



UK Health
Security
Agency

National Influenza and COVID-19 surveillance report

Week 50 report (up to week 49 data)
14 December 2023

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For additional information including regional data on COVID-19 and other respiratory viruses, COVID-19 in educational settings, co- and secondary infections with COVID-19 and other data supplementary to this report, please refer to the [accompanying graph pack](#).

For additional information regarding data source please refer to [Sources of surveillance data for influenza, COVID-19 and other respiratory viruses](#).

Correction notice

In a previous version of this report, Figure 25a. Daily ED attendances for acute bronchiolitis nationally, England was not updated. This was corrected on 14 December 2023. This does not affect the data in the datafile.

Executive summary

This report summarises the information from the surveillance systems which are used to monitor COVID-19 (caused by SARS-CoV-2), influenza, and diseases caused by seasonal respiratory viruses in England. References to COVID-19 represent the disease name and SARS-CoV-2 represent the virus name. The report is based on data from week 49 (between 4 December and 10 December 2023).

The report contains data from the [SARS-CoV-2 immunity and reinfection evaluation \(SIREN\)](#) healthcare cohort study for the first time.

Overall

In week 49, influenza activity increased in most surveillance indicators. Influenza hospitalisations crossed into the low impact threshold. Overall COVID-19 activity increased in most regions, ethnicities, and age groups. Respiratory syncytial virus (RSV) activity decreased, including in children aged under 5 years.

Influenza

Through Respiratory DataMart, influenza positivity increased to 5.6% in week 49 compared to 2.4% in the previous week.

Through primary care surveillance, the influenza-like-illness (ILI) consultations indicator increased to 5.3 per 100,000 in week 49 compared to 4.6 per 100,000 the previous week and was within the baseline activity level range.

There were 9 influenza confirmed acute respiratory incidents reported in England in week 49.

Overall, influenza hospitalisations increased and crossed into the low impact range in week 49. Influenza intensive care unit (ICU) or high dependency unit (HDU) admissions increased compared to the previous week but remained within baseline activity levels. There were 35 new influenza ICU or HDU admissions in week 49.

Emergency department (ED) attendances for ILI increased nationally.

Weekly influenza vaccine uptake for the 2023 to 2024 season compared to the equivalent week in the 2022 to 2023 season is higher for children aged 2 years, comparable for children aged 3 years, and lower for those aged 65 years and over, pregnant women and those under 65 years in clinical risk groups.

COVID-19

Through Respiratory DataMart, SARS-CoV-2 positivity increased slightly to 7.5% in week 49 compared to 6.4% in the previous week.

COVID-19 case rates and positivity in Pillar 1 increased overall, with increases observed in most age groups, regions, and ethnic groups in week 49.

The overall number of reported SARS-CoV-2 confirmed acute respiratory incidents increased compared to the previous week. There were 37 SARS-CoV-2 confirmed acute respiratory incidents reported in week 49 in England.

Overall, COVID-19 hospitalisations increased slightly to 3.80 per 100,000 in week 49 compared to 2.96 per 100,000 in the previous week. Hospitalisations were highest in the 85 years and over age group. COVID-19 ICU admissions increased in week 49 compared to the previous week but remained low.

Respiratory Syncytial Virus (RSV)

Through Respiratory DataMart, positivity for RSV decreased to 10.1%, with the highest positivity in those aged under 5 years at 27.9%. ED attendances for acute bronchiolitis continued to decrease in children aged under 5 years old. Overall RSV hospitalisations decreased to 3.2 per 100,000 compared to 3.5 per 100,000 in the previous week. The highest rate was seen in the under 5 years at 30.5 per 100,000, which decreased from 39.2 per 100,000 in the previous week.

Other viruses

Adenovirus positivity remained low at 2.0%, with the highest positivity in children under 5 years at 5.6%. Human metapneumovirus (hMPV) positivity increased to 4.4%, with the highest positivity in children between 5 and 14 years at 6.5%. Parainfluenza positivity remained low at 1.2%, with the highest positivity in children under 5 years at 2.2%. Rhinovirus positivity decreased to 12.9% overall, with the highest positivity in children under 5 years at 21.4%.

Laboratory surveillance

Respiratory DataMart system (England)

In week 49, data is based on reporting from 11 out of the 16 sentinel laboratories.

In week 49, 5,737 respiratory specimens reported through the Respiratory DataMart System were tested for influenza. There were 319 positive samples for influenza; 248 influenza A(not subtyped), 50 influenza A(H3N2), 11 were influenza B, and 10 were influenza A(H1N1)pdm09 (Figure 4). Overall, influenza positivity increased to 5.6% in week 49 compared to 2.4% in the previous week.

In week 49, 5,180 respiratory specimens reported through the Respiratory DataMart System were tested for SARS-CoV-2. There were 387 positive samples for SARS-CoV-2 with an overall positivity of 7.5%, which increased compared to 6.4% in the previous week. The highest positivity was seen in adults older than 65 years of age at 10.6%.

RSV positivity decreased to 10.1%, with the highest positivity in those aged under 5 years at 27.9%.

Adenovirus positivity remained low at 2.0%, with the highest positivity in those aged under 5 years at 5.6%.

Human metapneumovirus (hMPV) positivity increased to 4.4%, with the highest positivity in children aged between 5 and 14 years at 6.5%.

Parainfluenza positivity remained low at 1.2%, with the highest positivity in children aged under 5 years at 2.2%.

Rhinovirus positivity decreased to 12.9% overall, with the highest positivity in children aged under 5 years at 21.4%.

