

Statistical bulletin

Coronavirus (COVID-19) Infection Survey, characteristics of people testing positive for COVID-19, England: 13 July 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.

Contact:
Kara Steel and Trudy Hill
infection.survey.analysis@ons.
gov.uk
+44 (0)1633 651689

Release date:
13 July 2021

Next release:
28 July 2021

Table of contents

1. [Main points](#)
2. [Likelihood of testing positive for COVID-19 by disability status, England](#)
3. [Number and age of people individuals had contact with, by self-reported disability status, England](#)
4. [Characteristics of people testing positive for COVID-19 data](#)
5. [Collaboration](#)
6. [Glossary](#)
7. [Measuring the data](#)
8. [Strengths and limitations](#)
9. [Related links](#)

1 . Main points

- There is no statistical evidence of a difference in the likelihood of testing positive for COVID-19 between disabled people and non-disabled people in England, between 25 February and 16 May 2021. There were relatively low COVID-19 infection levels within England during this time.
- Our analysis suggests that in England, non-disabled and disabled people who are limited a little have had more socially distanced contacts than disabled people who are limited a lot between 21 February and 15 May 2021; there is limited evidence of a difference in the number of physical contacts between non-disabled and disabled people during this time.
- Overall, the number of people reporting socially distanced and physical contacts with others, increased among both disabled and non-disabled people between 21 February and 15 May 2021.

About this bulletin

We have changed from presenting analysis on the characteristics of people testing positive for COVID-19 in a fortnightly article to a fortnightly bulletin series. Our [previous articles](#) presenting analysis on the characteristics of people testing positive for COVID-19 are still available.

In this bulletin, we refer to the number of coronavirus (COVID-19) infections within the community population; community in this instance refers to private residential households, and it excludes those in hospitals, care homes and/or other institutional settings in the UK.

This bulletin presents analysis on the characteristics of those testing positive for SARS-CoV-2, the coronavirus causing the COVID-19 disease in the UK. We include current COVID-19 infections, which we define as testing positive for SARS-CoV-2, with or without having symptoms, on a swab taken from the nose and throat.

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](#).

More information on our headline estimates of the overall number of positive cases in England, Wales, Northern Ireland and Scotland are available in our [latest weekly bulletin](#). It should be noted that the analysis on the characteristics and behaviours of those testing positive in this bulletin is for a different time period than the headline figures presented in the most recent bulletin. The reference periods for the various analyses are clearly stated at the start of each section, as well as further information on what the analysis covers. More information about the methods used for our models is available in our [methodology article](#).

2 . Likelihood of testing positive for COVID-19 by disability status, England

About this analysis

This section covers the likelihood of individuals testing positive for coronavirus (COVID-19) from nose and throat swabs in England, from 25 February to 16 May 2021, by self-reported disability status. The time period considered in this analysis reflects a period of relatively low infection levels in England and is prior to notable increases of the Delta variant of COVID-19 being identified within the survey. The analysis presented here updates the [previously published analysis](#) from 1 September 2020 to 28 February 2021, released in March 2021.

In this article, a person is considered disabled if they have a self-reported long-standing illness, condition or impairment, which causes difficulty with day-to-day activities. This definition is consistent with the Equality Act 2010 and the [Government Statistical Service \(GSS\) harmonised definition](#).

In this analysis, the reference group, those who are referred to as non-disabled, is made up of individuals who either responded "No" to having a long-term health condition or who responded "Yes" but reported the long-term health condition did not reduce their ability to carry out day-to-day activities. The group referred to as "disabled people – limited a little" is made up of individuals who answered "Yes" to having a long-term health condition and reported that their condition reduced their ability to carry out their day-to-day activities a little, while the group referred to as "disabled people - limited a lot" also answered "Yes" and reported that their condition reduced their ability to carry out their day-to-day activities a lot. The distinction between limited a little and limited a lot is based solely on data from the survey and not inferred from any other information. Therefore, it only implies a difference based on self-reported activity restriction.

Where participants self-reported that their long-term health condition had a different level of impact on their daily activities at different dates during the study period, the highest level of restrictions on activity was taken¹. For example, if a respondent reported that their health condition had a little impact on their day-to-day life at one point in the study and a lot of impact at another, they would be placed in the category of "disabled people – limited a lot".

For more information on the questions used in our analysis, please see our latest participant [questionnaire](#).

This analysis is based on data from participants aged 18 to 80 years in England, from 25 February to 16 May 2021 and is presented by self-reported disability.

Likelihood of testing positive at any time during this period, is based on a logistic regression model accounting for ethnicity, household size, multigenerational household, sex, Index of Multiple Deprivation rank², age over time, region, urban or rural status and calendar time.

