



Coronavirus (COVID-19) Infection Survey

Results for Northern Ireland

22nd April 2022

Introduction

This report is the latest in a series of weekly publications which will detail findings for Northern Ireland from the Coronavirus (COVID-19) Infection Survey (CIS). The findings set out in this report relate to the most recent week of the study up to 16th April 2022. CIS aims to estimate how many people have the infection and the number of new cases that occur over a given time as well as estimating how many people have developed antibodies to COVID-19.

The survey over time will help track the extent of infection and transmission of COVID-19 among people living in private households. The sample includes people who would not necessarily have otherwise been tested, and is intended to estimate the number of current positive cases in the community in Northern Ireland, including cases where people do not report to having any symptoms.

It is important to note that these statistics are based on a survey sample and differ from those reported in the [Department of Health Daily Dashboard](#).

Proportion of people in Northern Ireland who had COVID-19

During the most recent week of the study (10 April – 16 April 2022), it is estimated that 65,300 people in Northern Ireland had COVID-19 (95% credible interval: 52,300 to 79,800). This equates to 3.56% of the population (95% credible interval: 2.85% to 4.35%) or around 1 in 30 people (95% credible interval: 1 in 35 to 1 in 25). This is based on statistical modelling of the trend in rates of positive nose and throat swab results.

Modelling suggests the percentage of people testing positive continued to decrease in the week ending 16 April in Northern Ireland. In the latest six-week period, there were 14,605 swab tests taken in total from 11,472 participants. Of these, 784 participants tested positive from 623 different households. In the latest two-week period, of the 4,184 participants in the study, 180 tested positive from 148 households.

The reported headline positivity estimates contain Omicron BA.1 and BA.2 variants and all other variants.

As this is a household survey, the statistics refer to infections within the population living in private residential households. The figures exclude infections in hospitals, care homes and/or other communal establishments. In these settings, rates of COVID-19 infection are likely to be different.

The estimates are based on confirmed positive test results. The remaining swabs are either negative, which are included in the analysis, or are inconclusive, which are not included in the analysis. Some swabs are test failures, which are also not included in the analysis. The impact of excluding inconclusive results on the estimates of positive infections is likely to be very small and unlikely to affect the trend.

Please note the ratios do not represent a person's risk of becoming infected, since risk of infection depends on a number of factors including contact with others or vaccination status. The ratios presented are rounded to the nearest 100 if over 1,000, to the nearest 10 if under 1,000, to the nearest 5 if under 100 and to 1 if under 20. This may result in credible intervals that appear to be similar to the estimated average ratio.

Due to a shortened publication cycle for this release (to accommodate the Bank Holiday), analyses relating to number of new COVID-19 infections (incidence), sub-regional positivity rates and 14-day weighted estimates have not been updated this week. Previous estimates are available in the [Coronavirus \(COVID-19\) Infection Survey datasets](#).

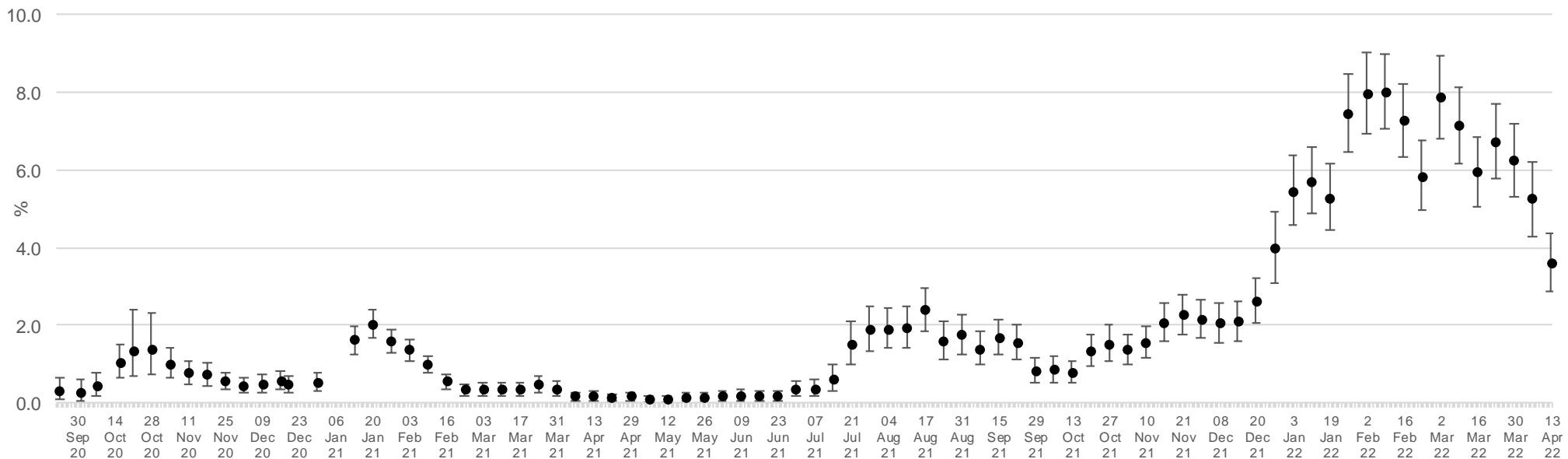
Positivity over time in Northern Ireland