Figure 1a. Respiratory DataMart weekly positivity (%) for influenza, SARS-CoV-2, RSV and rhinovirus, England

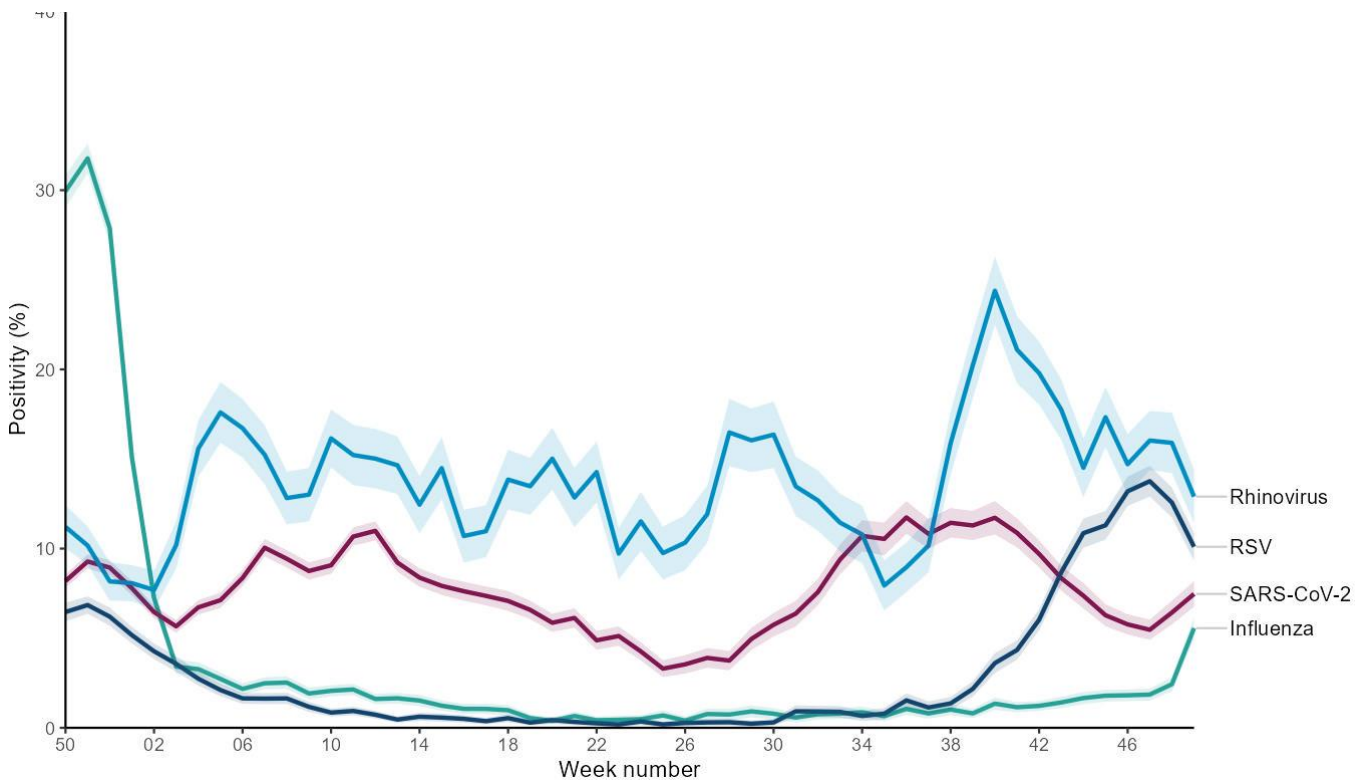


Figure 1b. Respiratory DataMart weekly positivity (%) for adenovirus, hMPV and parainfluenza, England

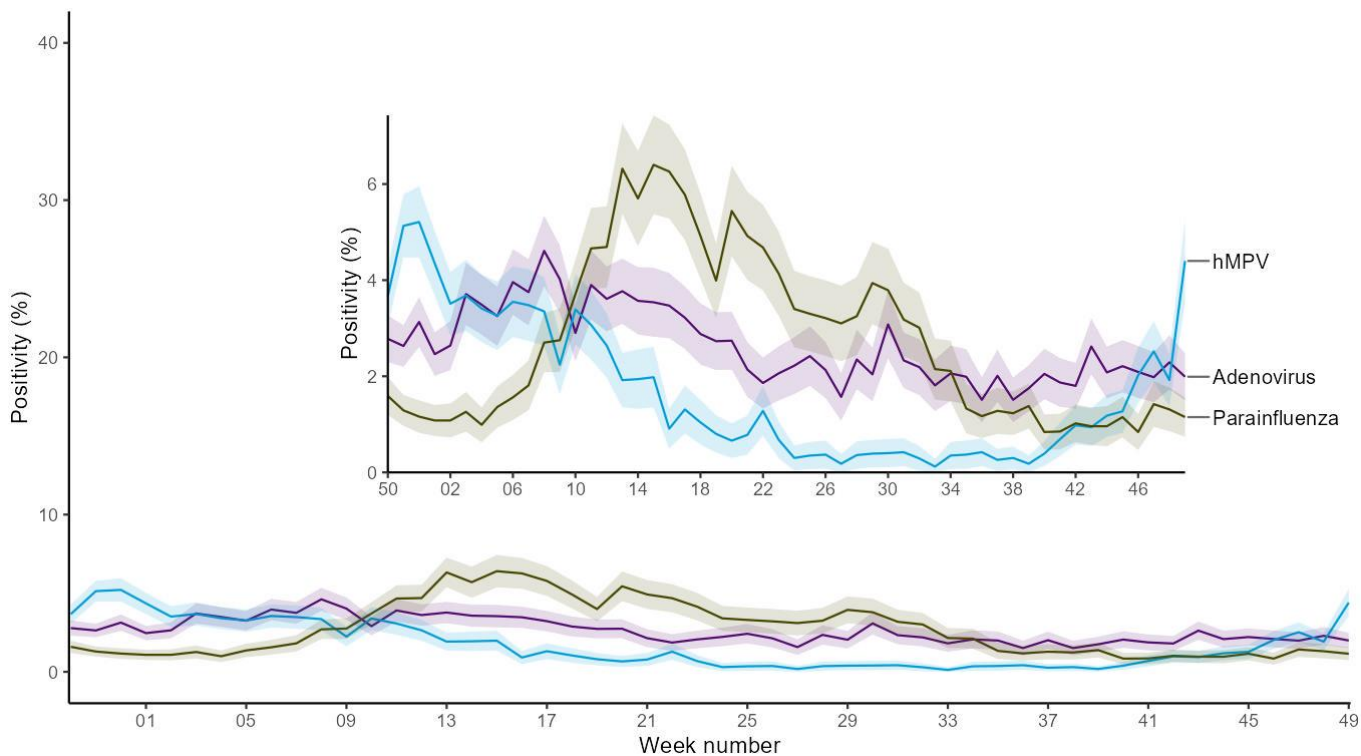
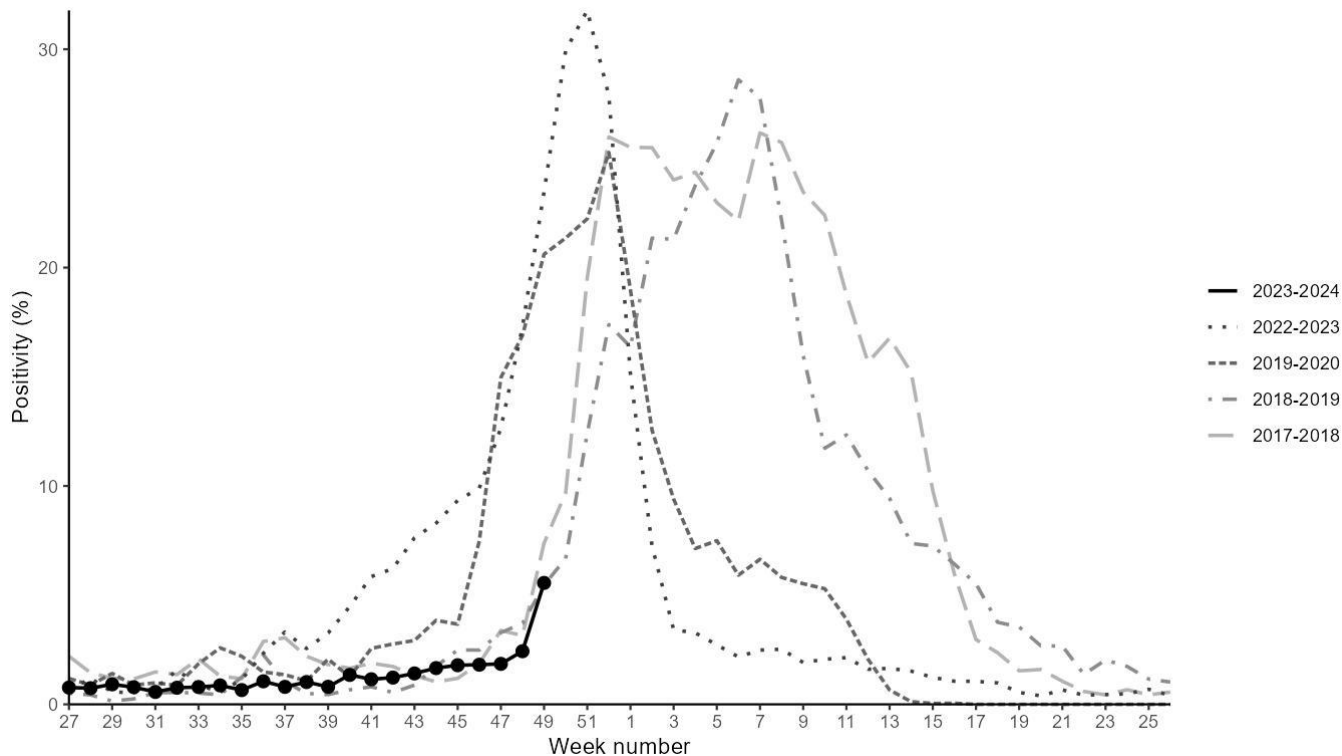


