.4 per 1,000 person weeks; this was significantly lower than the seroconversion rate seen between Round 2 and Round 4.
- Secondary school staff had a seroconversion rate between Round 4 and 5 of 2.1 per 1,000 person weeks; this was not statistically different to the rate seen between Round 2 and Round 4.
- In Round 5, 24.37% of primary school staff (95% confidence intervals: 19.75% to 29.47%) and 21.79% of secondary school staff (95% confidence intervals: 19.42% to 24.30%) tested positive for COVID-19 antibodies; this difference is not statistically significant.
- By the end of May 2021, 86.58% of staff had received at least one dose and 43.09% had received both doses of a COVID-19 vaccination.
- 43% of primary school parents and 53% of secondary school parents would definitely want their child to have a COVID-19 vaccine if offered. Only 4% of primary school parents and 3% of secondary school parents would definitely not want their child to have a COVID-19 vaccine.

Data presented are not intended to be generally applicable to all schools in England. The study was originally designed to over-sample 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](mailto:iqvia.schoolinfectionsurvey@nhs.net).

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

Figure 1 shows the percentage of primary and secondary school pupils testing positive for current coronavirus (COVID-19) infection in Round 5 (5 to 21 May 2021). 0.65% of primary school pupils that were present in the school building on the day of testing tested positive (95% confidence interval: 0.27% to 1.29%) compared with 0.05% of secondary school pupils (95% confidence interval: 0.01% to 0.18%).

The number of positive test results in Round 5 from primary and secondary school staff is too small to present because of [statistical disclosure criteria](#).

Despite over-sampling in the North West where the [Delta](#) variant was most prevalent in May we found very low numbers of positive cases in the schools.

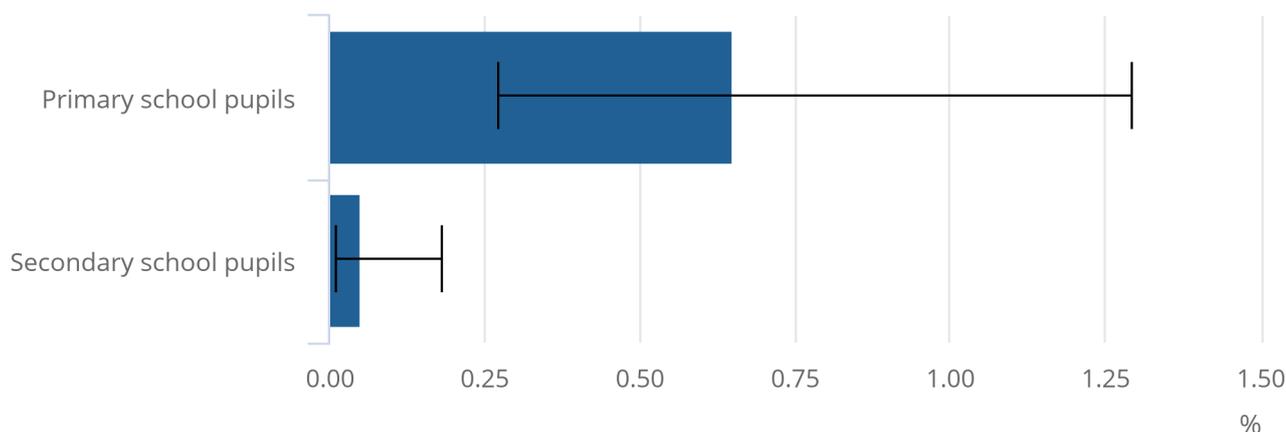
Most of our positive cases were compatible with the Alpha variant. In Round 5, 84% of all COVID-19 Schools Infection Survey (SIS) positive cases were compatible with the Alpha variant compared with 96% in Round 4. Suggesting that, at the time of testing, the Delta variant was still concentrated in very specific areas of the country that were not sampled in SIS.

### Figure 1: Percentage of pupils testing positive for current COVID-19 infection

England, 5 to 21 May 2021 (Round 5)

Figure 1: Percentage of pupils testing positive for current COVID-19 infection

England, 5 to 21 May 2021 (Round 5)



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

#### Notes:

1. Data from 14 local authorities; Bradford is not included as data were not available for both primary and secondary schools.
2. Test results are only available for those who had enrolled in the survey and present in the school building on the day of testing. Under current guidance you would expect these participants to have no reported COVID-19 symptoms and not be under self-isolation.
3. Estimates have been weighted and are representative of the ethnicity, gender and age for all pupils in the sampled local authorities.

