

Statistical bulletin

# COVID-19 Schools Infection Survey, England: Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in school pupils and staff: July 2021

Initial estimates of prevalence of ongoing symptoms following coronavirus (COVID-19) infection in staff and pupils from the COVID-19 Schools Infection Survey (SIS) across a sample of schools, within selected local authority areas in England. 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

- Of survey respondents, just over one in three or 35.7% of staff members (95% confidence interval; 30.1% to 41.6%) and over one in ten or 12.3% of secondary school pupils (95% confidence interval; 8.5% to 16.9%) with a previously confirmed coronavirus (COVID-19) infection reported experiencing ongoing symptoms more than four weeks from the start of the infection.
- Among those experiencing ongoing symptoms, the most common symptom reported was "weakness /tiredness" by both staff (59.6%) and pupils (46.3%), staff then reported experiencing "shortness of breath" (41.8%) as the next most common symptom, however this was reported by fewer pupils (20.4%).
- Of survey respondents experiencing ongoing symptoms, 15.5% of staff (95% confidence interval; 10.1% to 22.4%) and 9.4% of secondary school pupils (95% confidence interval; 3.1% to 20.7%) said their ability to carry out day-to-day activities had been significantly reduced.
- Of survey respondents experiencing ongoing symptoms, most staff members reported that their ability to carry out activities at work reduced a little (46.6% with 95% confidence interval; 38.3% to 55.0%) or not at all (43.2% with 95% confidence interval; 35.0% to 51.6%).
- Of survey respondents experiencing ongoing symptoms, 50.0% of secondary school pupils (95% confidence interval; 38.5% to 67.1%) reported that they attended all of school as normal despite experiencing ongoing symptoms.

## 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, please email the SIS operations team: [Schools.Studies.Mailbox@ons.gov.uk](mailto:Schools.Studies.Mailbox@ons.gov.uk).

The estimates presented in this release are unweighted and based on self-reported instances of "ongoing symptoms" experienced by a small number of survey respondents at any point since the start of the coronavirus (COVID-19) pandemic and are not intended to be generally applicable to all staff and pupils in England. We recommend referring to the COVID-19 Infection Survey for [estimates of COVID-19 positivity](#) or estimates of the current [prevalence of ongoing symptoms](#) following COVID-19 infection in the UK.

The School Infection Survey (SIS) ran for the 2020 to 2021 academic year and was set up to monitor prevalence of COVID-19 infection and presence of antibodies among pupils and staff within a sample of schools in England. As part of this study, in the last term of the academic year, both pupils and staff were asked to complete a questionnaire that included questions designed to explore the impact that ongoing COVID-19 related symptoms might be having on school pupils and staff.

## 2 . Self-reported measures

The estimates presented in this release relate to the prevalence of self-reported symptoms as experienced by individuals, rather than clinically diagnosed ongoing symptomatic coronavirus (COVID-19) or post-COVID-19 syndrome.

Participants were asked the following questions as part of the end of survey questionnaire:

- "Do you think you have, or have previously had, COVID-19?"
- "Were or are you experiencing ongoing symptoms more than four weeks since the start of your COVID-19 infection, that are not explained by something else?"

As respondents were not provided with a predefined list of symptoms to choose from, this question captures all symptoms that the respondent believes are linked to COVID-19 infection.

Results should be interpreted with caution because it is not known how many people would have experienced these symptoms even if they had not been infected with COVID-19. The survey response rate of 20% also means that the findings may be subject to response bias. More information on the response rate and strengths /limitations of the study can be found in [Section 8](#).

## 3 . Ongoing symptoms

### Staff and secondary school pupils with ongoing symptoms

Of respondents who said that they had a confirmed coronavirus (COVID-19) infection, 35.7% of staff (95% confidence intervals; 30.1% to 41.6%) and 12.3% of secondary school pupils (95% confidence intervals; 8.5% to 16.9%) experienced ongoing symptoms more than four weeks since the start of that infection; this can be seen in Figure 1.