Figure 2. Respiratory DataMart weekly positivity (%) for influenza by year, England [note 1]



[note 1] Data from seasons 2020 to 2021 and 2021 to 2022 has been removed as there was low activity throughout these seasons.

Figure 3. Respiratory DataMart samples positive for influenza by type and subtype, England

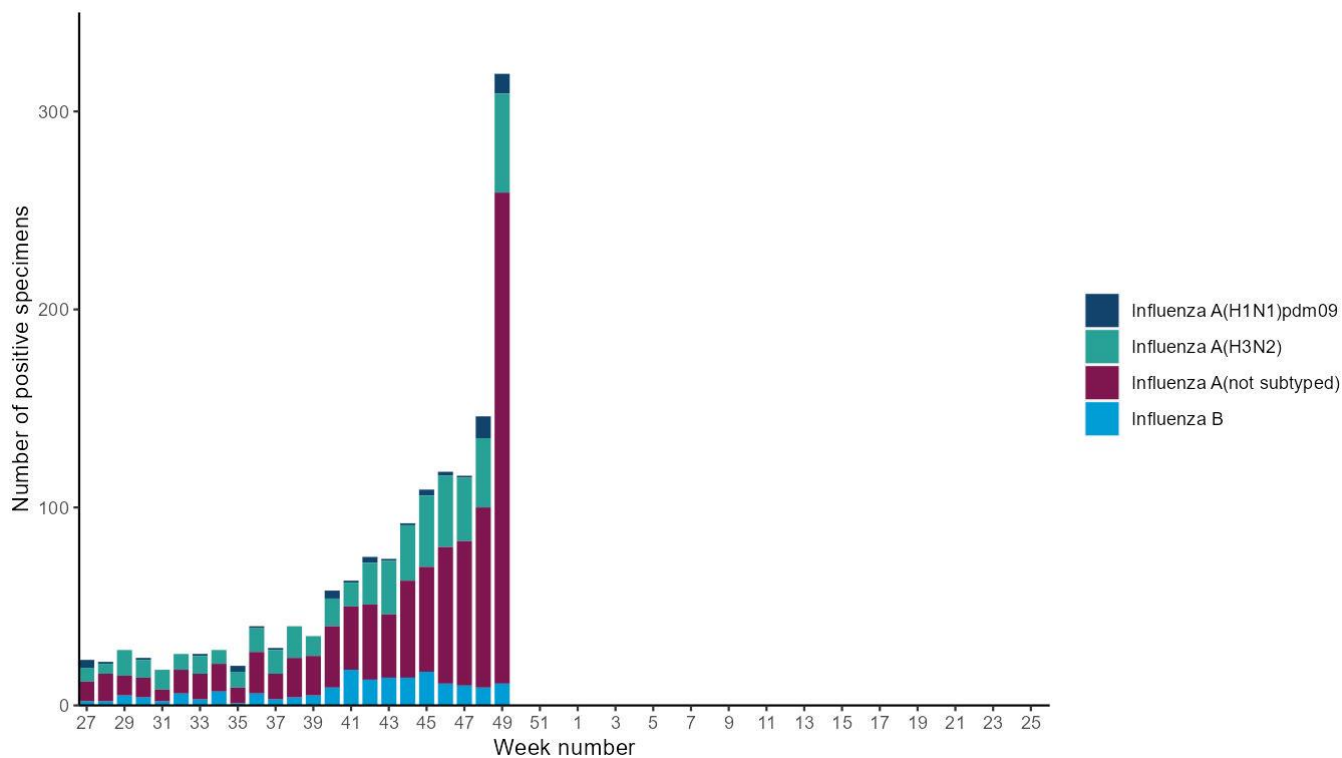


Figure 4. Respiratory DataMart weekly positivity (%) for influenza by age, England