In Round 5, tests have been returned for 142 schools, of which 131 (92%) returned no positive cases among participants tested as part of the study and 11 schools returned one or two cases. Of these 11 schools, eight were in the North West (13% of schools tested in this region had at least one positive case compared with 4% of the SIS schools located elsewhere).

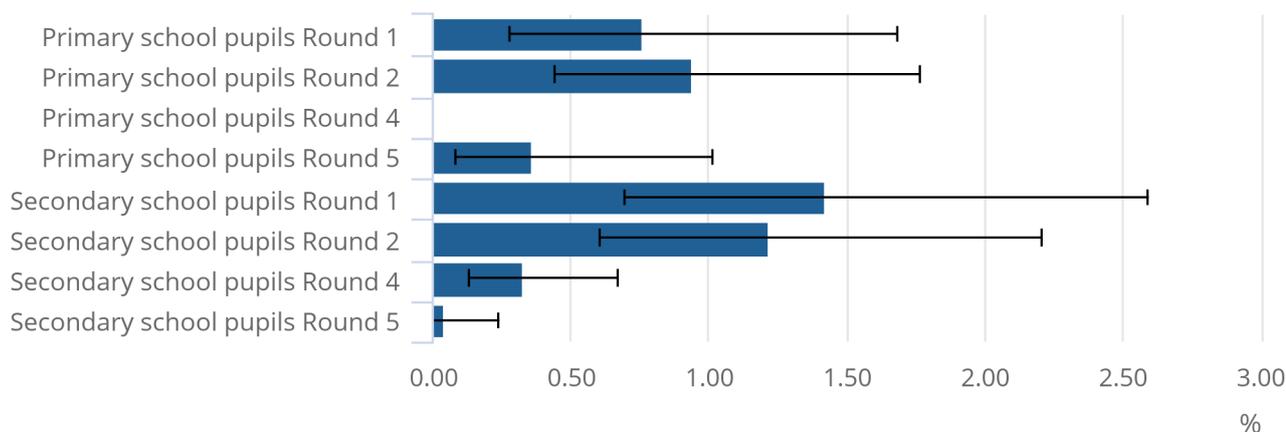
The percentage of secondary school pupils testing positive for current COVID-19 infection in Round 5 was significantly lower than in the Autumn term of 2020; this can be seen in Figure 2.

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

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

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

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



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 Rounds 1, 2, 4 and 5 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. Test results are only available for those who had enrolled in the survey and present in the school building on the day of testing. Under current guidance you would expect these participants to have no reported COVID-19 symptoms and not be under self-isolation.
3. The number of positive test results in Round 4 from primary school pupils are too small to present because of [statistical disclosure criteria](#).
4. Estimates have been weighted and are representative of the ethnicity, gender, and age for all pupils in the sampled local authorities.

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.

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

Figure 3 shows the percentage of staff testing positive for COVID-19 antibodies in Round 5 (5 to 21 May 2021); 24.37% of primary school staff tested positive (95% confidence intervals: 19.75% to 29.47%) compared with 21.79% of secondary school staff (95% confidence intervals: 19.42% to 24.30%).

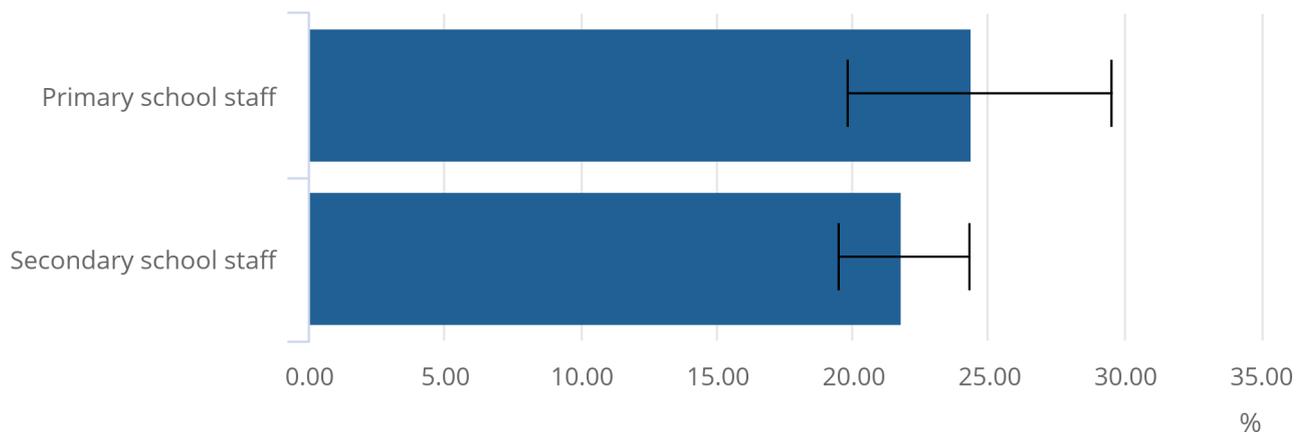
The antibody test used in this study detects antibodies produced following natural infection; antibodies resulting from coronavirus (COVID-19) vaccination will not be detected. This is different to the antibody test used in the Office for National Statistics (ONS) COVID-19 Infection Survey (CIS), which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

