

Article

Coronavirus (COVID-19) cases in school pupils, England: up to 22 December 2021

Coronavirus (COVID-19) cases in school pupils aged 4 to 15 years attending state-funded schools. Includes detailed analysis by demographic and geographic characteristics and vaccine status. Experimental Statistics.

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1 . Main points

- White British secondary pupils had the largest proportion of their population reporting a positive coronavirus (COVID-19) test in the autumn 2021 term (24.9%); this differs from the autumn 2020 term, when secondary pupils from the Indian ethnic group had the largest proportion of their population reporting a positive COVID-19 test (11.3%).
- White British primary pupils had the largest proportion of their population reporting a positive COVID-19 test in the autumn 2021 term (16.6%); this differs from the autumn 2020 term, when primary pupils from the Pakistani ethnic group had the largest proportion of their population reporting a positive test (2.5%).
- In the most deprived areas, 9.4% of primary pupils and 15.3% of secondary pupils reported a positive test in the autumn 2021 term, compared with 20.1% of primary pupils and 27.9% of secondary pupils in the least deprived areas; in the autumn 2020 term, the difference between pupils in the most and least deprived areas was smaller.
- Pupils with a positive COVID-19 test were less likely to report having COVID-19 symptoms at the time of their positive test in the autumn 2021 term (50.4% of primary pupils and 52.3% of secondary pupils); this differs from the autumn 2020 term (74.3% and 69.3%, respectively).
- In the first half of the autumn 2021 term (20 September to 3 November 2021), the rate of pupils aged 12 to 15 years vaccinated with one dose (at least 14 days after vaccination) reporting a positive COVID-19 test was estimated to be 38% lower than unvaccinated pupils.
- In the second half of the autumn 2021 term (4 November to 17 December), the rate of pupils aged 12 to 15 years vaccinated with one dose (at least 14 days after vaccination) reporting a positive test was estimated to be 23% lower than unvaccinated pupils.

2 . Overview of data and methods

The coronavirus (COVID-19) case data presented in this article are produced using the England school census (ESC) and NHS Test and Trace. It covers pupils in state-funded schools only (including special schools and sixth forms attached to schools). Therefore, the data differs from the [UK Health Security Agency's data and insights on coronavirus](#) and estimates of infection in [our Coronavirus Infection Survey statistical bulletins](#).

Using Test and Trace data to monitor trends in COVID-19 infection relies on infections being diagnosed. This is influenced by whether people have symptoms, are aware they may have been in contact with someone infected, and are willing to test. Changes to testing and isolation rules over time may also influence the willingness to test. The impact of these rules and any changes could also vary between different sociodemographic groups.

The data also includes reported lateral flow device (LFD) test results. Access to free LFD tests for everyone in England was introduced between the two time periods being compared (on 9 April 2021), with the aim of identifying and isolating asymptomatic cases to prevent onward transmission.

At the beginning of the 2021 autumn term, secondary pupils were advised to take two onsite LFD tests prior to their return to school and then continue testing twice weekly at home. Variation in the uptake and/or reporting of LFD testing could also affect the trends reported here.

Therefore, when comparing the proportions of pupils reporting positive tests between groups and across time, these figures cannot be used to estimate the true positivity rates among their populations.

This is analysis of newly collected data, and our understanding of it and its quality will improve over time. The estimates presented in this release are Experimental Statistics because the NHS Test and Trace data is subject to further quality assurance tests.

This publication focuses on the autumn 2020 term (1 September 2020 to 23 December 2020) and the autumn 2021 term (31 August 2021 to 22 December 2021) to understand how the characteristics of pupils testing positive changed over time. Data for the spring and summer 2021 terms are also available in the accompanying dataset. At each time, different SARS-CoV-2 variants were dominant in the UK (see [Glossary section](#)).

3 . Coronavirus (COVID-19) cases by age and symptoms at time of positive test

Ages in this article refer to the age of the pupil on 31 August at the start of the relevant academic year. Please see the [Glossary section](#) for further details on age and year group.

In the autumn 2020 term, the proportion reporting a positive polymerase chain reaction (PCR) test or lateral flow device (LFD) test was much higher among secondary pupils aged 11 to 15 years (10.5%) than primary pupils aged 5 to 10 years (1.5%).

In the autumn 2021 term, the proportion reporting a positive test was higher in all age groups with differing patterns. There was no longer a large difference in positivity rates between primary and secondary pupils. The trend was largely flat between secondary pupils aged 11 to 15 years (school years 7 to 11) at the start of the school year.

In contrast, among primary pupils, reported positive tests increased with each year of age from 5.9% among those aged 4 years (school year reception) to 18.6% among those aged 10 years (school year 6). The linear trend in the proportion reporting a positive test for primary pupils is also seen in [our COVID-19 Schools Infection Survey, England: pupil antibody data, November to December 2021 bulletin](#).