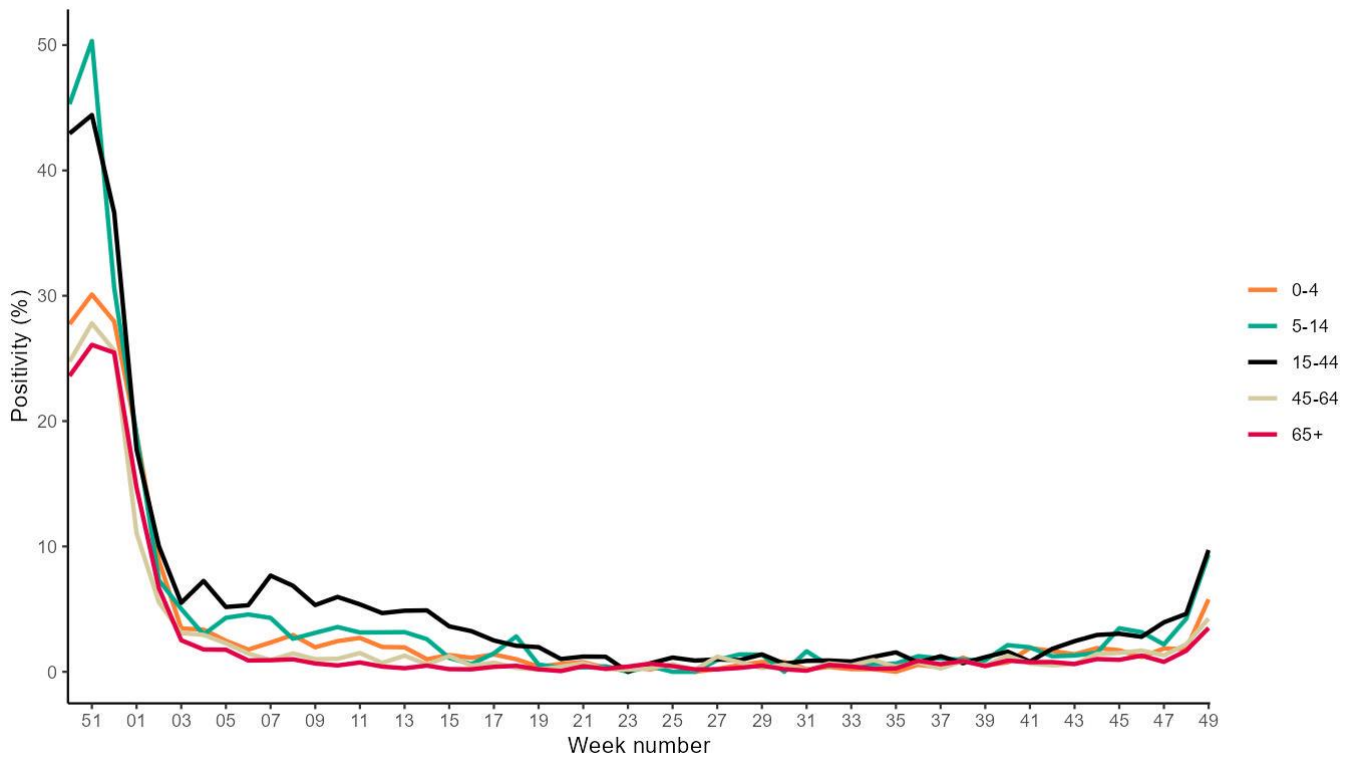


Figure 5. Respiratory DataMart weekly positivity (%) for SARS-CoV-2 by year, England