Of respondents who said they had a suspected COVID-19 infection, 34.2% of staff (95% confidence intervals; 26.7% to 42.4%) and 12.7% of secondary school pupils (95% confidence intervals; 8.2% to 18.5%) experienced ongoing symptoms more than four weeks since the start of that infection.

Due to the similar proportions of participants reporting ongoing symptoms more than four weeks after either a confirmed or suspected COVID-19 infection, the results throughout the rest of this publication group these participants together.

### Figure 1: Percentage of staff and secondary pupils reporting ongoing symptoms more than four weeks after COVID-19 infection

England, 2 July to 26 July 2021

[Download the data](#)

#### Notes:

1. Sample size (those with confirmed/suspected previous COVID infection): Staff = 432, and secondary school pupils = 434.
2. Self-reported symptoms experienced after COVID-19 infection.
3. Data for primary school pupils are too small to present because of [statistical disclosure criteria](#).
4. COVID-19 confirmed by lab or lateral flow test.
5. COVID-19 suspected from diagnostic by GP/NHS 111 or due to symptoms.
6. Unweighted data.

## Ability to carry out day-to-day activities

Approximately half of staff (51.4% with 95% confidence interval; 43.0% to 59.6%) and secondary school pupils (49.1% with 95% confidence interval; 35.1% to 63.2%) who experienced ongoing symptoms more than four weeks since their COVID-19 infection reported that their ability to carry out general day-to-day activities reduced a little; this can be seen in Figure 2.

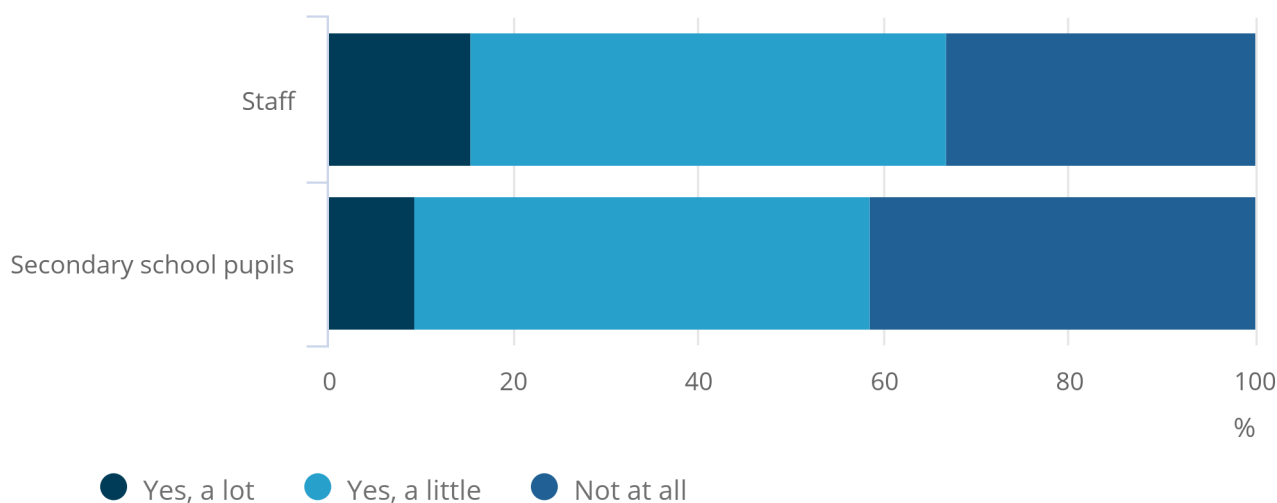
Ability to carry out day-to-day activities reducing a lot was reported by 15.5% of staff (95% confidence interval; 10.1% to 22.4%) and 9.4% of secondary school pupils (95% confidence interval; 3.1% to 20.7%).