Due to relatively small number of tests and low number of positives within the sample, credible intervals are wide and therefore results should be interpreted with caution.

Modelling suggests the percentage of people testing positive continued to decrease in the week ending 16 April in Northern Ireland. The official estimates of the percentage of people in NI previously testing positive for COVID-19 are set out in figure 1a while the modelled trends over time in the overall population for testing positive for COVID-19, including 95% credible intervals, are shown in figure 1b (overleaf). These estimates are calculated using a regression model which adjusts the survey results to be more representative of the overall population in terms of age, sex, and region.

Figure 1a: Estimated percentage of the population in Northern Ireland testing positive for the coronavirus (COVID-19) on nose and throat swabs since 24 September 2020

Official Estimates

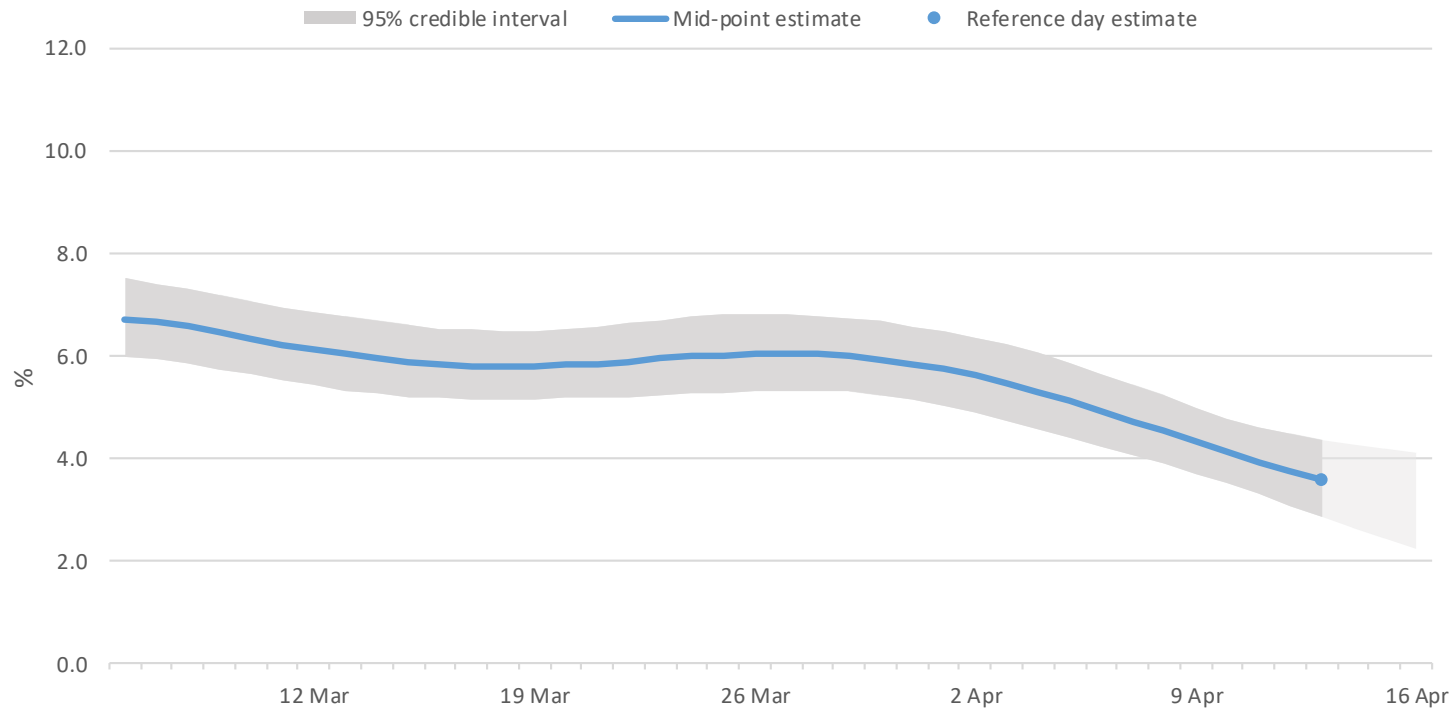


The point estimates and error bars indicated on the chart represent the official estimates reported in previous weeks based on the best information and methods at each point in time.

Figure 1b:

Percentage of people testing positive for COVID-19 in Northern Ireland

Modelled daily estimates



The area marked with light grey has a lower level of certainty due to lab results still being processed for this period

Data from 6 March 2022 to 16 April 2022

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

Notes:

1. Modelled results are provisional and subject to revision.
2. All estimates are subject to uncertainty, given that a sample is only part of the wider population. Therefore, caution should be taken in over-interpreting any small movements in the latest trends. The model used to provide these estimates is a Bayesian model: these provide 95% credible intervals. A credible interval gives an indication of the uncertainty of an estimate from data analysis. The 95% credible intervals are calculated so that there is a 95% probability of the true value lying in the interval.
3. Official reported estimates are plotted at a reference point believed to be most representative of the given week. To improve stability in the modelling while maintaining relative timeliness of estimates, the official estimates that are reported here are based on the midpoint of the reference week.
4. Official estimates (Figure 1a) should be used to understand the positivity rate for a single point in time. This is based on the modelled estimate for the latest week and is the best and most stable estimate and is used in all previous outputs. The modelled estimate (Figure 1b) is more suited to understand the recent trend. This is because the model is regularly updated to include new test results and smooths the trend over time.