Figure 1: Secondary school age pupils were more likely to report positive coronavirus tests than primary school age pupils

Proportion of pupils aged 4 to 15 years in state-funded schools reporting a positive coronavirus test, by age and term, England, up to 22 December 2021

Download the data

[.xlsx](#)

Pupils testing positive in the autumn 2020 term were more likely to report having COVID-19 symptoms at the time of the positive test; 74.3% of primary pupils and 69.3% of secondary pupils testing positive reported having COVID-19 symptoms, compared with 50.4% and 52.3%, respectively in the autumn 2021 term.

However, an increase in the percent testing positive is consistent with findings from [our Coronavirus \(COVID-19\) Infection Survey, UK: 17 December 2021 bulletin](#), which noted infections were higher in the autumn 2021 term compared with the same period in the previous academic year.

4 . Coronavirus (COVID-19) cases by pupil characteristics

COVID-19 cases by ethnicity

For both primary and secondary pupils, there were large variations in the proportion of pupils reporting positive coronavirus (COVID-19) tests by ethnicity in the autumn 2021 term. White British primary and secondary pupils had the largest proportion of their population reporting a positive test (16.6% and 24.9%, respectively), while pupils from the Gypsy or Roma ethnic group had the smallest proportion (5.2% and 8.5%, respectively).

However, in the autumn 2020 term, there was less variation between ethnic groups. Pupils in the Indian ethnic group were most likely to report a positive test among secondary pupils (11.3%) and pupils from the Pakistani ethnic group were most likely to report a positive test among primary pupils (2.5%).

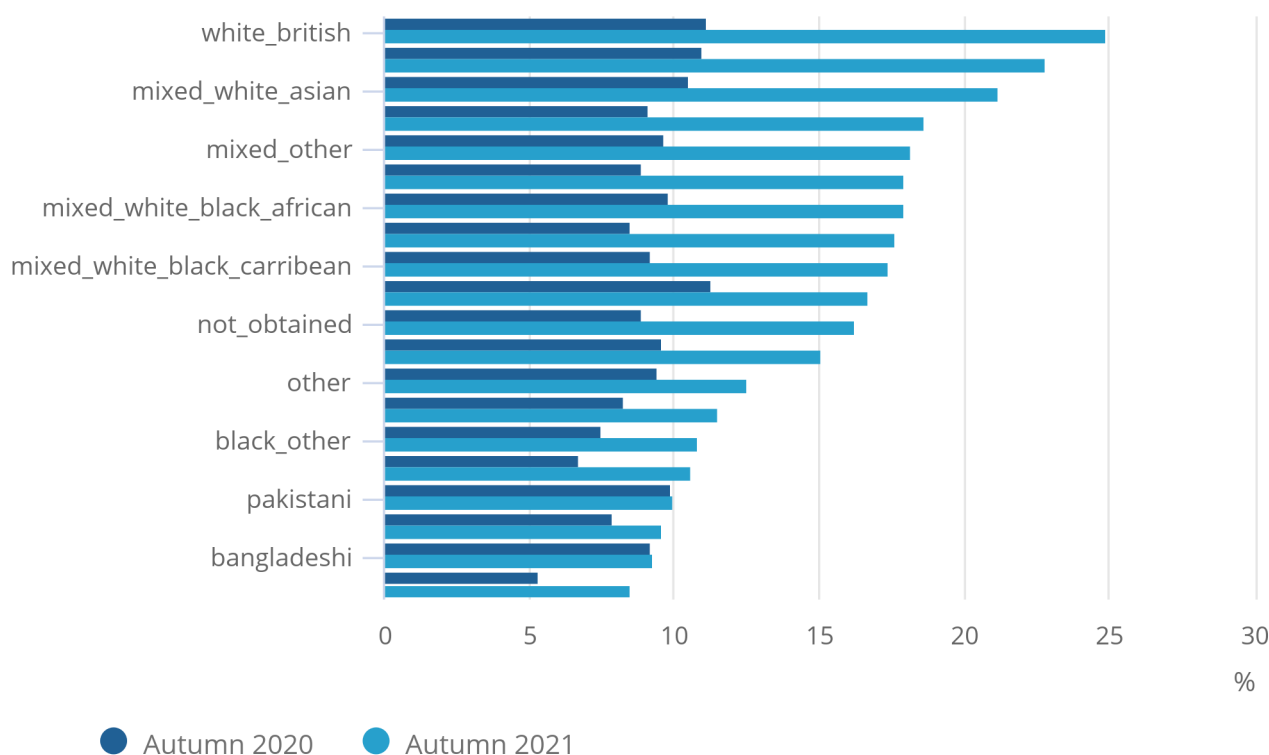
Compared with the same period in 2020, some ethnic groups (such as White British, White Irish and Chinese) saw the proportion reporting a positive test in 2021 more than double. In contrast, some ethnic groups (such as Bangladeshi and Pakistani) did not see a notable increase in the proportion reporting a positive test in 2021 at all.

Figure 2: Proportions of secondary age pupils reporting a positive coronavirus test varied by ethnicity

Proportion of pupils reporting positive coronavirus tests for secondary age pupils in state-funded schools by ethnicity and term. England, up to 22 December 2021.

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Proportion of pupils reporting positive coronavirus tests for secondary age pupils in state-funded schools by ethnicity and term. England, up to 22 December 2021.