### Figure 2: Percentage of staff and secondary pupils who said that their ongoing symptoms reduced their ability to carry out day-to-day activities

England, 2 July to 26 July 2021

Figure 2: Percentage of staff and secondary pupils who said that their ongoing symptoms reduced their ability to carry out day-to-day activities

England, 2 July to 26 July 2021



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

#### Notes:

1. Sample size (those with ongoing symptoms); Staff = 148, and secondary school pupils = 53.
2. Self-reported symptoms experienced after COVID-19 infection.
3. Data for primary school pupils are too small to present because of [statistical disclosure criteria](#).
4. Unweighted data.

## Activities at work

For staff members experiencing ongoing symptoms, the majority reported that their ability to carry out activities at work reduced a little (46.6% with 95% confidence interval; 38.3% to 55.0%) or not at all (43.2% with 95% confidence interval; 35.0% to 51.6%).

Around one in ten staff (10.4%) experiencing ongoing symptoms reported that their ability to carry out activities at work had reduced either by a lot, by about half or they were unable to work because of ongoing symptoms more than four weeks after COVID-19 infection. Further information can be found in the [accompanying dataset](#).

## Absenteeism

Of staff experiencing ongoing symptoms more than four weeks after their COVID-19 infection, 60.9% reported that they had not had any days absent from work as a result (95% confidence interval; 52.7% to 68.8%), 15.9% were absent for five days or less (95% confidence interval; 10.5% to 22.7%), and 10.6% between six and ten days (95% confidence interval; 6.2% to 16.6%).

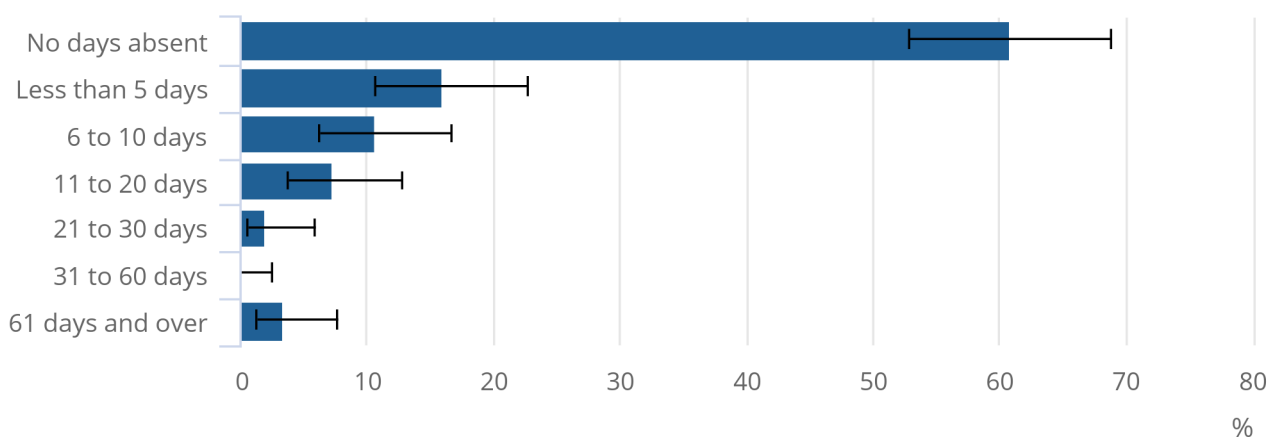
A small proportion of staff members with ongoing symptoms (3.3% with 95% confidence interval; 1.1% to 7.6%) had been absent from work for 61 days or more; this can be seen in Figure 3.

**Figure 3: Number of days staff were absent from work as a result of ongoing symptoms**

England, 2 July to 26 July 2021

### Figure 3: Number of days staff were absent from work as a result of ongoing symptoms

England, 2 July to 26 July 2021



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

**Notes:**

1. Sample size for Staff (those with ongoing symptoms) = 151.
2. Self-reported symptoms experienced after COVID-19 infection.
3. Unweighted data.

