

Statistical bulletin

# COVID-19 Schools Infection Survey Round 2, England: December 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 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.

Contact:  
Alison Judd  
schools.infection.survey@ons.  
gov.uk  
+44 (0)208 0390326

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## Table of contents

1. [Main points](#)
2. [Background to the survey](#)
3. [Percentage of staff testing positive for coronavirus \(COVID-19\) antibodies](#)
4. [Percentage of pupils testing positive for coronavirus \(COVID-19\) antibodies](#)
5. [Pupils and staff testing positive for current coronavirus \(COVID-19\) infection](#)
6. [Comparison with the Coronavirus \(COVID-19\) Infection Survey](#)
7. [Infection control measures implemented in schools](#)
8. [COVID-19 Schools Infection Survey data](#)
9. [Collaboration](#)
10. [Glossary](#)
11. [Measuring the data](#)
12. [Strengths and limitations](#)
13. [Related links](#)

# 1 . Main points

- The study design oversamples schools in areas of England where coronavirus (COVID-19) infection was highest at the start of the academic year (September 2020); this means the data presented are not intended to be generally applicable to all schools in England.
- This bulletin is part of a wider suite of analyses published by the Office for National Statistics (ONS) examining COVID-19 exposure in education settings and by occupation.
- The main findings from this analysis are consistent with other published analysis; there was no statistical evidence of a difference between school staff testing positive for coronavirus antibodies compared with the wider working-age population in the same local authorities.
- Round 2 of testing took place from 2 to 10 December 2020 at the end of the second lockdown in England, just prior to the rise in the positivity rate seen towards the end of December.

Caution is needed when interpreting the test results because of the small sample sizes and low response rates in pupils, introducing the possibility of selection bias.

Unless otherwise stated the confidence intervals around the point estimates of the comparisons overlap.

- 121 schools (41 primary, 80 secondary) in 15 local authorities participated in the second round of testing; Within these schools, 12,203 participants (5,114 staff and 7,089 pupils) had at least one test in Round 2 of which, 7,751 participants took part in both Rounds 1 and 2 (3,322 staff and 4,429 pupils).

## Coronavirus antibodies

- In Round 2, 14.61% of primary staff tested positive for antibodies compared with 15.72% of secondary staff; in Round 1 (3 to 19 November 2020), 12.63% of primary staff in the local authorities sampled tested positive for antibodies based on blood tests, compared with 12.27% of secondary staff.
- In Round 1, 7.65% of primary school pupils tested positive for antibodies based on oral fluids, and 10.95% of secondary pupils tested positive; this is lower than the staff population, particularly in primary schools. Caution should be taken as the type of antibody test is different and pupil antibody data from Round 2 are not yet available to see how this changed over the Autumn term

## Coronavirus (COVID-19) current infection

- In Round 2, primary pupils and staff, in school on the day of testing, had a slightly lower percentage testing positive (0.94% and 0.99% respectively) for the coronavirus (COVID-19) than secondary pupils and staff (1.22% and 1.64%).

## School implementation of coronavirus control measures

- Almost all primary schools included in the survey (38) reported implementing 10 measures strongly recommended in Department for Education (DfE) guidance.
- 91% of secondary schools reported implementing at least 12 of 15 strongly recommended measures; the least commonly implemented measure was maintaining distance between pupils within bubbles.
- Efforts to ensure symptomatic individuals stayed at home, enhanced cleaning and hygiene protocols, limiting gatherings (assemblies, sports, after-school activities), and staff distancing from other adults were near universally implemented.
- All schools implemented a “bubble” system, though there was variation in whether this applied to class sizes (more common in primary schools) or year groups (more common in secondary schools).
- Primary schools focused on limiting pupils mixing between bubbles, but less on limiting contacts between staff and pupil in the same bubble.
- Secondary schools more commonly than primary schools implemented measures to limit contact within the same bubble or class (for example, forward-facing desks, teacher remaining at front of class), but had lower implementation of measures to limit contact between bubbles.