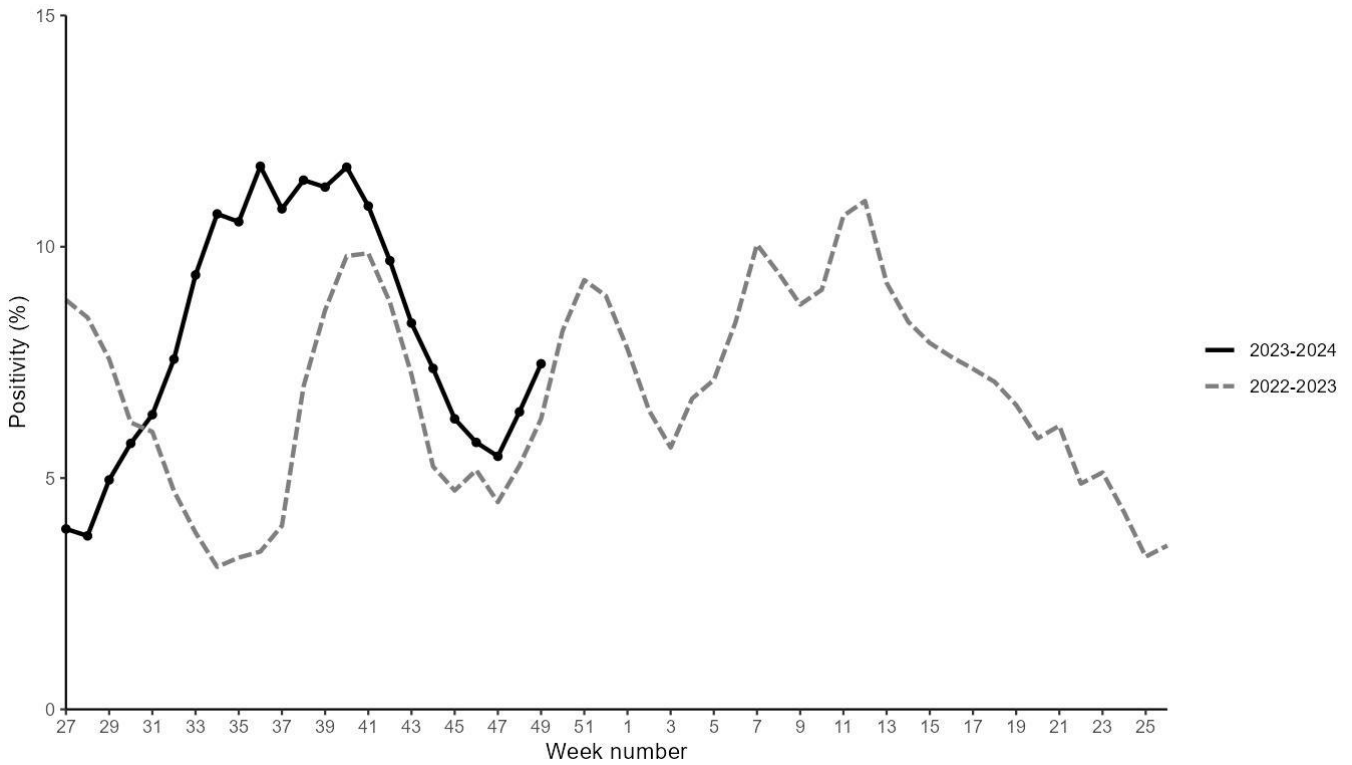


Figure 6. Respiratory DataMart weekly positivity (%) for SARS-CoV-2 by age, England