Source: Office for National Statistics (ONS) - Linked English Schools Census (Department for Education) and NHS Test and Trace (T&T) dataset

Additional demographic breakdowns by special educational needs (SEN) status, gender, and whether the pupil spoke English as an additional language (EAL) are available in the [accompanying dataset](#).

5 . Positive coronavirus (COVID-19) cases by deprivation measures

Positive COVID-19 tests by Income Deprivation Affecting Children Index (IDACI)

Primary and secondary pupils living in more deprived areas were less likely to report a positive coronavirus (COVID-19) test in the autumn 2021 term than those in less deprived areas. For example, in IDACI decile 1 (most deprived), 9.4% of primary pupils and 15.3% of secondary pupils reported a positive test, compared with 20.1% of primary pupils and 27.9% of secondary pupils in IDACI decile 10 (least deprived). This finding is consistent with that of [our Coronavirus \(COVID-19\) case rates by socio-demographic characteristics, England: 1 September 2020 to 10 December 2021 bulletin](#).

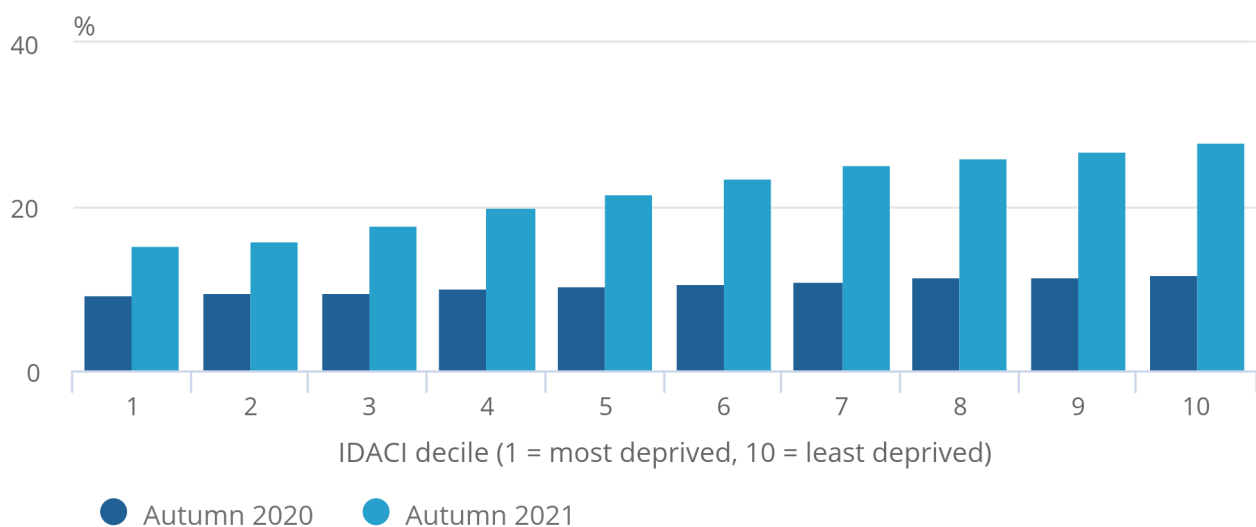
In the autumn 2020 term, there was a smaller difference in the percent reporting a positive COVID-19 test by IDACI decile.

Figure 3: Secondary age pupils living in more deprived areas were less likely to report a positive coronavirus test

Proportion of pupils reporting a positive coronavirus test for secondary age pupils in state-funded schools by Income Deprivation Affecting Children Index decile and term, England, up to 22 December 2021

Figure 3: Secondary age pupils living in more deprived areas were less likely to report a positive coronavirus test

Proportion of pupils reporting a positive coronavirus test for secondary age pupils in state-funded schools by Income Deprivation Affecting Children Index decile and term, England, up to 22 December 2021



Source: Office for National Statistics (ONS) - Linked English Schools Census (Department for Education) and NHS Test and Trace (T&T) dataset

Notes:

1. The IDACI calculates deprivation deciles by ranking the 32,844 Lower-layer Super Output Areas (LSOA), taken from the 2011 English Census, from most deprived to least deprived and dividing them into 10 equal groups.

6 . Positive coronavirus (COVID-19) cases by region

The proportion of pupils reporting a positive coronavirus (COVID-19) test varied between regions in both the autumn 2020 term and autumn 2021 term (Figure 4).

In the autumn 2021 term, London had the lowest proportion of pupils reporting a positive test among primary pupils (9.6%) and secondary pupils (14.5%), while the South West had the highest proportion (17.3% and 26.5%, respectively).