The methodology has been adjusted slightly from that used to produce similar estimates for the time period 1 September 2020 to 28 February 2021, which were published in [our article](#) on the 25 March 2021. This is because of lower positivity levels in the time period considered by this bulletin. In the analysis presented here we model all regions together rather than each region separately, which was possible when infection levels were higher. However, the impact of this change is very small and similar results are produced.

It is important to note that when attributing risk of testing positive for COVID-19 to self-reported disability status, a broader range of factors beyond those considered in this statistical model could also contribute to likelihood of testing positive. Transmission is complex, and caution must be applied in over-simplifying the findings. Evidence from a range of studies needs to be synthesised to understand the complexity of transmission. This analysis is a contribution to the important and growing understanding of risks associated with testing positive for COVID-19.

Interpreting the chart

Results are presented as odds ratios. When a characteristic (for example, being limited a lot by a disability) has an odds ratio of one, this means that there is neither an increase nor a decrease in the likelihood of infection compared with a reference category (for example, being a non-disabled person).

An odds ratio of higher than one means that there is an increased likelihood of infection compared with the reference category. An odds ratio of lower than one means that there is a reduced likelihood of infection compared with the reference category.

For the purpose of this analysis, the model will show the likelihood of individuals in the "disabled people – limited a little" group and "disabled people – limited a lot" group testing positive for COVID-19 compared with individuals in the "non-disabled people" group (the reference category).

The odds ratios are presented with 95% confidence intervals. If the range of the confidence interval crosses the threshold of one, we cannot say with any certainty whether infection is more or less likely for that characteristic compared with the reference category, even if the estimate is not close to one. In some instances, this will be because we estimate there to be no differences (where the odds ratio estimate is close to one), but it can also reflect less information about a characteristic in our sample meaning greater uncertainty as to whether the observed effect could just be because of chance.

Likelihood of testing positive for COVID-19 by disability status, England

There is no statistical evidence of a difference in the likelihood of testing positive for COVID-19 between disabled people and non-disabled people between 25 February 2021 and 16 May 2021. Disabled people who are limited a little or a lot were no more or less likely to test positive for COVID-19 compared with non-disabled people (odds ratios: 1.05 (95% confidence intervals: 0.86 to 1.28) and 1.15 (95% confidence intervals: 0.93 to 1.42), respectively). During this period infection rates in England were relatively low.

Figure 1: Disabled people who were limited a lot or a little were not statistically, more or less likely to test positive for COVID-19 compared with non-disabled people

The odds ratios of disabled people who are limited a little and limited a lot testing positive for coronavirus (COVID-19) on a swab test compared with individuals from the non-disabled group, England, 25 February to 16 May 2021

Notes:

1. These results are provisional and subject to revision.
2. These statistics refer to infections reported in the community, by which we mean private households. These figures exclude infections reported in hospitals, care homes and/or other institutional settings.
3. This analysis was based on data from participants aged 18 to 80 years and adjusts for ethnicity, household size, multigenerational household, sex, Index of Multiple Deprivation rank, age over time, region, urban or rural status and calendar time.
4. Disability status is self-reported and the distinction between limited a lot and a limited a little is based on self-reported data from the survey and not inferred from any other information
5. Please see our [methods article](#) for more methodological information on the COVID-19 Infection Survey.
6. Results are presented as odds ratios: when a characteristic has an odds ratio of one, this means that there is neither an increase nor a decrease in the likelihood of infection compared with a reference category. An odds ratio of higher than one means that there is an increased likelihood of infection compared with the reference category. An odds ratio of lower than one means that there is a reduced likelihood of infection compared with the reference category.

7. This model has changed since analysis was last published on the 25 March 2021 because of lower positivity levels. In the analysis presented here we model all regions together rather than each region separately. This produces similar results to the modelling method used in our last analysis, which involved modelling each region separately and combining estimates.

Download the data

[.xlsx](#)

Notes for: Likelihood of testing positive for COVID-19 by disability status, England

1. The highest level of self-reported restriction is "Yes, a lot", followed by "Yes, a little" and "Not at all".

2. The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation in England. It combines indicators of individuals' living conditions from seven domains - income, employment, education, health, crime, housing and environment - to rank the deprivation experienced by people in small areas of England in relation to other small areas in England. People can be regarded as deprived if they lack any kind of resources, not just income.