Positivity by age over time

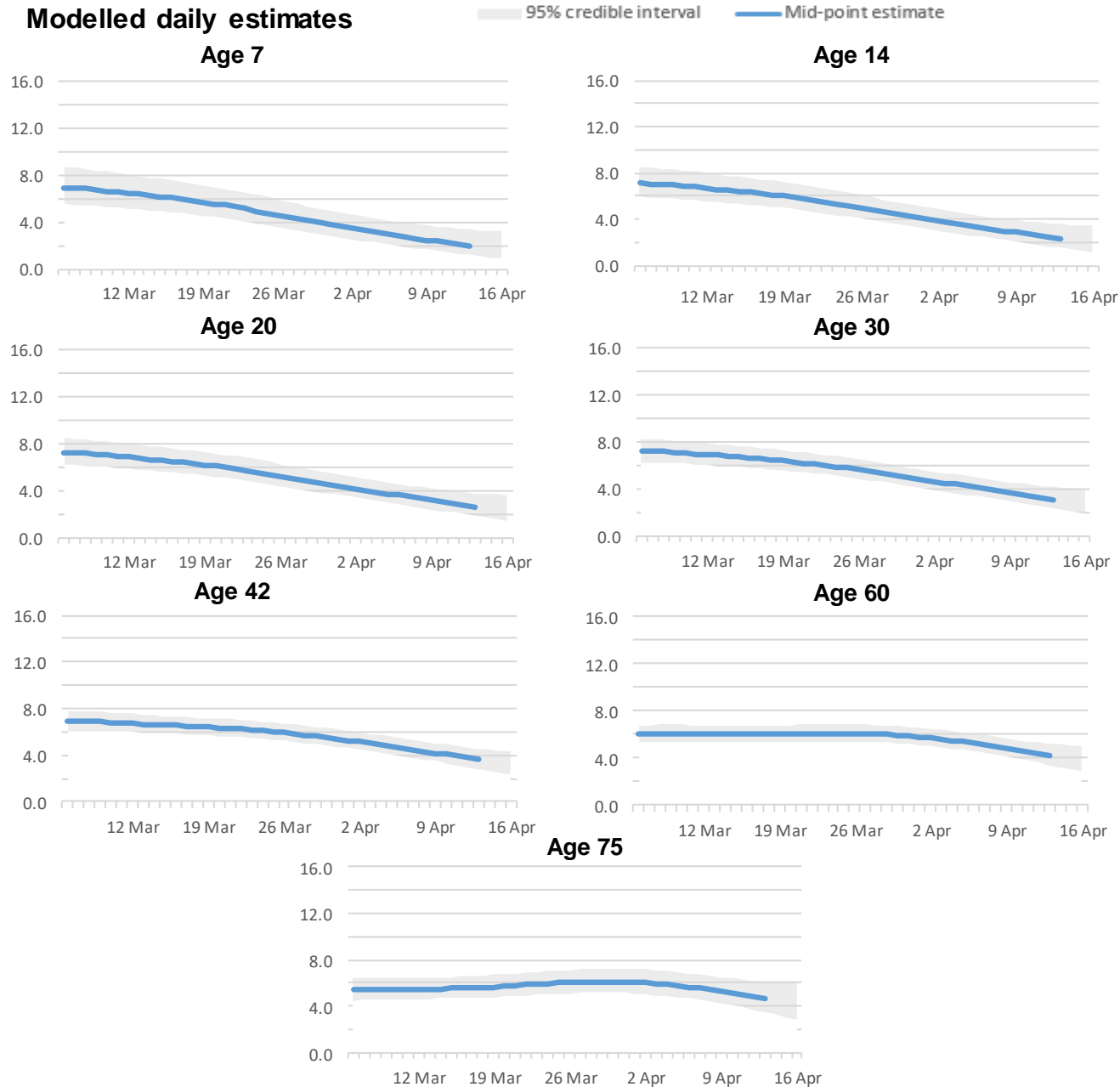
These charts present modelled positivity estimates for selected single years of age in Northern Ireland over the past 6 weeks.

In Northern Ireland, the percentage of people testing positive decreased among all ages.

It should be noted that there is high uncertainty around these trends due to the relatively smaller number of people included in this analysis, so caution should be taken in interpreting the results. In addition, caution should be taken in over-interpreting any small movements in the latest trend.

Estimates in the most recent week have a lower level of certainty due to lab results still being processed for this period.

Figure 2 – Percentage of people testing positive for COVID-19 for reference ages in Northern Ireland (Data from 6 March 2022 to 16 April 2022)