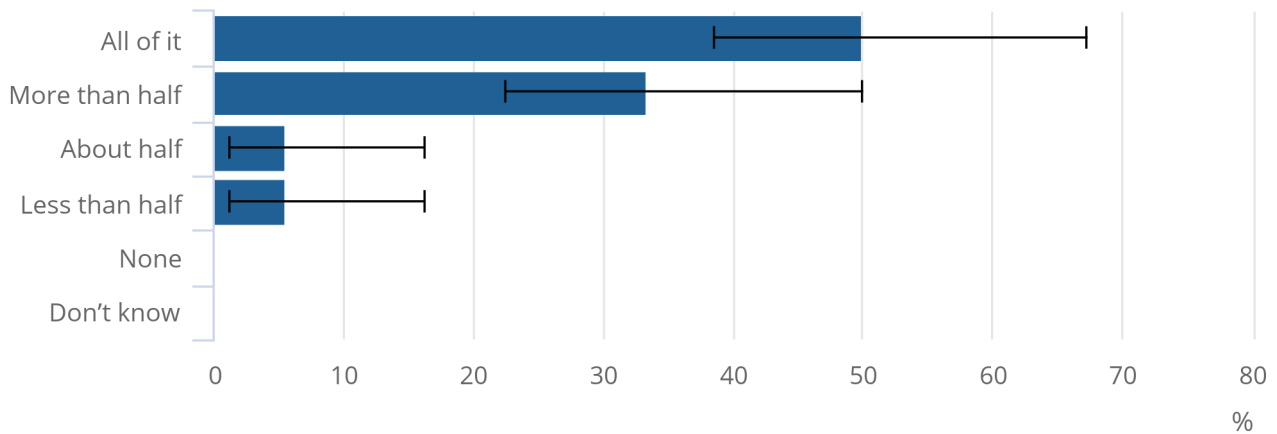
Half of secondary school pupils (50.0% with 95% confidence interval 38.5% to 67.1%) reported that they had attended all of school as normal despite experiencing ongoing symptoms more than four weeks after COVID-19 infection; this can be seen in Figure 4.

## Figure 4: How much schooling secondary school pupils have attended while experiencing ongoing symptoms

England, 2 July to 26 July 2021

### Figure 4: How much schooling secondary school pupils have attended while experiencing ongoing symptoms

England, 2 July to 26 July 2021



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

#### Notes:

1. Sample size for secondary pupils (those with ongoing symptoms) = 54.
2. Data for Primary school pupils are too small to present because of [statistical disclosure criteria](#).
3. Self-reported symptoms experienced after COVID-19 infection.
4. Unweighted data.

## 4 . Types of ongoing symptoms

The most common symptom reported by survey respondents experiencing ongoing symptoms more than four weeks after a confirmed or suspected coronavirus (COVID-19) infection was "weakness/tiredness" by both staff (59.6%) and pupils (46.3%). This can be seen in Table 1.

"Shortness of breath" was the second most reported (41.8%) symptom in staff experiencing ongoing symptoms. However, this was the ninth most reported symptom for pupils (20.4%).

A similar proportion of staff and pupils experiencing ongoing symptoms also said they were experiencing loss of smell, loss of taste and muscle ache more than four weeks after their COVID-19 infection. Further detail of reported symptoms can be found in the [accompanying dataset](#).

Table 1: Percentage of the 10 most common ongoing symptoms experienced by participants since COVID-19 infection  
England, 2 July to 26 July 2021

Staff			Pupils		
Symptoms	Number reporting symptom	Percentage reported more than four weeks since the start of COVID-19 infection	Symptoms	Number reporting symptom	Percentage reported more than four weeks since the start of COVID-19 infection
Weakness / Tiredness	84	59.6%	Weakness / Tiredness	25	46.3%
Shortness of breath	59	41.8%	Loss of smell	20	37.0%
Loss of smell	49	34.8%	Loss of taste	19	35.2%
Loss of taste	48	34.0%	Headaches	18	33.3%
Muscle ache	42	29.8%	Muscle ache	16	29.6%
Cough	39	27.7%	Cough	13	24.1%
Difficulty concentrating	39	27.7%	Worry / Anxiety	12	22.2%
Memory loss	32	22.7%	Low Mood	12	22.2%
Vertigo	31	22.0%	Shortness of breath	11	20.4%
Palpitations	31	22.0%	Fever	10	18.5%

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

**Notes:**



1. Sample size for staff (with ongoing symptoms) = 141 and pupils = 48.
2. Self-reported symptoms experienced after COVID-19 infection.
3. These results should be interpreted with caution because it is not known how many people would have experienced these symptoms even if they had not been infected with coronavirus.
4. Pupils refers to both primary and secondary pupils.
5. Unweighted data.