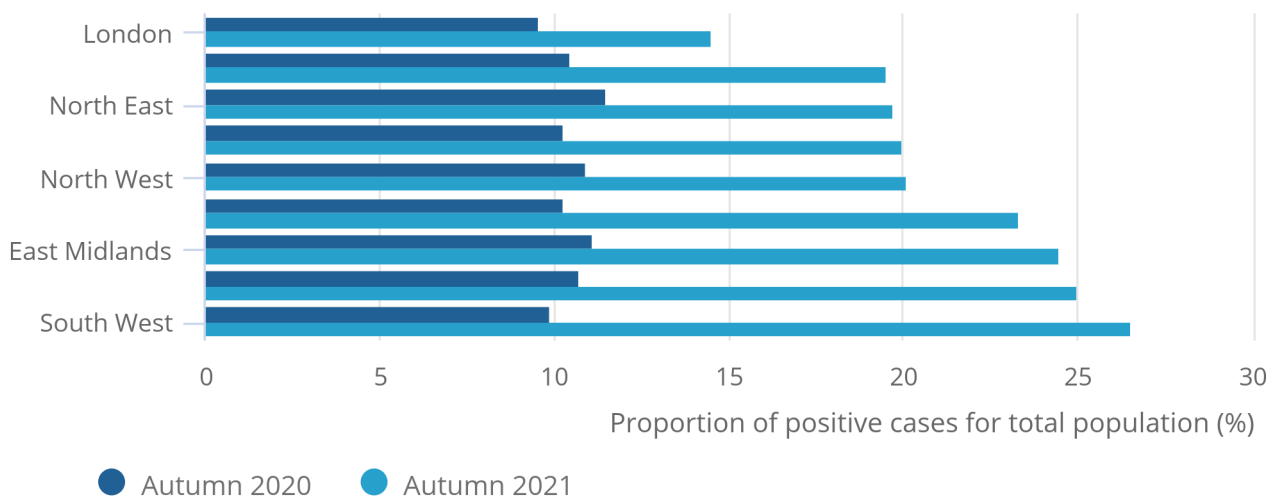
In the autumn 2020 term, however, the North East had the highest proportion reporting a positive test (11.5%) among secondary pupils, while the South West region had the second lowest (9.9%). In primary pupils in the autumn 2020 term, London and the North West had the highest proportions (1.8%).

Figure 4: The South West region had the largest proportion of pupils reporting a positive test, while London had the smallest, in autumn 2021

Proportion of secondary aged pupils in state-funded schools reporting positive coronavirus tests by region and term, England, up to 22 December 2021

Figure 4: The South West region had the largest proportion of pupils reporting a positive test, while London had the smallest, in autumn 2021

Proportion of secondary aged pupils in state-funded schools reporting positive coronavirus tests by region and term, England, up to 22 December 2021



Source: Office for National Statistics (ONS) - Linked English Schools Census (Department for Education) and NHS Test and Trace (T&T) dataset

7 . Logistic regression for factors associated with a positive coronavirus (COVID-19) case

Multivariate statistical modelling was carried out to estimate the relative effect of each characteristic on the likelihood of reporting a positive coronavirus (COVID-19) test, while controlling for other factors. Here, logistic regression has been used to estimate the odds ratios of pupils aged 12 to 15 years reporting a positive test result in the autumn 2020 and autumn 2021 terms.

The factors entered into each model were:

- age
- gender
- ethnicity
- special educational needs (SEN) status
- English as an additional language (EAL) status
- free school meals (FSM) status
- Income Deprivation Affecting Children Index decile (IDACI)
- region
- urban or rural

Adjusting for differences in demographic, socioeconomic and geographical factors did not substantially change the patterns seen in the likelihood of reporting a positive COVID-19 test result when compared with the raw data presented in sections 3 to 6 of this article.

For example, in the autumn 2021 term, the likelihood was still higher in the least deprived areas compared with the most deprived areas. The likelihood was lower for each ethnic minority group compared with White British pupils. In the autumn 2020 term, pupils in the Indian ethnic group were still more likely to have reported a positive COVID-19 test compared with White British pupils after controlling for the factors entered into the model.

Figure 5 shows the odds ratios by ethnicity and Income Deprivation Affecting Children Index (IDACI) decile from the two fully adjusted models. The odds ratios for all characteristics for the autumn 2021 term and autumn 2020 term models can be found in our [accompanying dataset](#).

Figure 5: Pupils from the least deprived areas were more likely to test positive for coronavirus than those from the most deprived areas during the autumn 2020 and 2021 term

Odds ratio of pupils testing positive for coronavirus, England, up to 22 December 2021

Notes:

1. The odds ratio is a measure of how likely an outcome is given a particular characteristic. A value greater than one indicates that people in that group are more likely to report a positive COVID-19 test than those in the relevant baseline category.

Download the data

[.xlsx](#)

8 . Positive coronavirus (COVID-19) cases by vaccination status in pupils aged 12 to 15 years

When comparing infections between vaccinated and unvaccinated pupils in the autumn 2021 term, we calculated the number of infections per 10,000 participant days at risk for the period 20 September to 17 December 2021. This is because the roll out of vaccines occurred over the course of the autumn term, meaning that most vaccinated pupils were exposed to the risk of infection (in their vaccinated state) for less time over the course of the term. In this analysis, a vaccinated pupil is classified as a pupil that has received at least one vaccine dose at least 14 days previously. In the autumn 2021 term, only pupils aged 12 to 15 years with underlying health conditions were eligible for a second dose. Therefore, the majority of those vaccinated in this age group had only received one dose.

