Statistical bulletin

# Prevalence of symptoms and impact of respiratory infections, UK: 10 July 2023

Percentage of people reporting symptoms of respiratory infections in private households in the UK and the impact on work, education and healthcare services, from the COVID-19 and Respiratory Infections Survey.

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# 1 . Main points

- An average of approximately 1 in 6 people reported symptoms consistent with [influenza-like illness](#) (ILI), as defined by the European Centre for Disease Prevention and Control (ECDC), in the seven days prior to completing the COVID-19 and Respiratory Infections Survey (CRIS), from responses received between 2 May and 3 June 2023.

- Respondents were more likely to report symptoms consistent with [ILI](#) if they were female, had ever smoked regularly, had a long-term health condition, or lived in a more deprived area, in the five weeks to 3 June 2023.

- Symptoms including headache, runny nose or sneezing, and fatigue were the most frequently reported in each of the six weeks to 10 June 2023, and were reported more frequently by females.

- An average of approximately 1 in 6 people reported they thought they had a respiratory infection, and an average of approximately 1 in 24 people reported taking one or more days off work or education because of a respiratory infection in the 28 days prior to completing the questionnaire, from responses received between 2 May and 3 June 2023.

- Respondents were more likely to take one or more days off work or education because of a respiratory infection if they were female, had a long-term health condition, lived in a more deprived area, or worked in the arts, healthcare or education sectors, in the five weeks to 3 June 2023.

# 2 . Overview of the COVID-19 and Respiratory Infections Survey

The COVID-19 and Respiratory Infections Survey (CRIS) collected data on reporting respiratory infections and associated symptoms, impact on work or education attendance, and usage of healthcare services. This built on the legacy of the UK's world-leading [Coronavirus (COVID-19) Infection Survey (CIS)](#) which had been commissioned by the UK Health Security Agency (UKHSA). Following the government's transition to "Living with COVID-19", and after careful consideration, CRIS formally ended on 28 June 2023. For more information on the government's response to COVID-19, please see [GOV.UK's Living with COVID-19 guidance](#).

The CRIS was set up in April 2023 (the main survey ran throughout May and early June 2023) and invited a subset of respondents from the CIS to answer questions periodically on the state of their health and their use of healthcare services.

Symptoms reported in the CRIS may provide valuable information about levels of respiratory infections, like COVID-19 and influenza, circulating among the population. We look at the percentage of people reporting symptoms consistent with influenza-like illness (ILI) as well as other symptoms, the characteristics associated with reporting symptoms consistent with ILI, and the impact on work or education attendance and usage of healthcare services. This is the only planned publication which uses CRIS data to report on these themes.

The results presented highlight the value of using questionnaire-based and self-reported data to monitor and analyse reporting respiratory infections and associated symptoms, and their impact on work or education attendance and usage of healthcare services.

To make estimates representative of the population, we applied weighting of analyses for the percentage of people reporting symptoms consistent with ILI, the percentage of people reporting they thought they had a respiratory infection, and the percentage of people reporting taking one or more days off work or education because of a respiratory infection. Respondents were those living in private households, and symptoms and respiratory infections were self-reported. Further information on the survey design and quality can be found in our [COVID-19 and Respiratory Infections Survey: QMI](#)

The time periods for our analyses differed because of different time factors which needed to be taken into consideration, such as modelled daily rates, weekly rates or aggregated rates. We used the maximum time period available for each analysis, accounting for sufficient sample sizes and allowing time for quality assurance processes.

# 3 . Symptoms reported in the seven days prior to completing the questionnaire

## Symptoms consistent with influenza-like illness (ILI)

This analysis looks at the levels of self-reported symptoms consistent with ILI as defined by the European Centre for Disease Prevention and Control (ECDC) in the seven days prior to completing the questionnaire.

Symptoms consistent with ILI, as defined by the ECDC, include at least one of the following symptoms:

- fever

- fatigue

- headache

- myalgia

As well as one of the following symptoms:

- a cough

- a sore throat

- shortness of breath

An average of approximately 1 in 6 people reported symptoms consistent with ILI in the seven days prior to completing the questionnaire, from responses received between 2 May and 2 June 2023.