#### More about coronavirus

- Find the latest on [coronavirus \(COVID-19\) in the UK](#).
- [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](#).

## 5 . COVID-19 Schools Infection Survey data

[COVID-19 Schools Infection Survey, England: Prevalence of ongoing symptoms following coronavirus \(COVID-19\) infection in school pupils and staff](#)

Dataset | Released 28 September 2021

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

## 6 . 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 & Tropical Medicine and Public Health England.

## 7 . 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](#).

# 8 . Measuring the data

## Methods used to produce these findings

This analysis was based on 5,117 responses to the final questionnaire for participants of the COVID-19 Schools Infection Survey (SIS). Questionnaires were answered by the parents or guardians of pupils aged under 16 years. Pupils aged 16 years and over, and staff completed their own questionnaires. Staff includes all employees working in the school for example, teachers, teaching assistants, and support staff, and refers to both primary and secondary school.

All participants were asked whether they have, or previously have had, coronavirus (COVID-19) and were asked whether this infection had been confirmed by a nasal swab (PCR) or lateral flow device (LFD) or whether it was a suspected infection as a result of likely COVID-19 symptoms or because of a diagnosis by their GP or NHS 111. The responses to the following questions on symptoms were asked only of those respondents who had a suspected or confirmed infection. Those responses were then filtered to only those who believed their symptoms were not explained by something else relating to COVID-19.

Questions asked in SIS can be viewed via the [COVID-19 Question Bank](#) on the Government Statistical Service website.

## Reference period

Data was collected between 2 July and 26 July 2021 shortly after Round 6 (14 June to 6 July 2021) of in-school testing. Questions related to COVID-19 infection relate to a current or previous infection, on or before the date on which the survey was completed.

## Response rates

This analysis was based on 5,117 responses to the final questionnaire for participants of SIS; 3,459 pupils (923 primary and 2,536 secondary) and 1,658 staff (414 primary and 1,244 secondary) participated. The estimated response rate for staff was 19% and for pupils 20%.

Of respondents, 419 staff and 471 secondary school pupils were identified as either reporting a previous COVID-19 infection confirmed by a nasal swab (PCR), LFD or suspected COVID-19 because they had experienced COVID-19-like symptoms or had received a medical diagnosis (by GP or NHS 111).

## Quality

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the [accompanying methodology](#).

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.

## Comparisons with other studies

The estimated prevalence of ongoing symptoms reported in SIS tend to fall between estimates produced in other studies.

SIS and the Office for National Statistics COVID-19 Infection Survey (CIS) data on the [duration of reported symptoms](#) (26 April 2020 to 1 August 2021) both suggest that adults are more likely to report ongoing symptoms post COVID-19 infection compared with children.

However, [the latest estimates from CIS](#) are lower than those reported in SIS. Approximately 14.1% (13.3% to 14.9%) of CIS participants who tested positive with a swab sample described themselves as experiencing "long COVID". Within the 12- to 16-year-old age group, 4.7% (3.2% to 6.8%) described themselves as experiencing symptoms more than four weeks after infection.

The estimates reported in the CIS are lower than those reported in SIS as it is likely that those reporting a confirmed or suspected case of COVID-19 in SIS would have been symptomatic at the time of infection, whereas all CIS participants are tested for COVID-19 at every follow-up visit regardless of symptoms. Over half of infections in the CIS study sample did not have symptoms at the acute phase. The weekly CIS survey has a larger sample than SIS, analysis of self-reported long COVID was based on 21,374 confirmed cases, of which 1,751 were in the 12- to 16-year-old age group. The CIS estimates are also based on prospective data, whereas SIS data is based on retrospective questioning which may be subject to recall error.