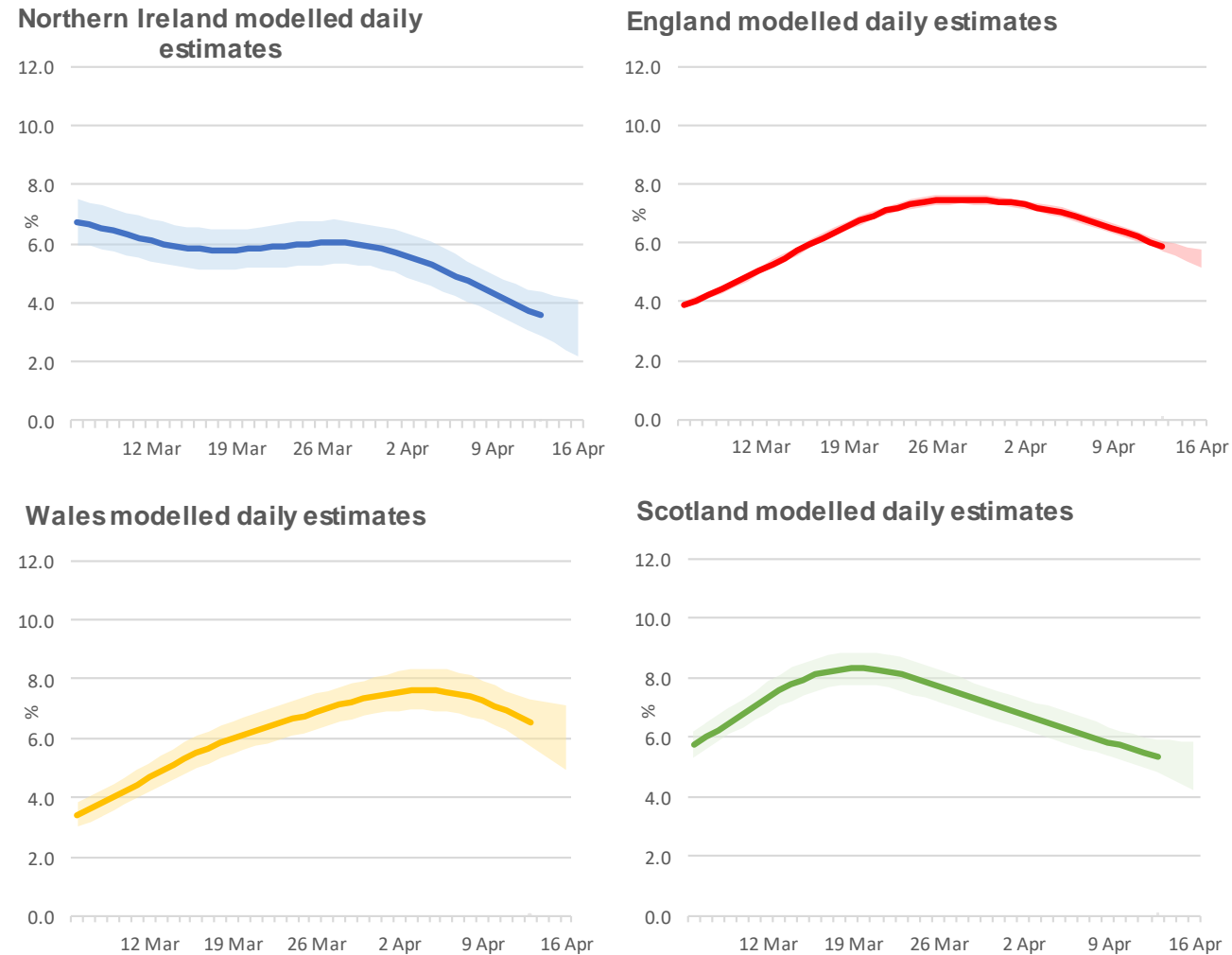
Positivity in the UK

During the most recent week of the study, based on statistical modelling of the trend in rates of positive nose and throat swab results, 3.56% of the NI population (95% credible interval: 2.85% to 4.35%) had COVID-19. It is estimated that for the same period 5.90% (95% credible interval: 5.72% to 6.08%) of the population in England had COVID-19. It was estimated that 6.53% (95% credible interval: 5.72% to 6.08%) of the population in Wales had COVID-19 and 5.35% (95% credible interval: 4.81% to 5.92%) of people in Scotland had COVID-19.

The percentage of people testing positive for COVID-19 continued to decrease in England, Northern Ireland and Scotland and decreased in Wales in the week ending 16 April 2022.

The reported headline positivity estimates contain Omicron BA.1 and BA.2 variants and all other variants.

Figure 3a, 3b,3c, 3d: Modelled daily estimate of percentage of the population testing positive for the COVID-19 across the UK



Due to the relatively smaller number of tests in Northern Ireland, Wales and Scotland in the sample, credible intervals are wider and therefore results should be interpreted with caution. Wide credible intervals mean that differences between the central estimates within and between nations may appear smaller or more exaggerated than what they really are.

Variant Analysis

The [World Health Organization \(WHO\) have defined names for Variants of Concern](#). These are variants that the UK government has under surveillance. You can find out more in the latest [SARS-CoV-2 variants of concern and variants under investigation in England briefing document](#).

Currently circulating variants of concern in the UK are:

- Delta: B.1.617.2 and its genetic descendants
- Omicron: B.1.1.529 (which includes sublineages BA.1, BA.1.1, BA.2 and BA.3)

The Omicron variant BA.1 has changes in one of the three genes that the coronavirus swab used in the survey tests detects, known as the S-gene. This means the S-gene is no longer detected by the current test. When there is a high viral load (for example, when a person is most infectious), not detecting the S-gene in combination with detecting the other two genes (ORF1ab and N-genes) is a reliable indicator of this Omicron BA.1 variant. However, as the viral load decreases (for example, if someone is near the end of their recovery from the infection), not detecting the S-gene is a less reliable indicator of this Omicron variant.