### Figure 1: An average of approximately 1 in 6 people reported symptoms consistent with Influenza-like illness (ILI) between 2 May and 3 June 2023

**Modelled percentage of people reporting symptoms consistent with ILI as defined by the ECDC in the seven days prior to completing the questionnaire, UK, 2 May 2023 to 3 June 2023**

**Notes:**

1. Estimates with a wider confidence interval have a higher degree of uncertainty.

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

**Download the data**

.xlsx

# Characteristics associated with reporting symptoms consistent with influenza-like illness (ILI)

This analysis looks at the characteristics associated with respondents reporting symptoms consistent with ILI in the seven days prior to completing the questionnaire. These included demographic, health, work-related and behavioural characteristics of respondents.

Our latest data, from responses received in the five weeks to 3 June 2023, showed that respondents with the following characteristics had a higher likelihood of reporting symptoms consistent with ILI in the seven days prior to completing the questionnaire:

- those who had ever smoked regularly were more likely than those who had never smoked

- those with a long-term health condition were more likely than those without

- females were more likely than males

- those living in more deprived areas (lower deprivation score) were more likely than those living in the least deprived areas (higher deprivation score)

- those who lived in the East Midlands, West Midlands, Wales and Scotland were more likely than those in the South East of England

Respondents who self-reported that they had long COVID were six times more likely to report symptoms consistent with ILI than respondents who reported they did not have long COVID. For more information on the impact of long COVID, please see our Self-reported long COVID symptoms, UK bulletin.

We also looked at additional characteristics associated with respondents reporting symptoms consistent with ILI, which are available in our COVID-19 and Respiratory Infections Survey: UK dataset.

## Figure 2: Respondents were more likely to report symptoms consistent with ILI if they were female, had ever smoked regularly, had a long-term health condition, or lived in a more deprived area in the five weeks to 3 June 2023

**Estimated likelihood of respondents reporting symptoms consistent with ILI as defined by the ECDC in the seven days prior to completing the questionnaire, by characteristic, UK, 30 April 2023 to 3 June 2023**

**Notes:**

1. Only English regions and UK countries where respondents were significantly more or less likely than the reference category (the South East of England) to report symptoms consistent with ILI are shown. Results for all English regions and UK countries available in the COVID-19 and Respiratory Infections Survey, UK: 10 July 2023 dataset.

2. Estimates with a wider confidence interval have a higher degree of uncertainty.

3. An odds ratio indicates the likelihood of a participant reporting symptoms consistent with influenza-like illness for a particular characteristic compared with a reference category and after controlling for all other characteristics included in the model.

4. The odds ratio for deprivation shows how a 20-unit increase in deprivation score affects the likelihood of a respondent reporting symptoms consistent with influenza-like illness.

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

**Download the data**

.xlsx

## Symptoms reported

This analysis looks at the levels of symptoms consistent with ILI, as well as other symptoms, reported in the seven days prior to completing the questionnaire.

From responses received in each of the six weeks to 10 June 2023, the most frequently reported symptoms in the seven days prior to completing the questionnaire included headache, runny nose or sneezing, and fatigue. In the same period, symptoms were reported more frequently by females. The CRIS enables us to monitor a wider set of symptoms than just those associated with ILI, and therefore some symptoms might not be because of an infection, for example, hay fever symptoms.

Please see our COVID-19 and Respiratory Infections Survey: UK dataset for:

- further estimates for symptoms consistent with ILI as defined by the ECDC

- some equivalent estimates for symptoms consistent with ILI as defined by the United States Centres for Disease Control and Prevention (CDC)

- estimates for other symptoms

### Figure 3: Symptoms were reported more frequently by females in each of the six weeks up to 10 June 2023

**Estimated percentage of people reporting each symptom in the seven days prior to completing the questionnaire, by sex, UK, 30 April 2023 to 10 June 2023**

**Notes:**

1. Estimates with a wider confidence interval have a higher degree of uncertainty.

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

**Download the data**

.xlsx

# 4 . Reporting a respiratory infection and its impact

This analysis looks at the percentage of people reporting a respiratory infection and impact of respiratory infections on work or education attendance in the 28 days prior to completing the questionnaire.

