

Statistical bulletin

COVID-19 Schools Infection Survey Round 1, England: November 2020

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 high and low prevalence local authority areas in England. This survey is being delivered in partnership with the London School of Hygiene and Tropical Medicine and Public Health England.

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1 . Main points

- 105 schools (63 secondary, 42 primary) in 14 local authorities (9 high prevalence, 5 low prevalence) took part in the first round of testing.
- Within these schools, 11,194 participants (4,941 staff and 6,253 pupils) had enrolled by the test date; of those participants enrolled by the test date, 9,662 took part in current infection testing.

The study design (which over-samples schools in areas of England where COVID-19 infection was highest at the start of the academic year) means the data presented are not intended to be generally applicable to all schools in England. Data in this bulletin are also unweighted.

The following findings should be seen as indicative only and are not statistically significant. Associated confidence intervals should be used to assess the statistical significance of the difference.

Among participants present in school on the day of testing:

- 1.24% of pupils (95% confidence interval: 0.96% to 1.58%) and 1.29% of staff (95% confidence interval: 0.96% to 1.68%) tested positive for current infection.
- In high prevalence areas, 1.47% of pupils (95% confidence interval: 1.10% to 1.93%) and 1.50% of staff (95% confidence interval: 1.08% to 2.02%) tested positive for current infection.
- In low prevalence areas, 0.79% of pupils (95% confidence interval: 0.43% to 1.32%) and 0.87% of staff (95% confidence interval: 0.45% to 1.51%) tested positive for current infection.
- For staff, the percentage testing positive for current infection was 1.47% in secondary schools (95% confidence interval: 1.08% to 1.97%). In primary schools it was 0.75% (95% confidence interval: 0.32% to 1.47%).
- For pupils, the percentage testing positive for current infection was 1.48% in secondary schools (95% confidence interval: 1.09% to 1.97%). In primary schools it was 0.89% (95% confidence interval: 0.54% to 1.39%).
- Of those tested for current infection in the 105 schools surveyed, 47 (44.8%) schools had no current infections, 29 (27.6%) had 1 current infection and the remaining 29 (27.6%) schools had between 2 and 5 current infections.

2 . Background to the survey

The COVID-19 Schools Infection Survey aims to investigate the prevalence of current coronavirus (COVID-19) infection and COVID-19 antibodies among pupils and staff in sampled primary and secondary schools in England, measured at half-termly intervals during the school year. In addition, it aims to examine the impact of attendance of pupils and staff, school implementation measures and outbreak investigations.

The long-term aims of this study are to investigate the role of schools in COVID-19 transmission and explore how transmission within and from school settings can be minimised. This exploration of transmission will not be possible until there are one or more tests to compare over time. This bulletin provides the baseline on which the transmission analysis will be developed over the subsequent round of the survey.

To facilitate this research, the study aims to:

- conduct repeated surveys and testing every half term in up to 50 primary schools and 100 secondary schools across 15 local education authorities
- collect risk factor information together with virus and antibody samples in a cohort of children and staff

The study oversampled schools in high prevalence areas of the country. For further detail on sample design please see our accompanying [methodology](#).

This bulletin presents initial estimates of staff and pupils testing positive for current COVID-19 infection. These estimates are derived results from the first round of testing carried out in sampled schools between 3 November 2020 and 19 November 2020. We plan to include further analysis (including antibody estimates) in future reports, when more rounds of testing have been conducted.

Data in this bulletin are unweighted and the sample design means the data presented are not intended to be generally applicable to all schools in England. Test results are only available for those who had enrolled in the survey and were 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 current self-isolation guidance.

This bulletin presents a summary of estimates, with further data contained in the associated dataset. Comparisons between groups should be done with caution because of the small sample size. Associated [confidence intervals](#) should be used to assess the [statistical significance](#) of the difference.

More about coronavirus

- [Explore the latest coronavirus data](#) from the ONS and other sources.
- All ONS analysis, summarised in our [coronavirus roundup](#).
- View [all coronavirus data](#).
- Find out how we are [working safely in our studies and surveys](#).

3 . Pupils and staff testing positive for current COVID-19 infection

Participants in this round were tested between 3 November 2020 and 19 November 2020.

Among people attending school on the day of testing, 1.24% (95% confidence interval: 0.96% to 1.58%) of pupils (65 out of 5,235 tested) and 1.29% (95% confidence interval: 0.96% to 1.68%) of staff (53 out of 4,122 tested) tested positive for current infection. These differences are not [statistically significant](#).