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 . Background to the survey

The COVID-19 Schools Infection Survey aims to investigate the prevalence of current coronavirus (COVID-19) infection and presence of antibodies to COVID-19 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 attendance of pupils and staff, school implementation measures and undertake detailed outbreak investigations in some schools.

SARS-CoV-2 is the scientific name given for the specific virus that causes COVID-19. Testing for antibodies can be used to identify individuals who have had the infection in the past or have developed antibodies as a result of vaccination (at the time of testing no participants would have received a vaccination). Further information can be found in our accompanying [methodology article](#).

This bulletin presents initial estimates of staff and pupils testing positive for COVID-19 antibodies and current COVID-19 infection. These estimates are derived results from the first and second round of testing carried out in sampled schools between 3 and 19 November (Round 1), and 2 and 10 December 2020 (Round 2). Those tested in Round 1 and those tested in Round 2 are not necessarily the same individuals.

9,732 participants (4,337 staff and 5,395 pupils) took part in Round 1 and 12,203 (5,114 staff and 7,089 pupils) participants took part in Round 2. This represents just over 40% of staff and around 15% of eligible pupils in the enrolled schools. Participation in a round is defined as having at least one test result from either an antibody or current COVID-19 infection. For additional information on response rates please see [Measuring the data](#).

The study oversampled schools in areas of the country where COVID-19 infection rates were high at the beginning of the 2020 to 2021 academic year. It covers schools in 15 local authorities in England. The sampling strategy has since been updated to increase the number of schools in the local authorities within the sample. For further detail on sample design please see our accompanying [methodology article](#).

For the purpose of this report, to allow meaningful comparisons, only data for local authorities that have both primary and secondary schools participating in both rounds are included in the aggregated test result data. Data for all 15 participating local authorities are provided separately (where the sample size allows).

Unless otherwise stated, data in this bulletin are weighted so that the pupils and staff tested in each local authority are representative of the age, sex and ethnic background of all primary and secondary school pupils and staff in that local authority. The sample design means the data presented are not intended to be representative of all schools in England. For further detail on weighting of participants please see our accompanying [methodology article](#).

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.

### **3 . Percentage of staff testing positive for coronavirus (COVID-19) antibodies**

In Round 1 (3 to 19 November 2020), 12.63% of primary staff sampled tested positive for antibodies (95% confidence intervals: 9.74% to 16.00%) compared with 12.27% of secondary staff (95% confidence intervals: 10.58% to 14.13%).

In Round 2 (2 to 10 December 2020), 14.61% of primary staff tested positive (95% confidence intervals: 11.86% to 17.72%) compared with 15.72% of secondary staff (95% confidence intervals: 14.01% to 17.55%).

Weighted estimates of the percentage of staff testing positive for antibodies for Round 1 and Round 2 are presented in Figure 1.

#### **Figure 1: Percentage of staff testing positive for antibodies to COVID-19, England**

##### **Notes:**

1. In order to ensure consistent comparisons only the 11 local authorities with coverage in Rounds 1 and 2 and with both primary and secondary schools in the sample are included in the total figures provided.
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 e.g. teachers, teaching assistants, support staff

[Download the data](#)

## Seroconversion (unweighted data)

In the case of the coronavirus (COVID-19), seroconversion is the incidence of antibody test results changing from negative to positive.

Of the 2,552 staff who took part in antibody testing in both rounds, 2,276 staff (651 primary and 1,625 secondary) tested negative in Round 1, and 276 staff (87 primary, 189 secondary) tested positive; 37 of the 2,276 staff (1.63% (95% confidence intervals: 1.15% to 2.23%)) converted from negative to positive. Of the 37 staff who converted from negative to positive, 9 (out of 651) were primary school staff and 28 (out of 1,625) were secondary school staff.

Of the 276 staff who tested positive in Round 1, 20 (7.25% (95% confidence intervals: 4.48% to 10.97%)) tested negative in Round 2. Antibodies remain in the blood at low levels after infection, although these levels can decline over time to the point that tests can no longer detect them. The length of time antibodies remain at detectable levels in the blood is not fully known.