From responses received between 2 May and 3 June 2023, an average of approximately 1 in 6 people reported they thought they had a respiratory infection, and an average of approximately 1 in 24 people reported taking one or more days off work or education because of a respiratory infection, in the 28 days prior to completing the questionnaire.

Estimates by country are available in the COVID-19 and Respiratory Infections Survey: UK dataset.

**Figure 4: An average of approximately 1 in 6 people reported they thought they had a respiratory infection, and an average of approximately 1 in 24 people reported taking one or more days off work or education because of a respiratory infection between 2 May and 3 June 2023**

**Modelled percentage of people reporting they thought they had a respiratory infection, and modelled percentage of people reporting taking one or more days off work or education because of a respiratory infection, in the 28 days prior to completing the questionnaire, UK, 2 May 2023 to 3 June 2023**

**Notes:**

1. Estimates with a wider confidence interval have a higher degree of uncertainty.

2. Respiratory infections were self-reported and not professionally diagnosed.

**Download the data**

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## Characteristics associated with taking one or more days off work or education because of a respiratory infection

This analysis looks at the characteristics associated with respondents reporting taking one or more days off work or education because of a respiratory infection in the 28 days prior to completing the questionnaire. Demographic, health and behavioural characteristics were analysed.

The first model used in this analysis only includes respondents who are in work or education and who reported that they thought they had a respiratory infection. A different model was used to analyse the relationship between work sector (in addition to demographic, health and behavioural characteristics) and reporting one or more days off work because of a respiratory infection. This second model includes respondents in work only.

Our latest data, from responses received in the five weeks to 3 June 2023, showed that respondents with the following characteristics had a higher likelihood of reporting taking one or more days off work or education because of a respiratory infection in the 28 days prior to completing the questionnaire:

- those with a long-term health condition were more likely than those without

- females were more likely than males

- those living in more deprived areas (lower deprivation score) were more likely than those living in the least deprived areas (higher deprivation score)

- those in London and Scotland were more likely than those in the South East of England

- those who work in the arts, healthcare and teaching and education sectors were more likely than those who work in the financial services sector

Respondents in work or education who self-reported that they had long COVID were three times more likely to report taking one or more days off, and six times more likely to report taking seven or more days off, because of a respiratory infection, than respondents who reported they did not have long COVID. Further information on the impact of long COVID can be found in the Self-reported long COVID symptoms, UK bulletin.

Respondents in Scotland were consistently associated with being more likely to report both symptoms consistent with influenza-like illness (ILI) and day(s) off work or education, compared with those living in the South East of England.

For more information on additional characteristics associated with respondents reporting taking one or more days off work or education because of a respiratory infection, as well as characteristics associated with respondents having one or more GP appointments because of a respiratory infection, in the 28 days prior to completing the questionnaire, please see our COVID-19 and Respiratory Infections Survey: UK dataset.

## Figure 5: Respondents were more likely to take one or more days off work or education because of a respiratory infection if they were female, had a long-term health condition, lived in a more deprived area, or worked in the arts, healthcare or education sectors in the five weeks to 3 June 2023

**Estimated likelihood of respondents reporting taking one or more days off work or education because of a respiratory infection in the 28 days prior to completing the questionnaire, by characteristic, UK, 30 April 2023 to 3 June 2023**

**Notes:**

1. Only English regions, UK countries and work sectors where respondents were significantly more or less likely than the reference category (the South East of England and the financial services sector, respectively) to take one or more days off work or education because of a respiratory infection are shown. Results for all English regions, UK countries and work sectors available in the COVID-19 and Respiratory Infections Survey, UK: 10 July 2023 dataset.