3 . Number and age of people individuals had contact with, by self-reported disability status, England

About this analysis

This section looks at how often individuals are reporting social contact (either socially distanced or physical contact) with other people outside their own household, regardless of whether they have tested positive for coronavirus (COVID-19), by self-reported disability status. We asked individuals how many people aged 17 years and under, 18 to 69 years, and 70 years and over, outside their household, they have had contact with up to seven days prior to each visit. "Contact" refers to either of the following:

- socially distanced contact – direct contact with social distancing only
- physical contact – physical contact, such as a handshake or personal care, including wearing personal protective equipment (PPE)

This analysis covers the time period between 21 February and 15 May 2021 in England.

During this time a number of restrictions were in place across England, with [Step 1](#) (PDF, 145KB) of lockdown easing commencing on the 29 March 2021 and [Step 2](#) (PDF, 139KB) beginning on the 12 April 2021 and remaining in place until the end of this time period. Further information on lockdown easing can be viewed for [England](#).

We have produced estimates that have been weighted to be representative of the total population in England. Analysis includes all people taking part in the survey and we present contact analysis for disabled people who are limited a little or a lot, and for those who are not disabled. We classify self-reported disability status in the same way as the analysis reported in Section 2. non-disabled people, disabled people – limited a little and disabled-people – limited a lot.

Lower respondent counts in the disabled groups means that estimates are subject to more variability.

We report the number of contacts using the following categories:

- 0 (no reported contact)
- 1 to 5 (reported contacts)
- 6 to 10 (reported contacts)
- 11 to 20 (reported contacts)
- 21 or more (reported contacts)

Number and age of people individuals had contact with, by self-reported disability status, England

Figure 2 compares the number of socially distanced contacts with adults aged 18 to 69 years, split by disability status. Similar patterns are present for contact with other age groups and all data can be found in our [accompanying dataset](#).

Figure 2 shows that since 21 February 2021, non-disabled and disabled people who are limited a little have more socially distanced contacts than disabled people who are limited a lot.

In addition, in the most recent 14-day period (2 May to 15 May 2021), non-disabled people are more likely to have higher numbers of socially distanced contacts (six or more contacts) than disabled people.

Overall, the number of people reporting socially distanced contacts and physical contacts with people across all ages (17 years and under, 18 to 69 years and 70 years and above) increased among both disabled and non-disabled people between 21 February and 15 May 2021. This is shown below for reported contact with those aged 18 to 69 years.

Figure 2: Non-disabled people and disabled people who are limited a little have reported more socially distanced contact than disabled people who are limited a lot

Proportion of socially distanced contacts with those aged 18 to 69 years old by self-reported disability status, England, 21 February to 15 May 2021

Notes:

1. These results are provisional and subject to revision.
2. These statistics refer to infections reported in the community, by which we mean private households. These figures exclude infections reported in hospitals, care homes or other institutional settings.
3. This analysis includes participants aged 18 to 80 years between 21 February and 15 May 2021, regardless of whether they tested positive or negative for COVID-19.
4. Disability status is self-reported and the distinction between limited a lot and limited a little is based on self-reported data from the survey and not inferred from any other information.

Download the data

[.xlsx](#)

Figure 3 compares the number of physical contacts with adults aged 18 to 69 years, split by disability status. Similar patterns are observed in physical contact with other age groups. The data for physical contact with those aged 17 years and under, 18 to 69 years and 70 years and above, by disability status are presented in the [accompanying dataset](#).

There is limited evidence of a difference in the number of physical contacts between non-disabled and disabled people. Lower respondent counts in the disabled groups means that estimates are subject to more variability. This difference in the number of reported socially distanced and physical contacts between non-disabled people and disabled people who are limited a little in comparison with disabled people who are limited a lot could be because of protective behaviours, such as social distancing and shielding undertaken during the pandemic. In addition, those who are limited a lot may be less able to see people than those in both other groups analysed because of greater limits on their mobility.

Overall, the number of people reporting physical contacts with people across all ages (17 years and under, 18 to 69 years and 70 years and above) has increased among both disabled and non-disabled people between 21 February and 15 May 2021. This is shown in Figure 3, for reported physical contact with those aged 18 to 69 years.

Figure 3: There is limited evidence of a difference in the number of physical contacts reported between non-disabled and disabled people

Proportion of physical contacts with those aged 18 to 69 years old by self-reported disability status, England, 21 February to 15 May 2021

Notes:

1. These results are provisional and subject to revision.
2. These statistics refer to infections reported in the community, by which we mean private households. These figures exclude infections reported in hospitals, care homes or other institutional settings.
3. This analysis includes participants aged 18 to 80 years between 21 February and 15 May 2021, regardless of whether they tested positive or negative for COVID-19.
4. Disability status is self-reported and the distinction between limited a lot and limited a little is based on self-reported data from the survey and not inferred from any other information.