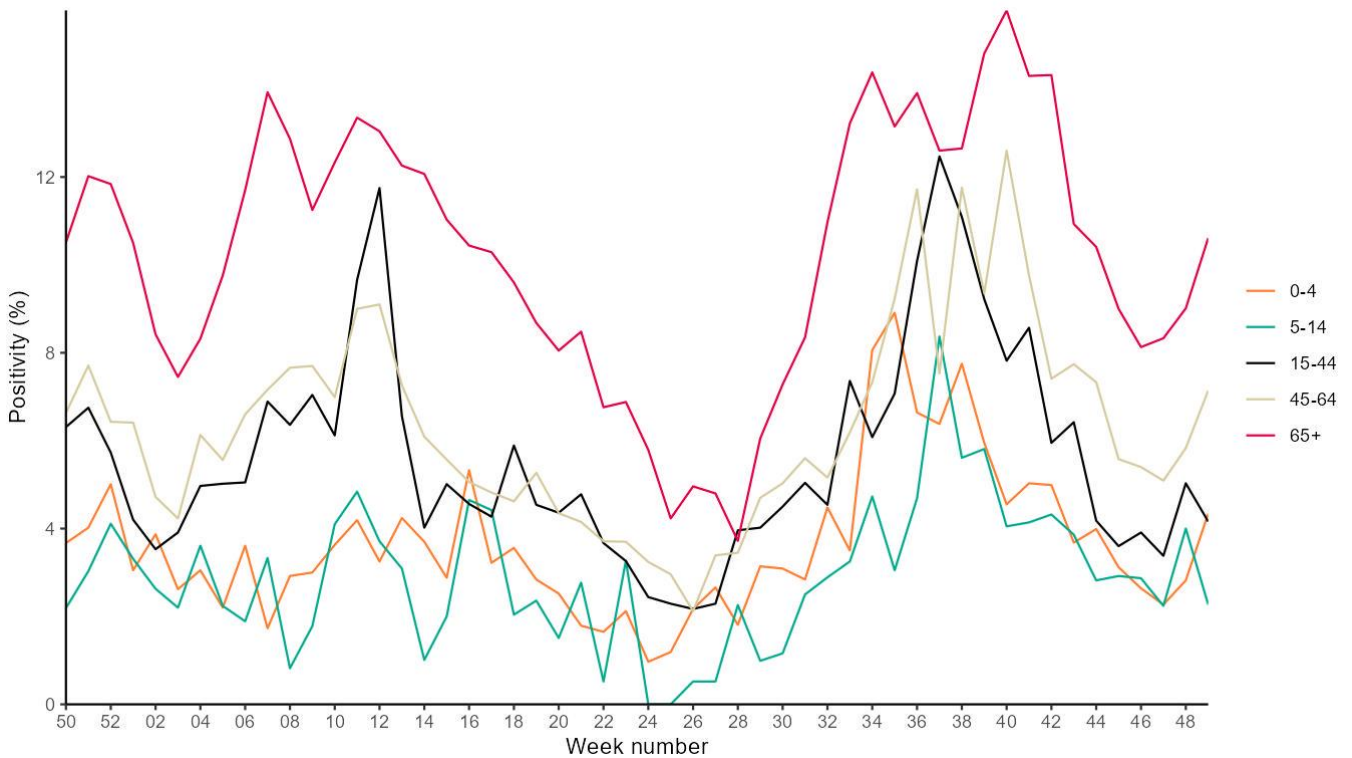


Figure 7. Respiratory DataMart weekly positivity (%) for RSV by year, England

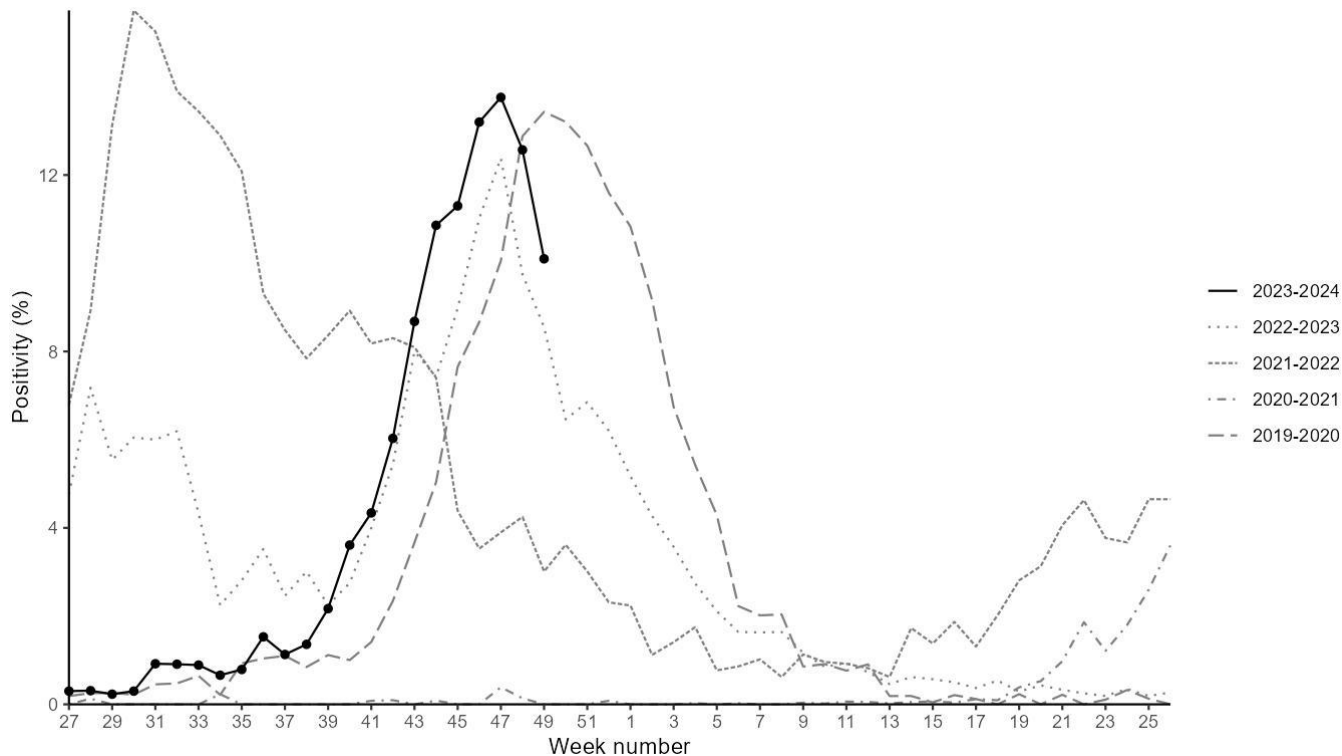
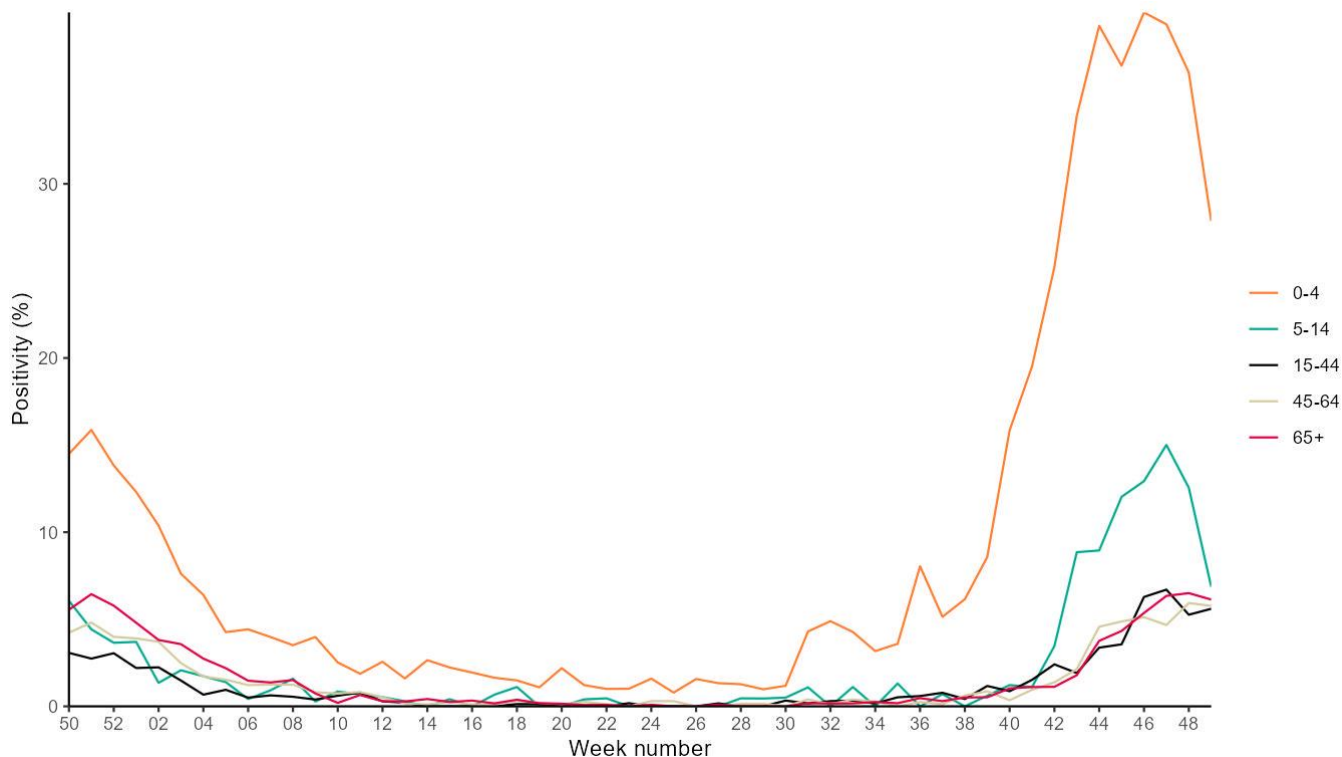


Figure 8. Respiratory DataMart weekly positivity (%) for RSV by age, England



Confirmed COVID-19 cases (England)