2. Estimates with a wider confidence interval have a higher degree of uncertainty.

3. A different model was used to analyse the relationship between work sector (in addition to demographic, health and behavioural characteristics) and reporting one or more days off work (this model includes participants in work only) because of a respiratory infection.

4. An odds ratio indicates the likelihood of a participant reporting taking one or more days off work or education (off work only for work sector) because of a respiratory infection for a particular characteristic compared with a reference category and after controlling for all other characteristics included in the model.

5. The odds ratio for deprivation shows how a 20-unit increase in deprivation score, where 1 represents most deprived and 100 represents least deprived, affects the likelihood of a respondent reporting taking one or more days off work or education because of a respiratory infection.

6. Respiratory infections were self-reported and not professionally diagnosed.

**Download the data**

# 5 . Prevalence of symptoms and impact of respiratory infections data

Prevalence of symptoms and impact of respiratory infections, UK
Dataset | Released 10 July 2023
Results from the COVID-19 and Respiratory Infections Survey.

# 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.

## Deprivation

Deprivation is based on an Index of Multiple Deprivation (IMD) (PDF, 2.2MB) score or equivalent scoring method for the devolved administrations. The index ranges from 1, which represents most deprived, up to 100, which represents least deprived. The odds ratio shows how a 20-unit increase in deprivation score, which is equivalent to 20 percentiles or 1 quintile, affects the likelihood of a participant reporting symptoms consistent with influenza-like illness (ILI) or reporting taking one or more days off work or education because of a respiratory infection.

## Influenza-like illness (ILI)

Symptoms consistent with ILI as defined by the European Centre for Disease Prevention and Control (ECDC) include at least one of the following symptoms:

- fever

- fatigue

- headache

- myalgia

As well as at least one of the following symptoms:

- cough

- sore throat

- shortness of breath

The [United States Centers for Disease Control and Prevention](#) (CDC) defines ILI as a fever (temperature of 100 degrees Fahrenheit or greater), accompanied by a cough or sore throat (or both). Because of the time of year which the current wave of data collection covers, as well as fewer symptoms being used in the CDC definition of ILI, it is likely that lower levels of ILI are reported than the ECDC definition.

## Odds ratio

An odds ratio indicates the likelihood of a participant reporting symptoms consistent with ILI as defined by the ECDC or ILI as defined by the CDC, or reporting taking one or more days off work or education because of a respiratory infection, given a particular characteristic or variable. When a characteristic or variable has an odds ratio of one, this means there is neither an increase nor a decrease in the likelihood compared with the reference category. An odds ratio greater than one indicates an increased likelihood compared with the reference category. An odds ratio less than one indicates a decreased likelihood compared with the reference category.

# 7 . Measuring the data

Our [COVID-19 and Respiratory Infections Survey: QMI](#) provides further information about the survey design, how we process data and how data are analysed.

## About our estimates

Generalised additive models (GAM) were fitted on data from study participants in England, Wales, Northern Ireland and Scotland between 2 May 2023 and the week ending 3 June 2023 (the most recently available data). This is to estimate the trends in participants reporting symptoms consistent with [influenza-like illness](#) (ILI) in the seven days prior to completing the questionnaire, and reporting the impact of a respiratory infection in the 28 days prior to completing the questionnaire over time. Models for estimates of people reporting the impact of a respiratory infection in the 28 days prior to completing the questionnaire were estimated separately by country as well as the overall population.

The GAMs used a negative-binomial distribution with log link, estimating the association between daily rates and calendar time with thin plate splines (k=30). No explanatory variables other than time (measured in the number of days since 1 May 2023) and country were included in the models.

Multivariable logistic regression modelling was used to estimate the relative effect of each characteristic on the likelihood of participants reporting symptoms consistent with ILI in the seven days prior to completing the questionnaire, or reporting one or more days off work or education because of a respiratory infection in the 28 days prior to completing the questionnaire, while controlling for other factors. To include work sector in the model, a separate model was produced filtering participants in work.