The rate of reported positive tests per 10,000 participant days at risk for vaccinated pupils was 15.4 compared with 24.1 for unvaccinated pupils. This was based on 56,536 reported positive tests occurring in the period for vaccinated pupils, compared with 255,755 for unvaccinated pupils (total population is equal to 2,394,883). This analysis does not control for the different characteristics of pupils who were vaccinated compared with pupils who were not.

Infections by vaccination status and Income Deprivation Affecting Children Index (IDACI) decile

The rate of reported positive tests per 10,000 participant days at risk increased as the level of deprivation decreased (in line with cases findings in Section 4). Previous analysis in [our Coronavirus \(COVID-19\) vaccination uptake in school pupils, England: up to 9 January 2022 article](#) showed vaccine uptake also varied with deprivation levels.

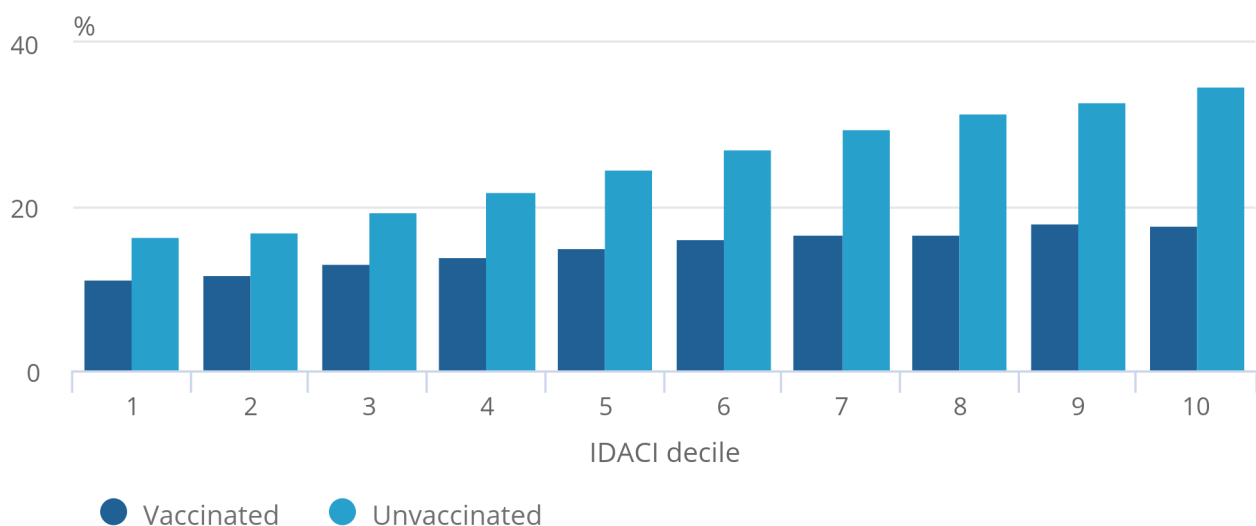
For secondary pupils in the 10% most deprived areas, the rate of positive tests per 10,000 participant days at risk was 11.1 for vaccinated pupils and 16.4 for unvaccinated pupils. In the 10% least deprived areas, the respective figures were 17.7 for vaccinated pupils compared with 34.8 for unvaccinated pupils.

Figure 6: Vaccinated pupils had a lower positive test rate per 10,000 days at risk than unvaccinated pupils for all IDACI deciles, in autumn 2021

Rate of pupils reporting a positive test per 10,000 participant days at risk by vaccination status and Income Deprivation Affecting Children Index decile, England, up to 17 December 2021

Figure 6: Vaccinated pupils had a lower positive test rate per 10,000 days at risk than unvaccinated pupils for all IDACI deciles, in autumn 2021

Rate of pupils reporting a positive test per 10,000 participant days at risk by vaccination status and Income Deprivation Affecting Children Index decile, England, up to 17 December 2021



Source: Office for National Statistics (ONS) - Linked English Schools Census (Department for Education) and NHS Test and Trace (T&T) dataset

Notes:

1. The IDACI calculates deprivation deciles by ranking the 32,844 Lower-layer Super Output Areas (LSOA), taken from the 2011 English Census, from most deprived to least deprived and dividing them into 10 equal groups.
2. Please see the [Glossary section](#) of the article for an explanation at how proportion of positive tests reported per 10,000 days at risk have been calculated.

9 . Rate of positive coronavirus (COVID-19) cases by vaccination status

A Cox proportional hazards regression model was used to compare the rate reporting a positive coronavirus (COVID-19) test between vaccinated and unvaccinated pupils aged 12 to 15 years over the autumn 2021 term. This method measures the association between a time-to-event outcome and a characteristic of interest (in this case, vaccination status), while controlling for other characteristics expected to also be associated with the outcome.

To account for the fact that vaccination status can change over time, vaccination status was entered as a time varying covariate. The first 14 days after vaccination were assessed separately in the model to allow time for an antibody response to develop.

The model controlled for gender, age, ethnicity, special educational needs (SEN), free school meals (FSM), prior infection, urban or rural residence, Income Deprivation Affecting Children Index (IDACI) decile, region, and school size.