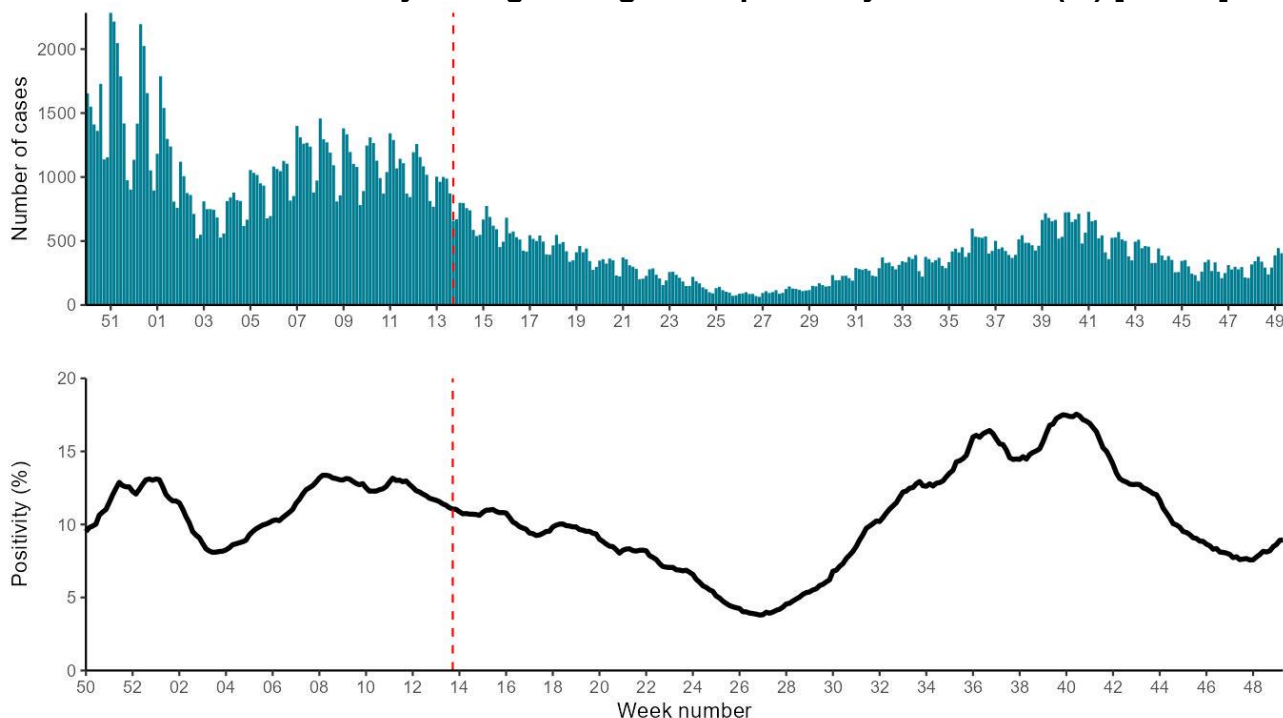
As of 9am on 12 December 2023, there were 2,639 Pillar 1 cases in week 49, a 34.6% increase from the previous week.

COVID-19 polymerase chain reaction (PCR) positivity for Pillar 1 increased slightly in week 49, with a weekly mean positivity rate of 8.9% compared to 8.0% in the previous week. Pillar 1 positivity rates were highest in those aged 85 years and over at a weekly mean positivity rate of 14.8% (an increase from 13.1% in week 48) and in East of England at a weekly mean positivity rate of 11.5% (a slight decrease from 11.6% in week 48).

Data notes

Changes to testing policies over time may affect positivity rates and incidence rates and should be interpreted accordingly. COVID-19 case reporting in England uses an episode-based definition which includes possible reinfections, each infection episode is counted separately if there are at least 91 days between positive test results (PCR or rapid lateral flow device). Each infection episode begins with the earliest positive specimen date. Additionally, further changes in [testing policy](#) are in effect since 1 April 2023, which may affect case rates and positivity rates.

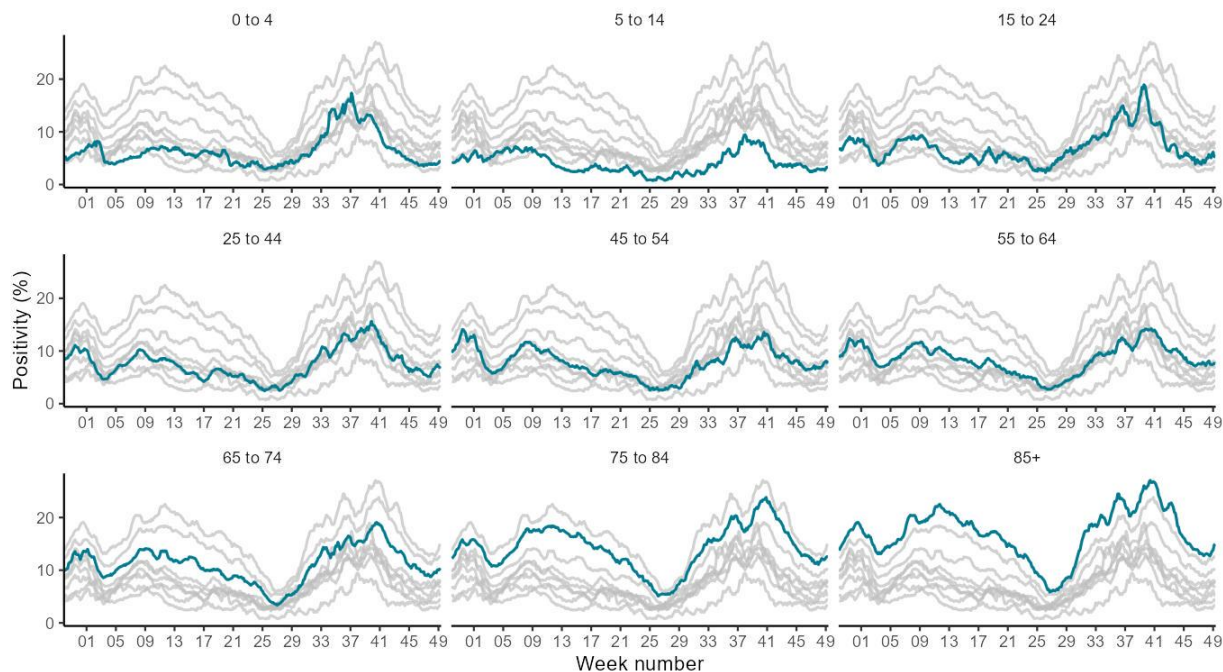
Figure 9. Confirmed COVID-19 episodes tested under Pillar 1, based on sample date with overall seven-day rolling average PCR positivity for Pillar 1 (%) [note 2]



[note 2] The vertical dashed line (red) denotes changes in testing policies.