Estimates of the positivity rate for pupils and staff are presented in Figure 1.

Figure 1: Positive test results for current infection of COVID-19

England, 3 November to 19 November 2020

Notes:

1. 199 swab test were void.
2. 1,532 enrolled participants were unable to take part in current infection testing.
3. 106 Swab tests are still to be examined.
4. Test results are only available for those who had enrolled in the survey and were present in the school building on the day of testing.
5. The study design (which over-sampled schools in areas of England where COVID-19 infection is highest) means the data presented are not intended to be generalisable to all schools in England.

Download the data

[.xlsx](#)

For pupils, the percentage of primary school pupils testing positive for current infection was 0.89% (95% confidence interval: 0.54% to 1.39%). The percentage of secondary school pupils testing positive for current infection was 1.48% (95% confidence interval: 1.10% to 1.98%); 19 out of 2,136 primary pupils and 46 out of 3,099 secondary pupils tested positive.

For school staff, the percentage of primary school staff testing positive for current infection was 0.75% (95% confidence interval: 0.32% to 1.47%). The percentage of secondary school staff testing positive for current infection was 1.47% (95% confidence interval: 1.08% to 1.97%); 8 out of 1,068 primary staff and 45 out of 3,054 secondary staff tested positive.

The 95% confidence intervals indicate that these differences between pupils and staff and primary and secondary schools are not statistically significant.

Comparison of COVID-19 infection between high and low prevalence areas

The percentage testing positive for current infection in high and low prevalence areas is shown in Figure 2. Staff and pupils have similar percentages testing positive when comparing within school type (that is, primary pupils and primary staff) within the same area prevalence classification.

Figure 2: Positive test results for current infection of COVID-19 by high and low prevalence area

England, 3 November to 19 November 2020

Notes:

1. 199 Swab test were void.
2. 1,532 enrolled participants were unable to take part in current infection testing.
3. 106 swab tests are still to be examined.
4. Test results are only available for those who had enrolled in the survey and were present in the school building on the day of testing.
5. The study design (which over-sampled schools in areas of England where COVID-19 infection is highest) means the data presented are not intended to be generalisable to all schools in England.

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In secondary schools in high prevalence areas, 1.73% of pupils (95% confidence interval: 1.18% to 2.43%) and 1.62% of staff (95% confidence interval: 1.12% to 2.27%) tested positive for current infection (32 out of 1,853 pupils and 33 out of 2,035 staff).

For secondary schools in low prevalence areas, the percentage testing positive was 1.12% for pupils (95% confidence interval: 0.62% to 1.88%) and 1.18% for staff (95% confidence interval: 0.61% to 2.05%); 14 out of 1,246 pupils and 12 out of 1,019 staff.

4 . Prevalence of current infection within schools

In the first round of testing, 105 schools (63 secondary (60%) and 42 primary (40%) in 14 local authorities participated. Of the 14 local authorities, 9 (64.2%) were in high prevalence and 5 (35.8%) were in low prevalence areas. Within these schools, 11,194 participants (4,941 (44.1%) staff and 6,253 (55.9%) pupils) had enrolled by the test date.

Of those tested for current infection in 105 schools, 47 schools (44.76%) had no current infections, 29 (27.62%) had 1 current infection and 29 (27.62%) had between 2 and 5 current infections.

5 . Infection control measures implemented in schools

At the time of this bulletin, almost half of schools enrolled in the first testing round (just under 50) had returned the questionnaire providing data on the infection control implementation measures in place. Therefore, the findings presented here, on implemented control measures, should be seen as indicative only. Future publications will examine the implemented infection control measures in more detail and explore the impact it has on current coronavirus (COVID-19) infections.

These initial results suggest that the number of infection control measures implemented varied across schools. Responses have been presented in our dataset, grouped by frequency of implementation.

The most implemented measures across primary and secondary schools include hand sanitizers, frequent hand washing and increased cleaning of frequently touched surfaces. The least implemented measure across primary and secondary schools is the wearing of masks or face coverings by students in the classroom.

6 . Next steps

This bulletin will be followed with more detailed analysis in subsequent publications, which will also incorporate data from further rounds of testing and antibody test results. This will help to explain more of the variability in schools and identify factors associated with high or low levels of infection by including variables related to individuals, such as age, sex and ethnicity.