In the autumn 2021 term, only pupils aged 12 to 15 years with underlying health conditions were eligible for a second dose of the vaccination. Pupils who had received their first vaccine prior to 20 September (when all pupils aged 12 to 15 years became eligible) have been excluded from this analysis, so the majority of those included here have only recently received one dose. We plan to update this analysis to cover the spring 2022 term, which will include the effects of a second vaccine dose and more detailed breakdown of time since first dose.

In the model, we had 1.0 million vaccinated pupils and 1.3 million unvaccinated pupils. As community infection rates in England varied over the course of the term, the model was split to allow different estimates to be produced for the first half of the autumn term (20 September to 3 November) and for the second half (4 November to 17 December).

Figure 7: Vaccinated pupils had a lower hazard ratio compared with unvaccinated pupils in autumn 2021

Hazard ratio of pupils testing positive for coronavirus by vaccination status, England, up to 17 December 2021

Download the data

[.xlsx](#)

The hazard ratios reported in this model represent an average over each half term period.

In the first half of the autumn term, the rate of reporting a positive test was estimated to be 38% lower (the hazard ratio was 0.62 and the 95% confidence interval was 0.61 to 0.64) for a vaccinated pupil compared with an unvaccinated pupil. However, the rate of infection in the 14 day window following a vaccination was estimated to be 15% higher (the hazard ratio was 1.15 and the 95% confidence interval was 1.13 to 1.16) than an unvaccinated pupil.

In the second half of the autumn term, the rate of reporting a positive test for a vaccinated pupil was estimated to be 23% lower (the hazard ratio was 0.77 and the 95% confidence interval was 0.76 to 0.78) than an unvaccinated pupil. The rate of infection in the 14 day window following the first vaccination was estimated to be 16% higher (the hazard ratio was 1.16 and the 95% confidence interval was 1.14 to 1.18) than an unvaccinated pupil. The increase in reported positive tests shortly after vaccination could be because of a change in risk behaviour following vaccination and/or increased testing for the virus owing to post vaccination reactions.

The increase in risk immediately after vaccination is also in line with unadjusted findings from our [Coronavirus \(COVID-19\) Infection Survey technical article: analysis of positivity after vaccination, June 2021](#). This found the risk of infection increased following first vaccination, peaking at around 16 days, followed by a decrease in infections.

These results suggest that, in general, unvaccinated pupils were more likely to become infected with COVID-19 in the autumn 2021 term compared with those who had received a COVID-19 vaccine more than 14 days previously. The lower estimates in the second half compared with the first half of the autumn 2021 term may reflect:

- reduced effectiveness of the vaccine overtime (in the first half of the autumn term, no pupil in the analysis would have been vaccinated for more than 45 days)
- reduced effectiveness of the vaccine against the Omicron variant, which became increasingly prevalent towards the end of the second half of the term

10 . Coronavirus cases at school level

The percentage of pupils in primary and secondary schools reporting a positive test for coronavirus (COVID-19) was calculated for each school. In this section, special schools were excluded because these schools tend to be smaller. They are therefore more likely to have extreme proportions of pupils reporting positive tests at an individual school level.

Percentage of pupils testing positive per school by free school meal (FSM) band

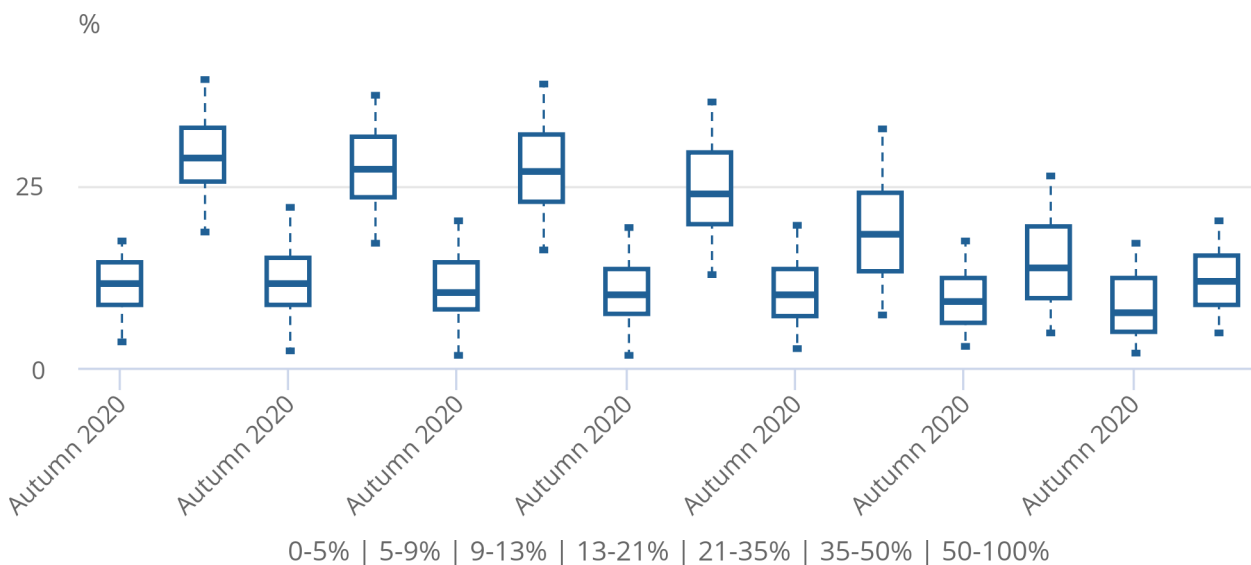
Secondary schools with higher percentages of pupils eligible for free school meals (FSM) had lower percentages of pupils reporting positive COVID-19 tests in the autumn 2021 term (Figure 8). For schools with 0% to 5% of pupils accessing FSM, the secondary school with the median percentage of pupils reporting a positive test had 29.1% of its pupils reporting positive tests. In comparison, schools with more than 50% of pupils accessing FSM had a median of 11.9% pupils reporting a positive test. This trend was less pronounced in the autumn 2020 term, when the respective figures were 11.6% and 7.8%.