The Omicron variant BA.2 does not have changes in the S gene, and therefore all three genes, or the S-gene and either ORF1ab or N, will usually be detected in infections with this variant. The latest genome sequencing analysis (week ending 20 March 2022) showed that the Omicron BA.2 variant remained the most common variant in England, Wales, Northern Ireland and Scotland.

More information on how variants from positive tests on the survey are measured can be found in the ONS [Understanding COVID-19 Variants blog](#) and in the [methodology article](#).

Variant analysis

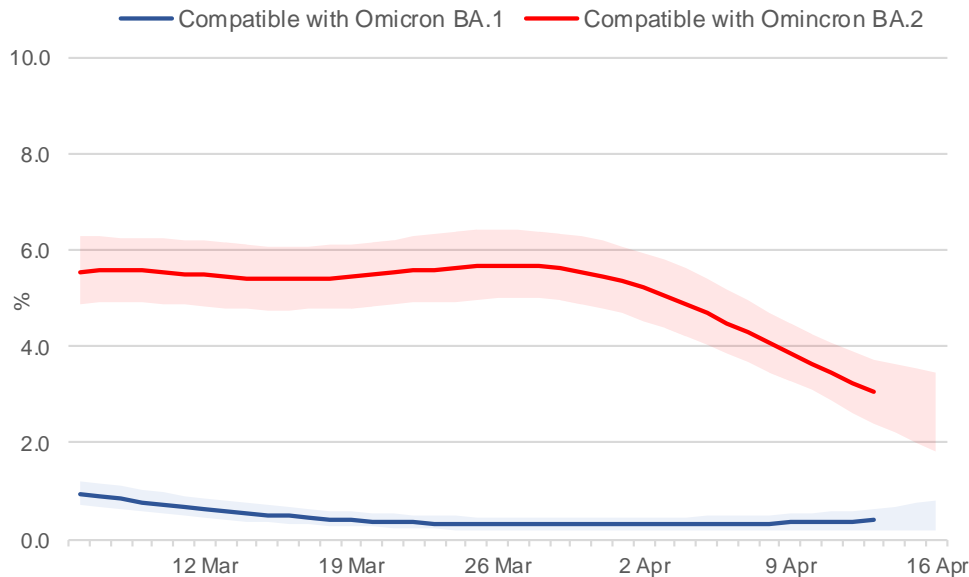
In the week ending 16 April 2022, the percentage of people with infections compatible with the Omicron BA.2 variant continued to decrease in England, Northern Ireland and Scotland, and decreased in Wales in the same week.

In the week ending 16 April 2022, the percentage of people with infections compatible with the Omicron BA.1 variant continued to decrease in England, while the trend was uncertain for Wales, Northern Ireland and Scotland.

The following analysis looks at the percentage of the population with a positive test compatible with the Omicron BA.1 variant or with the Omicron BA.2 variant in Northern Ireland.

Figure 4: Modelled percentage of positive cases compatible with Omicron BA.1 and compatible with Omicron BA.2
(Data from 6 March 2022 to 16 April 2022)

Northern Ireland



Omicron BA.1 variant compatible = gene pattern ORF1ab + N.

Omicron BA.2 variant compatible = gene pattern S + ORF1ab + N, S + ORF1ab and S + N.

Data should be treated with caution. There could be small numbers of positive cases compatible with a particular variant leading to considerable uncertainty surrounding these estimates. There are further uncertainties given that not all cases that are positive on the ORF1ab and N-genes will be the Omicron BA.1 variant and not all cases that have a detectable S-gene will be the Omicron BA.2 variant.

- Omicron BA.1 variant-compatible positives are defined as those that are positive on the ORF1ab-gene and N-gene, but not the S-gene. This group includes Omicron BA.1.1.
- Omicron BA.2 variant-compatible positives are defined as those that are positive on the ORF1ab-gene, N-gene and S-gene, or on the ORF1ab-gene and S-gene or on the N-gene and S-gene.
- Data should be treated with caution. Not all cases positive on the S-gene will be the Omicron BA.2 variant, and some cases with pattern ORF1ab+N will also be the Omicron BA.2 variant where the S-gene was not detected for other reasons, such as low viral load.

