Office for National Statistics

Article

Coronavirus (COVID-19) Infection Survey: characteristics of people testing positive for COVID-19, countries of the UK, 9 February 2021

Data about the characteristics of people testing positive for the coronavirus (COVID-19) from the COVID-19 Infection Survey. This survey is being delivered in partnership with the University of Oxford, the University of Manchester, Public Health England and Wellcome Trust.

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1 . Main points

- In England, 47% of people who tested positive for COVID-19 (95% confidence intervals: 46% to 48%) reported having any symptoms.
- In Wales, 55% of people who tested positive for COVID-19 (95% confidence intervals: 49% to 62%) reported having any symptoms.
- In Northern Ireland, 38% of people who tested positive for COVID-19 (95% confidence intervals: 31% to 46%) reported having any symptoms.
- In Scotland, 47% of people who tested positive for COVID-19 (95% confidence intervals: 41% to 54%) reported having any symptoms.
- Cough, fatigue and headache were the most commonly reported symptoms from people who tested positive between 1 October 2020 and 30 January 2021 for all four countries of the UK.
- Abdominal pain, diarrhoea and nausea were less commonly reported symptoms.

2 . What this analysis covers

Latest estimates show that coronavirus (COVID-19) infections remain high in England, remained level in Wales and decreased in Northern Ireland and Scotland. In this article we provide more analysis on the characteristics and behaviours of those testing positive with a strong positive test (cycle threshold (Ct) less than 30) between 1 October 2020 and 30 January 2021.

In this article, we refer to the number of coronavirus infections within the community population; community in this instance refers to private residential households, and it excludes those in hospitals, care homes or other institutional settings.

This article presents analysis on the characteristics of those testing positive for SARS-CoV-2 – the coronavirus causing the COVID-19 disease – based on findings from the COVID-19 Infection Survey in England, Wales, Northern Ireland and Scotland. 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 information on our headline estimates of the overall number of positive cases in England, Wales, Scotland and Northern Ireland are available in our latest bulletin. It should be noted that the analysis on the characteristics and behaviours of those testing positive in this article is for an older 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.

We also publish antibody data by UK country and English regions in our fortnightly article Coronavirus (COVID-19) Infection Survey: antibody data for the UK.

Further information on what the analysis covers is provided at the start of each section.

3 . Symptoms profile of strong positive cases for England, Wales, Northern Ireland and Scotland

About this analysis

The analysis in this section looks at each person who tested positive for the coronavirus (COVID-19) who had a strong positive test. This analysis is an update on our previous analysis that was published on 27 January 2021.

The strength of the test is determined by how quickly the virus is detected, measured by a cycle threshold (Ct) value. The lower the Ct value, the higher the viral load and stronger the positive test. Positive results with a high Ct value could be seen in the early stages of infection when virus levels are rising, or late in the infection, when the risk of transmission is low. These values are excluded from this analysis to exclude the possibility that symptoms are not identified when an individual tests positive, but it is very early on or later in their infection.

This analysis considers individuals with any positive test that had a Ct value less than 30, between 1 October 2020 and 30 January 2021, and considers what percentage of these individuals reported symptoms at visits within 35 days of a positive test. You can find more information on Ct values in a paper written by academic partners at the University of Oxford.

Individuals taking part in the survey were asked at each visit whether they had experienced a range of possible symptoms[1] in the seven days before they were tested and also separately whether they felt that they had symptoms compatible with COVID-19 infection in the last seven days.

In Figure 1 we have categorised reported symptoms into the following:

- any: all reported symptoms, including reporting symptoms compatible with COVID-19 whilst not naming specific symptoms
- classic: cough, fever, shortness of breath, loss of taste or loss of smell
- gastrointestinal (GI): abdominal pain, nausea, vomiting or diarrhoea
- loss of taste or smell only

People testing positive were more likely to report any symptoms and the classic COVID-19 symptoms

People who tested positive for COVID-19 with a strong positive test (Ct less than 30) were more likely to report having any symptoms or classic symptoms. People testing positive with high Ct values were less likely to report loss of taste or smell only and gastrointestinal symptoms.

In England, 47% of people who tested positive for COVID-19 (95% confidence intervals: 46% to 48%) with high Ct values reported having any symptoms.

In Wales, 55% of people who tested positive for COVID-19 (95% confidence intervals: 49% to 62%) with high Ct values reported having any symptoms.

In Northern Ireland, 38% of people who tested positive for COVID-19 (95% confidence intervals: 31% to 46%) with high Ct values reported having any symptoms.

In Scotland, 47% of people who tested positive for COVID-19 (95% confidence intervals: 41% to 54%) with high Ct values reported having any symptoms.

Figure 1: People testing positive were more likely to report any symptoms and the classic COVID-19 symptoms

Percentage of people with symptoms, including only those who have strong positive tests (Ct less than 30), from 1 October 2020 to 30 January 2021, UK countries

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. Symptoms are self-reported and were not professionally diagnosed.

Data download

Figure 2 shows that cough, fatigue and headache were the most common symptoms reported in positive cases across the four UK countries. Abdominal pain, diarrhoea and nausea were less commonly reported symptoms in positive COVID-19 cases. Similar trends in reported symptoms can be seen in all four UK countries.

Results should be interpreted with caution for Wales, Northern Ireland and Scotland because of smaller sample sizes of people who have a strong positive test (Ct less than 30) than for England, resulting in wider confidence intervals.

Figure 2: The most commonly reported symptoms among people testing positive were cough, fatigue and headache

Percentage of people with symptoms, including only those who have a strong positive test (Ct less than 30), from 1 October 2020 to 30 January 2021, UK countries

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. Symptoms are self-reported and were not professionally diagnosed.

Data download

Notes for Symptoms profile of strong positive cases for England, Wales, Northern Ireland and Scotland:

1. The symptoms respondents were asked to report are: fever, muscle ache (myalgia), fatigue (weakness or tiredness), sore throat, cough, shortness of breath, headache, nausea or vomiting, abdominal pain, diarrhoea, loss of taste or loss of smell.

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.

4 . Coronavirus (COVID-19) Infection Survey data

Coronavirus (COVID-19) infections in the community in England
Dataset | Released 9 February 2021
Characteristics of people testing positive for the 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 partnership with the University of Oxford, the University of Manchester, Public Health England 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

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ONS COVID-19 Infection Survey coding team – Heledd Thomas, Joe Jenkins, Hannah Teare

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.

7 . Related links

Coronavirus (COVID-19) Infection Survey
Statistical bulletin | Updated weekly
Initial data from the COVID-19 Infection Survey. This survey is being delivered in partnership with IQVIA, Oxford University and UK Biocentre.

Coronavirus (COVID-19) Infection Survey: antibody data for the UK: 3 February 2021
Article | Released 3 February 2021
Antibody data from the Coronavirus (COVID-19) Infection Survey on the likelihood of testing positive for COVID-19 antibodies in 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.

COVID-19 Infection Survey (Pilot): methods and further information
Methods article | Updated 21 September 2020
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) weekly insights: latest health indicators in England
Article | Updated weekly
Brings together data about the coronavirus (COVID-19) pandemic in England and explores how these measures interact with each other can improve understanding of the severity and spread of the pandemic.

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.

COVID-19 Infection Survey (CIS)
Article | Updated 14 May 2020
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 (COVID-19) latest data and analysis
Web page | Updated as and when data become available
Latest data and analysis on the coronavirus pandemic in the UK and its effect on the economy and society.

Coronavirus (COVID-19) roundup
Blog | 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.