The COVID-19 Schools Infection Survey estimates appear lower than those reported by the CLoCk study (University College London and Public Health England [Children and young people with Long COVID \(CLoCk\)](#) study). Here, the presence of physical symptoms three months post-test was around 14 percentage points higher in children who had initially tested positive for COVID-19 compared with the control group (who had initially tested negative). CLoCk also reported that tiredness and headaches were the most common symptoms three months after COVID-19 infection.

Those surveyed as part of the REACT [persistent symptoms study](#) (PDF, 4.41MB) analysis were symptomatic at the time of infection. Of those with COVID-19 infection, 52.2% reported experiencing one or more symptoms four weeks after initial onset and 37.7% experienced at least one symptom for 12 weeks or more. This study also suggests higher prevalence of ongoing symptoms than the SIS data.

## 9 . Strengths and limitations

### Strengths

All participants who had enrolled in the COVID-19 Schools Infection Survey (SIS) had the opportunity to answer the end of survey questionnaire. The end of survey questionnaire covered a range of topics and was not released as a specific long COVID questionnaire. This may help reduce the risk of bias among the participants who responded.

The demographics of those answering were similar to those that have enrolled in SIS as a whole (for example 60% of females answered the end of survey questionnaire which is similar to 59% of total females enrolled in the study).

As respondents were not provided with a predefined list of symptoms to choose from, the questionnaire therefore captures all symptoms that the respondent believes are linked to coronavirus (COVID-19) infection.

## Limitations

SIS is not intended to be generalisable to all schools in England as the study design oversampled local authorities in high prevalence areas at the start of the academic year (September 2020). However, whilst the sampling in SIS will have an impact on the initial probability of somebody sampled for the survey having contracted COVID-19, there is little evidence that experiencing ongoing symptoms (given prior infection) is influenced by geographic region.

As questions on ongoing symptoms were only asked to those who reported a previously confirmed or suspected COVID-19 infection, we were not able to compare estimates to those in a non-infected control group and do not know how common these symptoms are in the uninfected population more generally.

In some cases, the sample size and numbers available for analysis are small, as only those who indicated they had a previous (confirmed or suspected) COVID-19 infection and experienced symptoms lasting over four weeks were able to answer questions. Therefore, results should be treated with some caution.

Participants with ongoing symptoms may have been more likely, or conversely less able, to answer the questionnaire which may bias the prevalence estimates.

Analysis is based on self-reported symptoms which are subjective to the individual, have not been clinically diagnosed and should be treated with some caution as the reported symptoms may not be because of a previous COVID-19 infection.

It is not known whether those who reported confirmed or suspected COVID-19 infection were symptomatic or asymptomatic at the time of infection and this can influence the probability of developing ongoing COVID-19 symptoms.

## 10 . Related links

### [COVID-19 Schools Infection Survey, England: Round 6, June 2021](#)

Bulletin | Released 11 August 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.

### [COVID-19 Schools Infection Survey: methods and further information](#)

Methods article | Updated 11 August 2021

This methodology guide is intended to provide information on the methods used to collect the data, process it, and calculate the statistics produced from the COVID-19 Schools Infection Survey (SIS).

### [Updated estimates of the prevalence of post-acute symptoms among people with coronavirus \(COVID-19\) in the UK](#)

Article | Released 16 September 2021

Experimental estimates from three approaches to estimating the percentage of people testing positive for coronavirus (COVID-19) and who experience symptoms four or more weeks after infection, broken down by demographic and viral characteristics, using UK Coronavirus Infection Survey data.

### [Prevalence of ongoing symptoms following coronavirus \(COVID-19\) infection in the UK](#)

Bulletin | Released 2 September 2021

Estimates of the prevalence of self-reported "long COVID" and associated activity limitation, using UK Coronavirus (COVID-19) Infection Survey data.

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

Bulletin | Updated weekly

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

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

Bulletin | Released 22 September 2021

Characteristics of people testing positive for COVID-19 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. This study is jointly led by the 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 \(COVID-19\) latest insights](#)

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.