There is also not yet good information on how having detectable antibodies, now or at some time in the past, affects the chance of getting COVID-19 again. Also note that the test used to detect antibodies is not 100% accurate and may not detect antibodies in a small fraction of individuals even when present.

## Staff coronavirus (COVID-19) antibodies by local authority

Figure 2 shows the antibody positivity rates for secondary staff; in all local authorities sampled, antibody positivity rates were higher in Round 2. There was variation in Round 2 positivity rates between local authorities, and in the increase between Round 1 and Round 2, although the confidence intervals around the estimates are wide.

In Round 2, Manchester had the highest positivity rate (27.95% compared with 18.49% in Round 1), and Reading had the lowest (2.86%; no data is available for Reading in Round 1).

Equivalent data for primary school staff can be found in the [dataset](#) that accompanies this bulletin.

### Figure 2: Percentage of staff testing positive for antibodies to COVID-19 by local authority, England

#### Notes:

1. Estimates have been weighted and are representative of the ethnicity, gender and age for all staff in the sampled local authorities.
2. Staff includes all employees working in the school e.g. teachers, teaching assistants, support staff
3. Bars are missing if no staff from that local authority participated in testing.

[Download the data](#)

## 4 . Percentage of pupils testing positive for coronavirus (COVID-19) antibodies

Currently, pupil antibody data is only available for Round 1 (3 to 19 November 2020).

In Round 1, 7.65% of primary school pupils (95% confidence intervals: 5.87% to 9.77%) and 10.95% of secondary school pupils (95% confidence intervals: 8.78% to 13.45%) tested positive for antibodies based on oral fluid testing. The confidence intervals around these estimates overlap. Estimates of the percentage of pupils testing positive for antibodies for Round 1 are presented in Figure 3.

In primary schools, 12.63% of staff tested positive for antibodies in Round 1 based on blood tests (95% confidence intervals: 9.74% to 16.00%) compared with 7.65% of pupils (95% confidence intervals: 5.87% to 9.77%).

In secondary schools, 12.27% of staff tested positive for antibodies in Round 1 (95% confidence intervals: 10.58% to 14.13%) compared with 10.95% of pupils (95% confidence intervals: 8.78% to 13.45%). The confidence intervals around these estimates overlap. Caution should be taken as the type of test for antibodies differed between staff and pupils. The oral fluid test was used to test for antibodies in pupils as it is non-invasive, however it does have a lower sensitivity than the finger prick blood test used for staff. More information can be found in our [methodology article](#).

### Figure 3: Percentage of pupils testing positive for antibodies to COVID-19, England

#### Notes:

1. In order to ensure consistent comparisons only the 11 local authorities with coverage of both primary and secondary schools in the sample are included in the total figures provided.
2. Estimates have been weighted and are representative of the ethnicity, gender and age for all pupils in the sampled local authorities.

[Download the data](#)

### Pupil coronavirus (COVID-19) antibodies at local authority level

In the majority of local authorities, a higher percentage of secondary school pupils tested positive for antibodies than primary school pupils. Manchester, and Barking and Dagenham had the highest percentage of secondary school pupils testing positive (22.25% and 16.63% respectively). Norfolk, and Bournemouth, Christchurch and Poole had the lowest percentage (0.64% and 2.72% respectively) for secondary school pupils.

Manchester and Barking and Dagenham had the highest percent testing positive (22.26% and 16.63% respectively) for secondary school pupils. Gateshead, and Bournemouth, Christchurch and Poole had the lowest percentage testing positive (2.34% and 1.70%) for primary school pupils.

### Figure 4: Percentage of pupils testing positive for antibodies to COVID-19 by local authority in Round 1, England

#### Notes:

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

[Download the data](#)

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

In both Round 1 (3 to 19 November 2020) and Round 2 (2 to 10 December 2020), a lower proportion of pupils and staff in primary schools tested positive for current coronavirus (COVID-19) infection on the day of testing than those in secondary schools (Figure 5). The confidence intervals around all current infection estimates overlap.

For staff, 1.64% tested positive for current infection in secondary schools (95% confidence interval: 1.10% to 2.33%) and 0.99% in primary schools (95% confidence interval: 0.37% to 2.12%).