Further detail on variant analysis by country can be found in the ONS [Coronavirus \(COVID-19\) Infection Survey: technical dataset](#).

Methodology

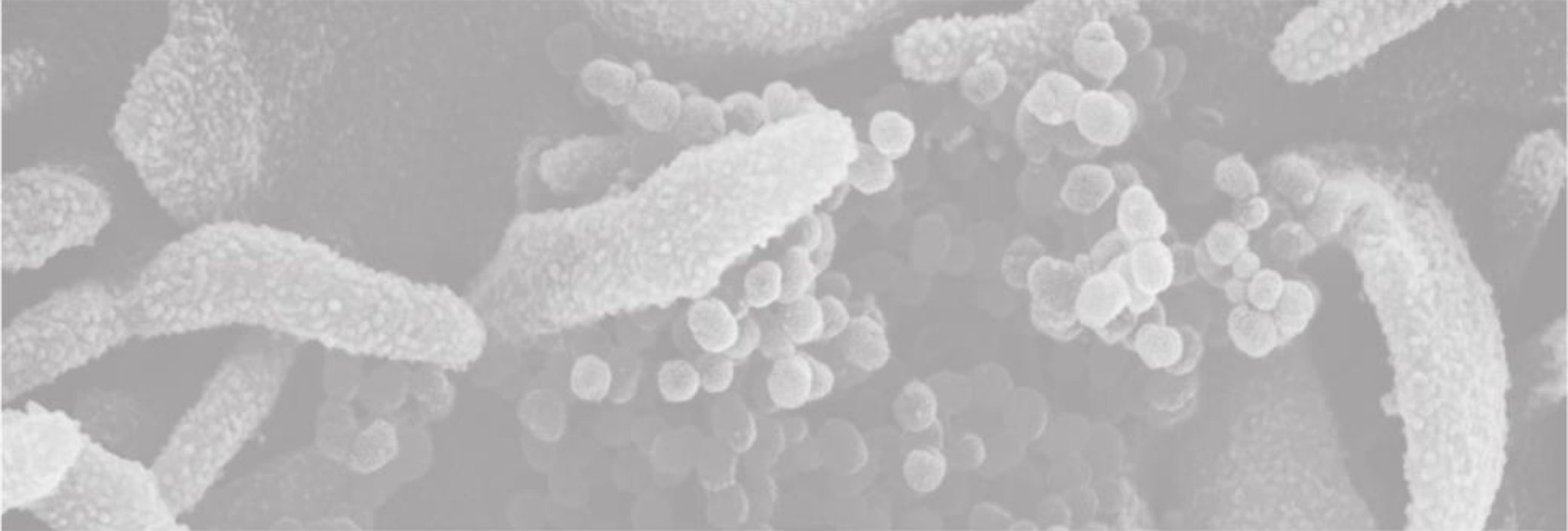
The results are based on nose and throat swabs provided by participants to the study. As well as looking at incidence overall, the survey will be used to examine the characteristics of those testing positive for COVID-19 and the extent to which those infected experience symptoms.

Extending the COVID-19 Infection Survey to Northern Ireland has been achieved by a collaboration between the Department of Health, Public Health Agency (PHA), Northern Ireland Statistics and Research Agency (NISRA) and the Office for National Statistics (ONS) and its various survey partners. Fieldwork commenced in Northern Ireland on 27th July 2020. It is important to note that there is a significant degree of uncertainty with the estimates. This is because, despite a large sample of participants, the number of positive cases identified is small. Estimates are provided with 95% confidence intervals to indicate the range within which we may be confident the true figure lies.

The results are for private households only and do not apply to those in hospitals, care homes and/or other communal establishments.

The Office for National Statistics (ONS) publishes [weekly statistical bulletins and references tables, including results for England, Wales, Scotland and Northern Ireland](#) on its website. Further detail for Northern Ireland is available in the ONS [Coronavirus \(COVID-19\) Infection Survey datasets](#).

Further information about quality and methodology can be found on the [ONS website](#).



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