Figure 8: The percentage of pupils reporting a positive test varies between schools in the same free school meal band

Percentage of pupils in state-funded secondary schools who have reported a positive test grouped by percentage of pupils accessing free school meals, England, up to 22 December 2021

Figure 8: The percentage of pupils reporting a positive test varies between schools in the same free school meal band

Percentage of pupils in state-funded secondary schools who have reported a positive test grouped by percentage of pupils accessing free school meals, England, up to 22 December 2021



Source: Office for National Statistics (ONS) - Linked English Schools Census (Department for Education) and NHS Test and Trace (T&T) dataset

Notes:

- Free School Meal bands are calculated by the proportion of pupils from each school accessing free school meals.

Equivalent figures for schools grouped by region and school size are available in the underlying data. Overall, there was little difference in the percentage of pupils reporting a positive test between different school size groupings.

11 . Coronavirus cases in school pupils data

[Coronavirus cases in school pupils, England: up to 22 December 2021](#)

Dataset | Released 24 March 2022

Figures on coronavirus (COVID-19) cases in school pupils aged 4 to 17 years attending state-funded primary, secondary, sixth forms and special schools. Broken down by demographic and geographic characteristics, using a linked England schools census and NHS Test and Trace dataset, up to 22 December 2021. Experimental Statistics.

[COVID-19 Schools Infections Survey](#)

Dataset | Released 27 October 2021

Initial estimates of staff and pupils testing positive for coronavirus (COVID-19) across a sample of schools within selected local authority areas in England.

12 . Glossary

Age and year groups

Ages in this publication refer to the age of the pupil on 31 August at the start of the relevant academic year (31 August 2020 for 2020 to 2021 and 31 August 2021 for 2021 to 2022). Therefore, all pupils in school year reception are recorded as being age 4 years, pupils in school year 7 are recorded as being age 11 years, and pupils in school year 11 are recorded as being age 15 years. Consequently, a pupil's recorded age may not be their actual age at the time of their reported positive test.

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, the true unknown value would lie between the lower and upper confidence limits 95% of the time. 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](#).

Free school meals (FSM)

Free school meals (FSM) are a statutory benefit available to school aged children from families who meet the [qualifying criteria published by the Department for Education](#) (predominantly based around income). In this article, we define FSM as pupils having been eligible for FSM in the last six years, using information recorded by schools as part of the England school census.

Rate of pupils reporting a positive test per 10,000 participant days at risk

The rate of pupils reporting a positive test per 10,000 participant days at risk allows us to understand the rate of infection depending on how long participants have been "at risk" of infection. This accounts for participants having been vaccinated at different timepoints. It also accounts for individuals having different durations of time until a positive test.

The figure is calculated by dividing the reported number of positive tests identified by the total number of participant days from the first time a participant became at risk (in either the vaccinated or unvaccinated categories) to their latest reported positive test, or the end of the follow up period. Pupils could switch between unvaccinated and vaccinated after vaccination.

Odds ratio

An odds ratio indicates the likelihood of pupils having reported a positive test for coronavirus (COVID-19) given a particular characteristic or variable, compared with a baseline category.

When a characteristic or variable has an odds ratio of one, this means there is neither an increase nor a decrease in the odds of having tested positive for COVID-19 compared with the baseline category. An odds ratio greater than one indicates an increased likelihood of having reported a positive test for COVID-19 compared with the baseline category. An odds ratio less than one indicates a decreased likelihood of having reported a positive test for COVID-19 compared with the baseline category.

Positive test

People can record several positive tests on the system. Within our figures presented here, we consider positives more than 120 days after the first positive of that infection episode to be new infections, in order to be consistent with our existing publications on COVID-19. This definition will be reviewed in future analysis, following the emergence of the Omicron variant.

Income Deprivation Affecting Children Index (IDACI)

The Income Deprivation Affecting Children Index (IDACI) is used to calculate deprivation deciles based on the proportion of children aged 0 to 15 years living in deprived income households. These are households not working or working on low incomes eligible for means tested benefits.