For pupils, 1.22% in secondary schools (95% confidence interval: 0.60% to 2.20%) and 0.94% in primary schools (95% confidence interval 0.44% to 1.76%) tested positive for current infection.

### Figure 5: Percentage of staff and pupils testing positive for current COVID-19 infection, England

#### Notes:

1. In order to ensure consistent comparisons only the 11 local authorities with coverage in Rounds 1 and 2 and with both primary and secondary schools in the sample are included in the total figures provided.
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 current self-isolation guidance.
3. Estimates have been weighted and are representative of the ethnicity, gender and age for all staff in the sampled local authorities.
4. Staff includes all employees working in the school e.g. teachers, teaching assistants, support staff.

[Download the data](#)

In Round 2, almost half of primary schools (46%, 19 of the 41 primary schools) and one-third of secondary schools (37%, 28 of the 75 tested secondary schools) that took part in swab tests had no cases of current COVID-19 infection on the test days among the just over 15% of pupils and 40% of staff who participated in the test.

In Round 2, 17% of primary schools (7 of the 41 tested primary schools) and 33% of secondary schools (25 of the 75 tested secondary schools) had two or more cases. Within the schools with two or more cases, preliminary analysis suggests that around half of them had pupils testing positive for current infection in the same year group. Further data analysis will be done to investigate whether there was any potential link between cases in schools where we found two or more cases on the day of testing.

## 6 . Comparison with the Coronavirus (COVID-19) Infection Survey

The Coronavirus (COVID-19) Infection Survey (CIS) provides analysis on the presence of SARS-CoV2 antibodies, which indicates if an individual has had the coronavirus (COVID-19) within the community population: community refers to private residential households, and it excludes those in hospitals, care homes and/or other institutional settings. Articles relating to [Coronavirus \(COVID-19\) Infection Survey: antibody data for the UK](#) are available.

In order to be comparable with the COVID-19 Schools Infection Survey, data from the Coronavirus (COVID-19) Infection Survey cover the same local authorities that provided consistent coverage across both school types in Round 1 and Round 2. Caution should be taken as this comparison does not control for any characteristic differences between school staff and the working-age population (for example, age and sex), and staff working in a school in the local authorities sampled may not necessarily live in that local authority.

### Antibody positivity rates

Antibody positivity rates for staff tested in the COVID-19 Schools Infection Survey have been compared with antibody positivity estimates of working-age adults (those aged 18 to 65 years) in the same local authorities sampled in the Coronavirus (COVID-19) Infection Survey for overlapping time periods.

During Round 1 (3 to 19 November 2020) 12.51% of staff in the COVID-19 Schools Infection Survey tested positive for antibodies (95% confidence interval: 10.50% to 14.74%), compared with the estimate of 12.61% (95% confidence interval: 9.81% to 15.86%) of working-age adults in the Coronavirus (COVID-19) Infection Survey.

During Round 2 (2 to 10 December 2020), 14.99% of staff tested positive for antibodies (95% confidence interval 13.05% to 17.10%), lower than the estimate of 18.22% (95% confidence interval 14.88% to 21.95%) for working-age adults in the Coronavirus (COVID-19) Infection Survey.

The confidence intervals around the above estimates all overlap.

Caution should be taken as this comparison does not control for any characteristic differences between school staff and the working-age population (for example, age and sex).

### Current COVID-19 infection positivity rates

Estimates show in primary and secondary school-age children, and in adults, the estimated percentage of those testing positive for current COVID-19 infection was lower in the COVID-19 Schools Infection Survey compared with the Coronavirus (COVID-19) Infection Survey. These estimates can be found in the [dataset](#) that accompanies this bulletin.

It is important to note that the data reported here for the COVID-19 Schools Infection Survey only includes individuals who were present in the school on the day of testing. Anyone who had known contact with a positive case or was symptomatic on the day would have been advised to not attend school. Further information can be in the Coronavirus (COVID-19) Infection Survey [methodology article](#).