Download the data

[.xlsx](#)

Data for the period 3 to 28 February 2021 published in [Coronavirus and the social impacts on disabled people in Great Britain \(published 9 April 2021\)](#) suggest disabled people were significantly more likely to feel very uncomfortable (21%) than non-disabled people (6%) when leaving their home because of the coronavirus pandemic. In February 2020, [Coronavirus and the social impacts on disabled people](#) reported around 1 in 10 disabled people (9%) reported feeling very unsafe when outside their home because of the coronavirus pandemic, compared with fewer than 1 in 25 non-disabled people (3%). Similarly, disabled people were less likely to report leaving their homes, for exercise, to meet up with people in a personal place, to eat or a drink at a restaurant, café, bar or pub, to travel to work or to take children to and from school.

These issues with feelings of safety and the impact on mobility for disabled people, particularly for those who are affected a lot, could also help to explain why those limited a lot by a disability may have less socially distanced contacts than others.

Analysis from February 2021 provides [estimates of differences in COVID-19 mortality risk by](#) self-reported disability status and diagnosed learning disability status for deaths occurring up to 20 November 2020, using linked data from the 2011 Census, death registrations, and primary care and hospital records. Analysis such as this around the increased rates of mortality from COVID-19 among disabled people demonstrate the risks of contracting COVID-19 for disabled people, even if the likelihood of disabled people contracting COVID-19 is the same for those who are not disabled.

For further data on home-leaving behaviour and socialising among disabled people, please see [datasets from March 2020 to February 2021\[DM4\]](#). These data were not collected from the same cohort of respondents and were looking at different time periods to the ones shown previously so all connections between these results and this analysis should be interpreted with caution.

4 . Characteristics of people testing positive for COVID-19 data

[Coronavirus \(COVID-19\) Infection Survey. characteristics of people testing positive for COVID-19, England Dataset | Released 13 July 2021](#)
Characteristics of people testing positive for coronavirus (COVID-19) in England taken from the COVID-19 Infection Survey.

5 . Collaboration

The Coronavirus (COVID-19) Infection Survey analysis was produced by the Office for National Statistics (ONS) in collaboration with our research partners at the University of Oxford, the University of Manchester, Public Health England (PHE) and Wellcome Trust. Of particular note are:

- Sarah Walker – University of Oxford, Nuffield Department for Medicine: Professor of Medical Statistics and Epidemiology and Study Chief Investigator
- Koen Pouwels – University of Oxford, Health Economics Research Centre, Nuffield Department of Population Health: Senior Researcher in Biostatistics and Health Economics
- Thomas House – University of Manchester, Department of Mathematics: Reader in Mathematical Statistics

6 . 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](#).

Odds ratio

An odds ratio is a measure of how likely an outcome is given a particular characteristic. In the coronavirus (COVID-19) context, they can be used to determine whether a characteristic (for example, age) is a risk factor for testing positive for the disease. The odds ratio measures can also be compared with each other to compare the different levels of risk associated with different characteristics (for example, age groups).

7 . Measuring the data

More information on [measuring the data](#) is available in the [Coronavirus \(COVID-19\) Infection Survey statistical bulletin](#).

Our [methodology article](#) provides further information around the survey design, how we process data and how data are analysed.

8 . Strengths and limitations

More information on [strengths and limitations](#) is available in the [Coronavirus \(COVID-19\) Infection Survey statistical bulletin](#).

9 . Related links

[Coronavirus \(COVID-19\) Infection Survey: characteristics of people testing positive for COVID-19 in England, 25 March 2021](#)

Article | Released 25 March 2021

This article includes estimates of the likelihood of individuals testing positive for coronavirus (COVID-19) from nose and throat swabs in England, from 1 September 2020 to 28 February 2021 by self-reported disability status. It also includes estimates on how often individuals are reporting contact with other people outside their own household by self-reported disability status between September 2020 and 28 February 2021 in England.

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

Article | Updated fortnightly

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

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

Methods article | Updated 26 March 2021

Information on the methods used to collect the data, process it, and calculate the statistics produced from the COVID-19 Infection Survey pilot.

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

Interactive tool | Updated as and when data become available

Explore the latest data and trends about the coronavirus (COVID-19) pandemic from the ONS and other official sources.

[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.

[COVID-19 Infection Survey \(CIS\)](#)

Article | Updated regularly

Whether you have been invited to take part or are just curious, find out more about our COVID-19 Infection Survey and what is involved.

[Coronavirus and vaccination rates in people aged 70 years and over by socio-demographic characteristic, England](#)

Article | Released 7 June 2021

First dose COVID-19 vaccination rates among people aged 70 years and older who live in England, both in private households and communal establishments. Includes estimates for the population as a whole by age and sex, and for ethnic minorities, religious groups, those identified as disabled and by area deprivation.