The index ranks 32,844 Lower Layer Super Output Areas (LSOAs) in England from most deprived to least deprived and divides them into 10 equal groups. For example, small area X is ranked 5,000 out of 32,844 small areas in England, where 1 is the most deprived. This means that small area X is among the 20% most deprived small areas in the country and therefore would be in IDACI decile 2. The [Department for Communities and Local Government have published further information.](#)

Variants of Coronavirus

In the time periods analysed in this article, there have been different dominant variants of SARS-CoV-2, the virus causing COVID-19, at each point in time. In the autumn 2020 term, the original strain of COVID-19 was dominant. Alpha then emerged towards the end of the term and became dominant on 21 December 2020. In the autumn 2021 term, Delta was the dominant variant. Omicron infections were identified towards the end of this term but were not considered dominant until 20 December 2021.

13 . Data sources and quality

Measuring the data

Data from the England schools census (ESC), NHS Test and Trace (pillars 1 and 2), and the National Immunisation Management Dataset (NIMS) were linked to produce the analysis used in this article. For further information on the data linkage process, please see [our Coronavirus \(COVID-19\) vaccination uptake in school pupils. England: up to 9 January 2022 article.](#)

The ESC is a mandatory annual return to the Department for Education by state-funded schools on a set date. For data in this article, this was 21 January 2021. All pupils attending state-funded primary schools, secondary schools (including sixth forms attached to schools), nurseries, and special schools in England are recorded. This is over 6.9 million pupils aged 12 to 15 years, and approximately 92% of all those aged 4 to 15 years in England.

The Department for Education releases [ESC data on schools, pupils and characteristics](#). All demographic, geographic and personal data used in this article comes from the ESC.

Test and Trace records all coronavirus testing that takes place in England. These figures are updated daily and retrospective updates can be made. The extract used contains data up to 31 December 2021, and the outcome measure includes individuals receiving a positive polymerase chain reaction (PCR) or lateral flow device (LFD) test result recorded in the Test and Trace data.

The NIMS records England's COVID-19 vaccinations programme.

Strengths

One strength of the dataset is its size. ESC contains pupil level data collected from all state-funded schools in England. This represents over 8 million pupils aged 4 to 17 years and allows for potential analysis of smaller under-representative groups.

The data contains a rich source of background characteristics, which allow us to analyse how the proportion of pupils reporting positive tests for coronavirus differ by sociodemographic group, and examine the extent to which these differences are driven by other factors.

Making use of already existing administrative data sources avoids the need to set up bespoke surveys, which can be costly and suffer from response bias.

Limitations

Using Test and Trace data to monitor trends in COVID-19 infection relies on infections being diagnosed. This is influenced by whether people have symptoms, are aware they may have been a contact of someone infected, and are willing to test. Changes to isolation rules over time may also influence the willingness to test, and the impact of these rules and any changes could vary between different sociodemographic groups. This means the Test and Trace data cannot be used to provide an estimate of the true positivity rates within the population.

Access to free LFD testing for everyone in England was introduced between the two time periods being compared (on 9 April 2021), with the aim of uncovering asymptomatic cases. Variation in the uptake and/or reporting of LFD testing could also affect the trends reported here.

The latest available ESC data relates to the previous academic year, so pupils may not be recorded in the schools they currently attend. Therefore, school level analysis of secondary schools for 2020 to 2021 relates to those aged 11 to 15 years. For 2021 to 2022, school level analysis relates only to those aged 11 to 14 years (those now aged 12 to 15 years and in school years 8 to 11). For primary schools, school level analysis for 2020 to 2021 only relates to those aged 5 to 10 years. For 2021 to 2022, school level analysis only relates to those aged four to nine years (those now aged 5 to 10 years and in school years 1 to 6) because the majority of these pupils will still be in the same school.

14 . Future developments

We will continue to examine the analytical potential of the linked data asset and expand on our existing analysis.

15 . Acknowledgments

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& TROPICAL
MEDICINE



UK Health
Security
Agency

This analysis was produced by the Office for National Statistics (ONS) with support from our School Infection Survey research partners at the London School of Hygiene and Tropical Medicine and UK Health Security Agency.

16 . Related links

[Coronavirus \(COVID-19\) vaccination uptake in school pupils, England: up to 9 January 2022](#)

Bulletin | Released 1 February 2022

Coronavirus (COVID-19) vaccination uptake in school pupils aged 12 to 17 years attending state-funded schools. Including detailed analysis by demographic and geographic characteristics for those aged 12 to 15 years.

[Coronavirus \(COVID-19\) Infection Survey, UK: 4 March 2022](#)

Bulletin | Released 4 March 2022

Estimates for England, Wales, Northern Ireland and Scotland. This survey is being delivered in partnership with University of Oxford, University of Manchester, UK Health Security Agency 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 laboratory to collect and test samples.

[Coronavirus \(COVID-19\) case rates by socio-demographic characteristics, England: 1 September 2020 to 10 December 2021](#)

Bulletin | Released 14 February 2022

Analysis of age-standardised case rates for coronavirus (COVID-19) in England by sociodemographic characteristics between 1 September 2020 and 10 December 2021.

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

Interactive tool | Updated as and when data become available

A live roundup of the latest data and trends about the coronavirus (COVID-19) pandemic from ONS and other sources.