## 7 . Infection control measures implemented in schools

Information on the implementation of infection control measures within schools is gained from a questionnaire, which is filled in by headteachers or their designated representatives. The following analysis looks at the responses from 105 schools about the Autumn term 2020, available in our accompanying dataset. More information on how this analysis was conducted can be read in [Measuring the data](#).

Almost all primary schools included in the survey (38) reported implementing all 10 measures strongly recommended in [Department for Education \(DfE\) guidance](#). Few secondary schools included in the survey (67) implemented all 15 measures strongly recommended in DfE guidance, although 91% reported implementing at least 12 of the measures. This is presented in Figure 6, a heatmap for all measures in available in the [dataset](#).

The least commonly implemented measure was maintaining distance between pupils within bubbles. Measures were categorised as strongly recommended based on researchers' analysis of DfE guidance, described in greater detail in [Measuring the data](#).

All schools implemented a "bubble" system, though there was variation in whether this applied to class sizes (more common in primary schools) or year groups (more common in secondary). Table 1 summarises the implementation of bubbles across schools.

Table 1: Implementation of bubble system across school type

<b>Are students kept in consistent bubbles?</b>	<b>Primary school (N=38)</b>	<b>Secondary school (N=67*)</b>
	<b>n (%)</b>	<b>n (%)</b>
<b>Yes, in bubbles that are smaller than normal class sizes</b>	2 (5%)	1 (1%)
<b>Yes, in bubbles that are normal class sizes</b>	28 (74%)	11 (16%)
<b>Yes, in bubbles of an entire year group</b>	5 (13%)	49 (73%)
<b>Other</b>	3¥ (8%)	6 (9%)

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

### Notes

1. \* Includes two all-through schools; ¥ bubbles of two classes or multiple year-groups; part year groups combination of classes and year-groups.
2. combination of classes and year-groups.

Efforts to ensure symptomatic individuals stayed at home, enhanced cleaning and hygiene protocols, limiting gatherings (assemblies, sports, after-school activities), and staff distancing from other adults were near universally implemented across school types.

In primary schools, consistent with DfE guidance, implementation efforts focused on limiting pupil mixing between bubbles, but less towards limiting contacts between staff and pupils in the same bubble.

Secondary schools more commonly than primary schools implemented measures to limit contact within the same bubble or class (for example, forward-facing desks, teacher remaining at front of class), but had lower implementation of measures to limit contact between bubbles.

## Figure 6: Frequency of implementation of coronavirus measures in primary and secondary schools in England

### Notes:

1. Secondary school "Strongly recommended" in DfE guidance.
2. Primary school "Strongly recommended" in DfE guidance.
3. [Further information for Department for Education Guidance](#).
4. A heatmap for all measures is available in the accompanying [dataset](#).

### [Download the data](#)

Where schools had implemented measures, the implementation of most measures was reported as presenting "some" or "major" challenges. Those measures most commonly reported as "easy" to implement were:

- running ventilation systems through the day (but only present in 40% of secondary and few primary schools)
- stopping gatherings (assemblies, sports, after school activities)
- staff wearing face coverings and washing hands frequently
- providing hand sanitiser
- periodic opening of windows

and, in primary schools only, keeping pupils in the same classroom during the day. Data for all implementations are available in the accompanying [dataset](#).

## Figure 7: Challenges implementing coronavirus measures in primary schools

### [Download the data](#)

## Figure 8: Challenges implementing coronavirus measures in secondary schools

### [Download the data](#)

## 8 . COVID-19 Schools Infection Survey data

[COVID-19 Schools Infection Survey Round 2](#)

Dataset | Released 1 March 2020

Estimates from Round 2 of the Schools Infection Survey.

## 9 . 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.

## 10 . 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.

### Seroconversion

In the case of the coronavirus (COVID-19), seroconversion is the incidence of antibody test results changing from negative to positive.

## Staff

Within primary and secondary schools this includes teaching professionals: headteachers, members of the senior leadership team (SLT), teachers, teaching assistants, and specialist educational professionals, alongside any support staff within the school. As parents, these staff would be categorised as a [critical worker and can access schools or educational settings](#).