**Figure 3: Percentage of staff testing positive for SARS-CoV-2 antibodies**

England, 5 to 21 May 2021 (Round 5)

Figure 3: Percentage of staff testing positive for SARS-CoV-2 antibodies

England, 5 to 21 May 2021 (Round 5)



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

Notes:

1. Data from 14 local authorities; Bradford is not included as data were not available for both primary and secondary school.
2. Estimates have been weighted and are representative of the ethnicity, gender, and age for all staff in the sampled local authorities.

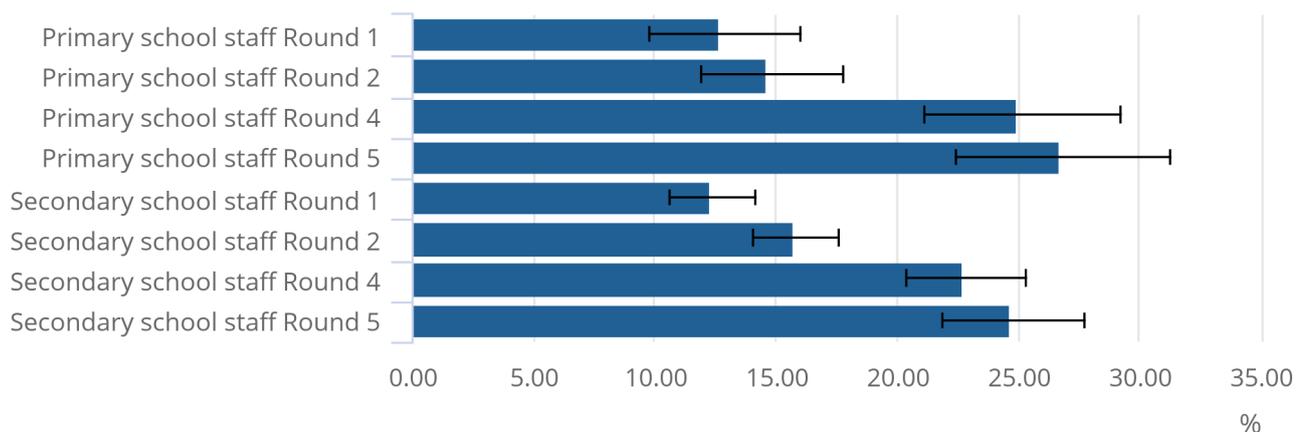
The percentage of staff testing positive for COVID-19 antibodies continued to increase, for both primary school and secondary school staff between [Round 4](#) and Round 5; this can be seen in Figure 4.

**Figure 4: 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) and 5 to 21 May 2021 (Round 5)

Figure 4: 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) and 5 to 21 May 2021 (Round 5)



**Notes:**

1. To ensure consistent comparisons between rounds, only the 11 local authorities with coverage in Rounds 1, 2, 4 and 5, 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. Estimates have been weighted and are representative of the ethnicity, gender, and age for all staff in the sampled local authorities.
3. Staff includes all employees working in the school for example, teachers, teaching assistants, support staff.

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, and eight weeks between Rounds 4 and 5), 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 5 shows the seroconversion rate of staff testing positive for COVID-19 antibodies; between Rounds 4 and 5 the seroconversion rate for primary school staff was 1.4 per 1,000 person-weeks (95% confidence intervals: 0.5 to 3.9 per 1,000 person-weeks). This rate is significantly lower than the seroconversion rates seen between Rounds 2 to 4.