Other studies

This is one of a suite of surveillance studies, which are being conducted to understand how many people have the coronavirus (COVID-19), and how the virus spreads in non-household populations. This study is complementary to the [COVID-19 Infection Survey](#), which aims to find out more about how many people in residential private households have the coronavirus in the UK.

7 . COVID-19 Schools Infection Survey data

[COVID-19 Schools Infection Survey Round 1](#)

Dataset | Released 17 December 2020

Estimates from Round 1 of the Schools Infection Survey.

8 . Collaboration

LONDON
SCHOOL *of*
HYGIENE
& TROPICAL
MEDICINE



Public Health
England

The Coronavirus (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.

9 . 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 proportion testing positive 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](#).

High prevalence area

Defined as local authorities in the top 20% when ranked by the rate of confirmed cases of COVID-19 infection per 100,000 population from Pillar 2 testing in the week 2 to 8 September. These do not necessarily align with previous or current Tier systems. These high prevalence local authorities are still in the top 20% in the time period covered by the testing for this survey.

Low prevalence area

Defined as local authorities in the bottom 80% when ranked by the rate of confirmed cases of COVID-19 infection per 100,000 population from Pillar 2 testing in the week 2 to 8 September. These do not necessarily align with previous or current Tier systems. These low prevalence local authorities are still in the bottom 80% in the time period covered by the testing for this survey.

10 . Measuring the data

Data presented in this bulletin are from Round 1 of the COVID-19 Schools Infection Survey, which looks to identify the percentage of pupils and staff testing positive for the coronavirus (COVID-19). This section of the bulletin provides a short summary of the study data, sample design and data collection methods. Our [methodology article](#) provides further information about the survey design, how we process data and how data are analysed.

Reference period

The results presented in this bulletin are from tests conducted in schools in England between 3 November 2020 and 19 November 2020. This includes virus swab results for pupils and staff.

Response rates

The sample at the time of the November 2020 testing period included 42 primary and 63 secondary schools in 14 local authorities. Within these schools, 11,194 participants (4,941 staff and 6,253 pupils) had enrolled by the test date and were subsequently eligible for testing in Round 1. The estimated participant enrolment rate for Round 1 of testing is around 17% for pupils and 51% for staff. Of those participants enrolled by the test date: 9,662 took part in current infection testing.

Further schools are continuing to be added to the sample for future testing rounds. Enrolment for pupils and staff from currently sampled schools also currently remains open for future testing rounds.

Coverage

The target population for this survey included maintained primary and secondary schools in England.

Local authorities where the prevalence of coronavirus (COVID-19) was higher were oversampled in order to maximise the opportunity to identify current transmission for more detailed investigation.

Weighting

Data in this bulletin are not weighted to correct for any non-response bias that may have occurred during survey enrolment in the schools selected. Future bulletins will include weighted data.

Furthermore, because of the survey design, which over-represents local authorities in high prevalence areas, the data presented are not intended to be generally applicable to all schools in England.

Other studies

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

11 . Strengths and limitations

The main strengths of the COVID-19 School Infection Survey are:

- 105 schools enrolled in a short space of time to take part in Round 1 testing
- schools recruited to the study include a high proportion in areas with more potential for transmission at the start of the school year, this will increase the likelihood of the study capturing data on transmission in schools
- other data sources provide estimates of infection prevalence by age, a strength of this data is its ability to estimate prevalence of infection among those who are actually attending school
- good response rate for staff across school type and within local authority areas

The main limitations are:

- low pupil response rates within schools will limit generalisability to pupils within the recruited schools as those who participate may differ from those who do not
- the sample size, for Round 1, is relatively small, meaning that detailed analyses of sub-groups is not possible
- those who were not in school on the day of testing were unable to participate in the testing round, so symptomatic infections and those who were self-isolating because of contact were not included
- comparisons between groups should be done with caution as estimates are provided from a sample survey; as such, confidence intervals are included in the datasets to indicate the sampling variability, which should be taken into account when assessing differences between groups, as true differences may not exist

12 . Related links

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

Bulletin | Weekly

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.

[Coronavirus \(COVID-19\) latest insights](#)

Interactive | Weekly

An interactive tool to explore the latest data and trends about the coronavirus (COVID-19) pandemic from the ONS and other sources.