## 11 . Measuring the data

Data presented in this bulletin are from Round 1 and Round 2 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 survey data, sample design and data collection methods. Our [methodology article](#) provides further information about survey design, how we process data and how data are analysed.

### Changes since last publication

Previous analysis from Round 1 grouped the local authorities into high and low prevalence areas, based on infection rates at the start of the school year. To account for the changing nature of the epidemic, in this and future analyses, we make comparisons between data collected in this study and other available data from the same local authorities at similar time points rather than using this broad categorisation.

The previous publication analysis allocated all-through schools as secondary schools. In this publication, participants from all-through schools have been split into primary and secondary school type according to the school year of the pupil, or the year(s) the staff member interacts with most.

### Reference period

The results presented in this bulletin are from tests conducted in schools in England between 3 and 19 November 2020 – referred to as Round 1, and between 2 and 10 December 2020 – referred to as Round 2. This includes virus swab results for pupils and staff from Round 1 and Round 2, antibody results for pupils for Round 1, and antibody results for staff from Round 1 and Round 2.

### Response rates

Recruitment began on 12 October 2020. At the time of the December 2020 testing period, the sample included 41 primary schools, 78 secondary schools and two all-through schools in 15 local authorities. In Round 1 of testing, 48,100 participants (9,900 staff and 38,200 pupils) were estimated to be eligible to take part in at least one current COVID-19 infection or antibody test, based on the [November 2019 Schools Workforce Census](#) and the [January 2020 School Census](#). In Round 2 of testing, 57,400 participants (12,200 staff and 45,200 pupils) were estimated to be eligible to take part in testing.

In Round 1 of testing, 9,732 (4,337 staff and 5,395 pupils) participated in at least one current COVID-19 infection or COVID-19 antibody test. In Round 2 of testing, 12,204 (5,114 staff and 7,090 pupils) participated in at least one test. This is just over 40% of staff and around 15% of eligible pupils in the selected schools. Across the two rounds of testing, 14,185 (6,129 staff and 8,056 pupils) participated in at least one COVID-19 current infection or antibody test.

## Coverage

The target population for this survey included maintained primary and secondary schools in England. Offering enrolment to pupils and staff attending in-person during the 2020 to 2021 academic year.

This does not include special schools, pupil referral units or further education colleges, or schools recruited in any other school-based COVID-19 studies already being conducted. Where possible, pupils from School Year 11 will not be offered enrolment because of public examinations at the end of the academic year. Any secondary school pupil judged by school staff not competent to provide informed consent will not be offered enrolment.

## Weighting

Weighting has been added to our analysis for Round 1 and Round 2, which has allowed us to provide estimates based on characteristics (age, sex and ethnicity) of the pupil and staff population as a whole for the local authorities sampled. Further information is available in our [sample design and estimation article](#).

## Analysis of implementation measures

Data were collected on school-level implementation of 50 potential measures to limit the spread of COVID-19 within schools (48 applicable to primary schools, and 48 applicable to secondary schools).

The measures were mapped to eight broad domains distilled from Department for Education (DfE) guidance:

- minimising contact with symptomatic individuals
- hand and respiratory hygiene
- enhanced cleaning and minimising potential for fomite transmission
- minimising mixing between bubbles
- maintaining distance between individuals
- face coverings
- ventilation
- other

The research team also categorised measures based on their reading and interpretation of DfE guidance as:

- “strongly recommended” (10 measures for primary, 15 for secondary)
- “recommended” (28 for primary, 31 for secondary)
- “not mentioned” (7 for primary, 6 for secondary)
- “not recommended” (13 for primary, 11 for secondary)

Measures were categorised as “strongly recommended” where the guidance conveyed an expectation that they should be widely implemented, and as “recommended” where they were recommended with qualification or acknowledgement that they may not be feasible to implement in some settings or for some groups. “Not mentioned” included measures that were not mentioned in the DfE guidance but which the research team thought important to ask about.