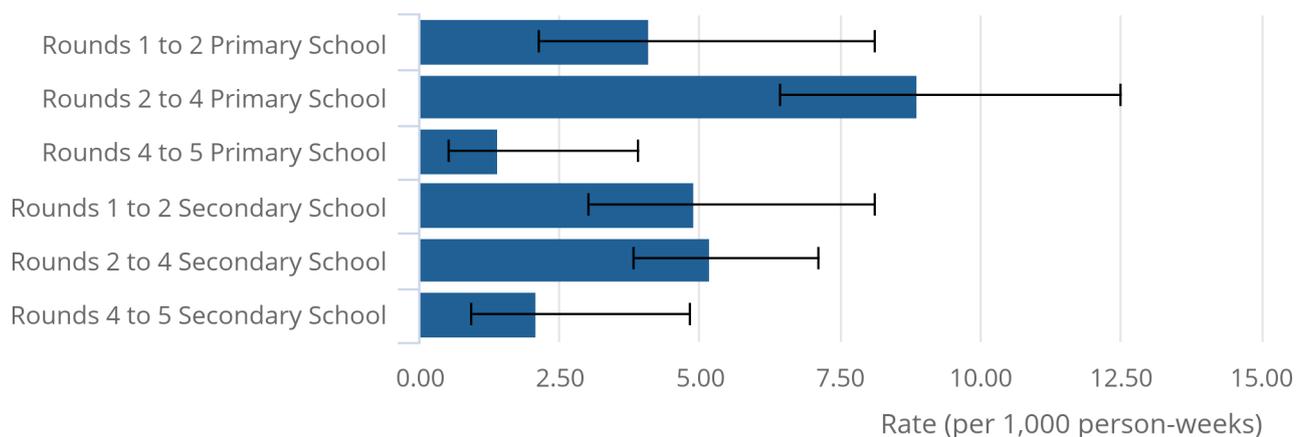
The secondary school staff had a seroconversion rate between Round 4 and 5 of 2.1 per 1,000 person weeks (95% confidence intervals: 0.9 to 4.8 per 1,000 person-weeks). This was not statistically different to the rates seen between Rounds 1 and 2 or between Rounds 2 and 4.

**Figure 5: 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) and 5 to 21 May 2021 (Round 5)

Figure 5: 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) and 5 to 21 May 2021 (Round 5)



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.
2. Estimates have been weighted and are representative of the ethnicity, gender, and age for all staff in the sampled local authorities.
3. Staff includes all employees working in the school for example, teachers, teaching assistants, support staff.

## 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, 86.58% had received at least one vaccination dose by the end of May 2021 (95% confidence intervals: 84.28% to 88.65%), and 43.09% had received both doses (95% confidence intervals: 39.96% to 46.27%).

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 12 April and 21 May 2021, parents were asked to complete a short questionnaire about their views towards their children receiving a COVID-19 vaccination. Analysis was carried out on 4,439 responses received from parents with children under the age of 16 years (a response rate of 28%) 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", 43% of primary school parents and 53% of secondary school parents responded that they "Yes, definitely" would want their child to have a COVID-19 vaccine. Some 4% of primary school parents and 3% of secondary school parents said they would "Definitely not" want their child to have a vaccine, as seen in Figure 6.

The most common reasons given by parents who said that they would definitely not want their child to have a vaccine were:

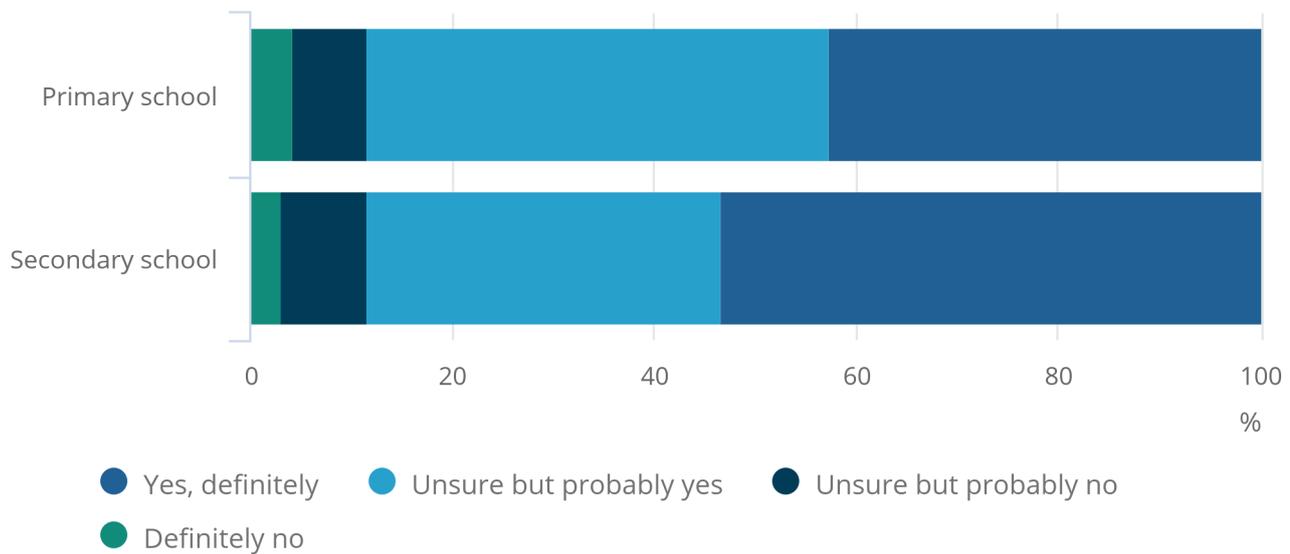
- not enough research has been carried out
- wanting more information on the long-term side effects
- concerns about vaccine safety and side effects

## Figure 6: Parental views on child COVID-19 vaccination

England, 12 April to 21 May 2021

### Figure 6: Parental views on child COVID-19 vaccination

England, 12 April to 21 May 2021



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

#### Notes:

1. The analysis above excludes the Bradford local authority as data is not available for both primary and secondary schools.
2. Estimates have been weighted and are representative of the ethnicity, gender, and age for all pupils in the sampled local authorities.
3. Responses from parents with a participant under 16 years have been included in the analysis above.

#### More about coronavirus

- Find the latest on [coronavirus \(COVID-19\) in the UK](#).
- All ONS analysis, summarised in our [coronavirus roundup](#).
- 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 Round 5](#)

Dataset | Released 01 July 2021

Estimates from Round 5 of the COVID-19 Schools Infection Survey.

## 7 . Collaboration

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



Public Health  
England

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 and Tropical Medicine and Public Health England.

## 8 . Glossary

### Seroconversion rate

In the case of the coronavirus (COVID-19), antibody seroconversion is the incidence of COVID-19 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 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 COVID-19 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 5 (with comparisons with Round 1, [Round 2](#) and [Round 4](#)) of the COVID-19 Schools Infection Survey (SIS). These findings are for current COVID-19 infection for pupils and staff, and COVID-19 antibodies for staff only.

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 5 and 21 May 2021 – referred to as Round 5. 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, and between 15 and 31 March 2021 referred to as Round 4.

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 5, 142 schools took part in testing (57 primary and 85 secondary).

In Round 5 of testing, 5,039 staff participated in at least one current COVID-19 infection or SARS-CoV-2 antibody test. This is around 38% 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 55 out of the 85 secondary schools that took part in Round 5 testing had extended participation to other year groups.

In Round 5 of testing, 13,395 pupils (4,369 primary and 9,026 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 25%. 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 Round 4, England: antibody data, March 2021](#)

Bulletin | Released 27 May 2021

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

### [COVID-19 Schools Infection Survey Round 4, England: March 2021](#)

Bulletin | Released 4 May 2021

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

### [COVID-19 Schools Infection Survey Round 2, England: December 2020](#)

Bulletin | Released 01 March 2021

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

### [Coronavirus \(COVID-19\) Infection Survey, antibody and vaccination data](#)

Bulletin | Released 22 June 2021

Antibody and vaccination data by UK country and regions in England from the COVID-19 Infection Survey. This analysis has been produced in partnership with University of Oxford, University of Manchester, Public Health England, and Wellcome Trust. This study is jointly led by the Office for National Statistics (ONS) and the Department for Health and Social Care (DHSC) working with the University of Oxford and Lighthouse Laboratories to collect and test samples.

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

Bulletin | Released 25 June 2021

Estimates for England, Wales, Northern Ireland, and Scotland. This survey is being delivered in partnership with University of Oxford, University of Manchester, Public Health England, and Wellcome Trust. This study is jointly led by the Office for National Statistics (ONS) and the Department for Health and Social Care (DHSC) working with the University of Oxford and Lighthouse laboratories to collect and test samples.