Further information on response rates can be found in the [COVID-19 and Respiratory Infections Survey: QMI](#).

## Weighted estimates

The following estimates are weighted in terms of sex, age and geographical region:

- percentage of people reporting symptoms consistent with ILI in the seven days prior to completing the questionnaire

- percentage of people reporting they thought they had a respiratory infection

- percentage of people reporting taking one or more days off work or education because of a respiratory infection in the 28 days prior to completing the questionnaire

The estimates present the percentage of the population living in private households in the UK who self-reported symptoms and respiratory infections.

For more information on our methods and quality surrounding the estimates, please see our COVID-19 and Respiratory Infections Survey: QMI.

## Response rates

The COVID-19 and Respiratory Infections Survey (CRIS) consisted of a pilot survey and two waves of recruitment, with selected respondents being allocated a two-week period within a wave to complete the survey. Respondents were selected from those who took part in the Coronavirus (COVID-19) Infection Survey (CIS) and had agreed to be approached about other ethically approved research studies.

Further information on response rates can be found in our COVID-19 and Respiratory Infections Survey: QMI.

## Survey dates

Enrolment started on 3 April 2023 for pilot data collection, and on 17 April 2023 for the main survey, for England, Wales, Northern Ireland and Scotland. Enrolment for the latest wave of recruitment for the CRIS ceased on 12 June 2023.

# 8 . Strengths and limitations

A strength of the questionnaire-only COVID-19 and Respiratory Infections Survey (CRIS) is that it is much more cost effective than a survey which requires biological samples to be taken, and analyses suggest a consistent picture of symptoms in the population.

Limitations of this survey include:

- the timing of the survey, which meant that influenza-like illness (ILI) levels were low so we could not test whether the survey could detect rapid changes in infection levels in the population

- smaller sample sizes, which meant we had to combine weeks in some analyses to produce more detailed breakdowns, and this is only possible when infection levels of combined weeks are similar

- participants self-reported if they thought they had a respiratory infection without professional diagnosis, therefore the accuracy of which respiratory infection they may have had is called into question

The estimates presented in this bulletin contain uncertainty. There are many sources of uncertainty, including uncertainty in the test, in the estimates and in the quality of data collected in the questionnaire. Information on the main sources of uncertainty is presented in our COVID-19 and Respiratory Infections Survey: QMI.

# 9 . Related links

[COVID-19 and Respiratory Infections Survey: QMI](#)
Methodology | Released 10 July 2023
Quality and Methodology Information (QMI) for the COVID-19 and Respiratory Infections Survey (CRIS), detailing strengths and limitations, methods, and data uses.

[Self-reported long COVID symptoms, UK: 10 July 2023](#)
Bulletin | Released 10 July 2023
Estimates of self-reported long COVID symptoms and associated activity limitation, using COVID-19 and Respiratory Infections Survey (CRIS) data. Experimental Statistics.

[About the study](#)
Webpage | 26 June 2023
Information on what the COVID-19 and Respiratory Infections Survey (CRIS) is and why it was created.

[Coronavirus (COVID-19) Infection Survey, UK](#)
Bulletin | Last updated 24 March 2023
Estimates of people testing positive for coronavirus (COVID-19) in England, Wales, Northern Ireland and Scotland from the COVID-19 Infection Survey. This survey was delivered in partnership with the University of Oxford, the University of Manchester, UK Health Security Agency and Wellcome Trust.

[Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK](#)
Bulletin | Last updated 30 March 2023
Estimates of the prevalence of self-reported long COVID and associated activity limitation, using UK Coronavirus (COVID-19) Infection Survey (CIS) data.

[Coronavirus (COVID-19) Infection Survey, characteristics of people testing positive for COVID-19, UK](#)
Bulletin | Last updated 14 December 2022
Characteristics of people testing positive for coronavirus (COVID-19) from the COVID-19 Infection Survey. This survey was delivered in partnership with the University of Oxford, the University of Manchester, UK Health Security Agency and Wellcome Trust.

# 10 . Cite this statistical bulletin

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