The category “not recommended” included measures that were explicitly mentioned as not recommended for a particular setting in the guidance. These measures were included in the questionnaire to schools to understand what preventive measures schools may be implementing above what was explicitly recommended. This categorisation was done separately for primary and secondary schools as relative emphasis of importance of measures varied in the guidance for primary and secondary schools.

## 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 [Coronavirus \(COVID-19\) Infection Survey](#), which aims to find out more about how many people in residential private households have the coronavirus in the UK.

# 12 . Strengths and limitations

## Strengths

- 105 schools enrolled in a short space of time to take part in Round 1, increasing to 121 schools in Round 2 testing; this shows retainment of schools across Round 1 and Round 2.
- Other COVID-19 data sources provide estimates of infection prevalence by age but these data are able to estimate the prevalence of COVID-19 infection within a school setting for staff and pupils.
- Good response rate for staff across school type and within local authority areas.
- Reporting of incidence of COVID-19 seroconversion for primary and secondary school staff.
- Head teacher questionnaire providing responses to challenges from implementing of transmission control measures within school settings.

## Limitations

- Low pupil response rates within schools will limit ability to generalise to pupils within the recruited schools, as those who participate may differ from those who do not.
- Test results are currently only available for those who had enrolled in the survey and were present in the school building on day of testing.
- The sample size, for Round 1, was relatively small; the sample was increased to 121 schools in Round 2 and we plan to expand our sample for future rounds.
- Those absent from school on the day of testing for non-COVID-19 infection reasons were unable to participate in the testing round, and those with symptomatic infections and those self-isolating would not be included.
- Low response rates and pupils at home mean that we are unable to detect outbreaks within schools.
- 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.
- Antibody comparisons between staff and pupils are limited as the tests are different: pupils provide an oral fluid (saliva) sample while staff provide a finger prick blood test.
- Enrolment, pupil and parent surveys are completed online and there could be a digital divide for those who do not have full access to digital technologies outside of the school environment.

## Comparisons with the Coronavirus (COVID-19) Infection Survey

To enable comparisons in this bulletin, COVID-19 Infection Survey data was used for the same local authorities as sampled in SIS.

COVID-19 Infection Survey sample includes all adults in the community aged 18 to 65 regardless of employment status. The respondents are weighted to be representative of the general population, these are not necessarily representative of the school staff population.

The collection methodology for antibody tests differ between the two studies. For the COVID-19 Infection Survey, results are collected from a randomly selected subsample of respondents aged 16 years and over and are based on blood test results taken by a trained nurse, phlebotomist or healthcare assistant. The COVID-19 Schools Infection Survey collects antibody test results from pupils using an oral fluid (saliva) sample, while staff provide a finger prick blood test.

Households participating in the Coronavirus (COVID-19) Infection Survey do so regardless of whether they are experiencing symptoms compatible with COVID-19 infection and if their household are practicing self-isolation. Results for the COVID-19 Schools Infection Survey are only available for those who had enrolled on the survey and were present in the school building on the day of testing, under government guidelines you would not expect to see any participants reporting symptoms compatible with COVID-19 infection or under self-isolation. It would be expected any positive swab results from the COVID-19 Schools Infection Survey to be because the respondent was asymptomatic.

Following COVID-19 Infection Survey [methods and further information](#), blood for the antibody test is not taken from anyone in the household where someone has symptoms compatible with COVID-19 infection, or is currently self-isolating or shielding, for safety of study staff, potentially missing respondents who have antibodies.

## 13 . 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 University of Oxford, University of Manchester, Public Health England and Wellcome Trust.

### [Coronavirus \(COVID-19\) Infection Survey: antibody data for the UK](#)

Article | Updated fortnightly

Antibody data by UK country and English regions from the Coronavirus (COVID-19) Infection Survey. This survey is being delivered in partnership with University of Oxford, University of Manchester, Public Health England and Wellcome Trust.

### [Coronavirus \(COVID-19\) roundup](#)

Web page | Updated as and when data become available

Catch up on the latest data and analysis related to the coronavirus pandemic and its impact on our economy and society.

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

Web page | Updated as and when data become available An interactive tool to explore the latest data and trends about the coronavirus (COVID-19) pandemic from the ONS and other sources.