Age

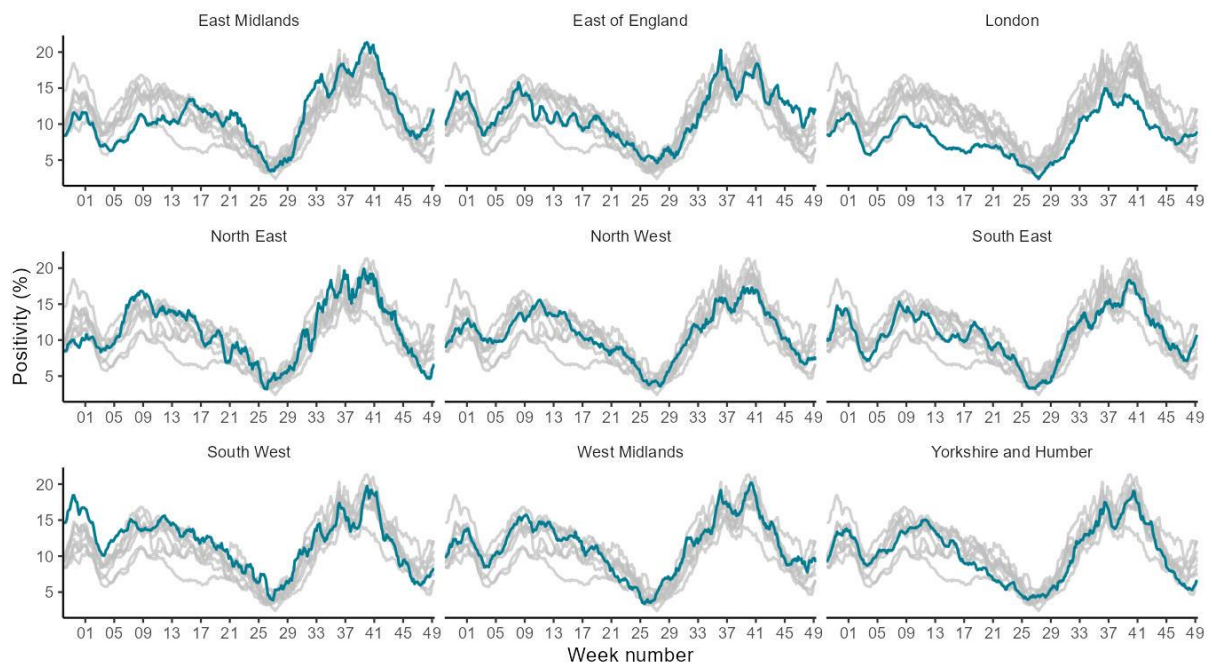
Figure 10. Seven-day rolling average PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1 by age group [note 3]



[note 3] The highlighted line corresponds to the age group in the subplot title, grey lines correspond to all other age groups.

Geography

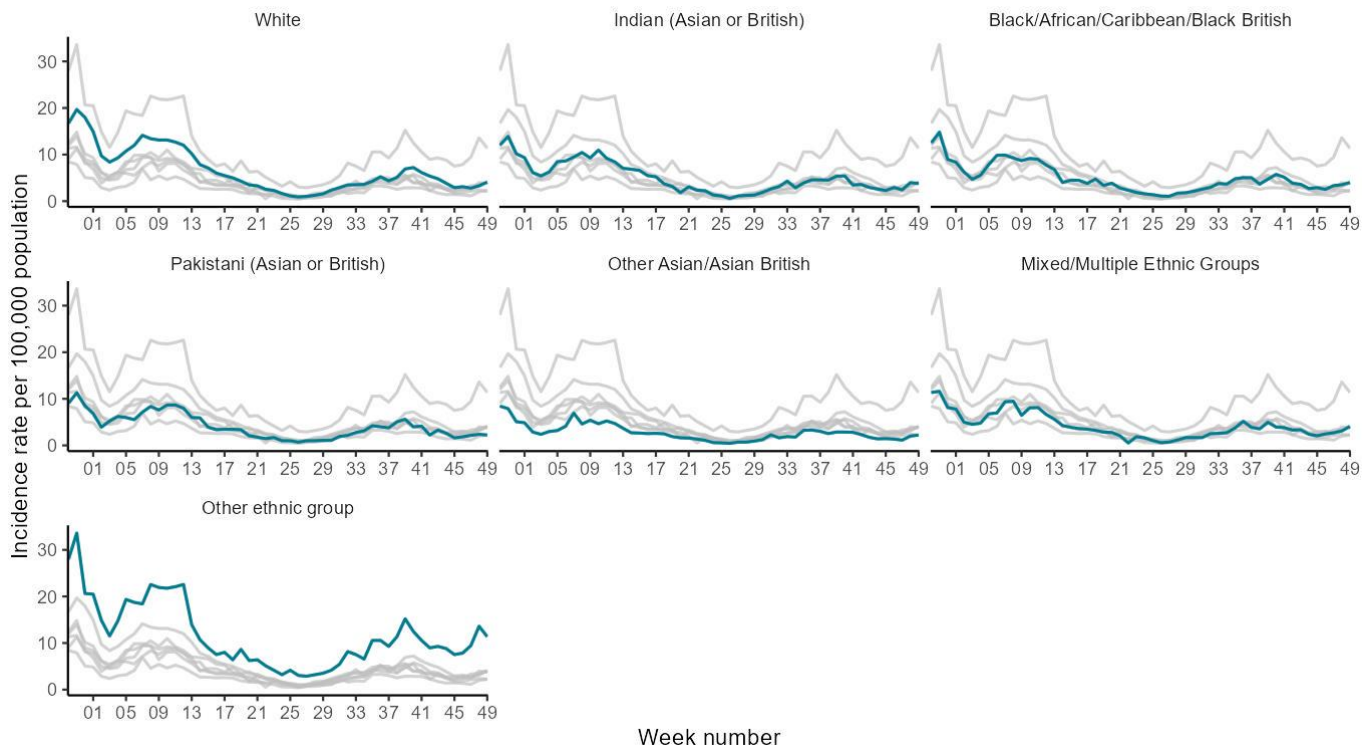
Figure 11. Seven-day rolling average PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1 by UKHSA region [note 4]



[note 4] The highlighted line corresponds to the UKHSA region in the subplot title, grey lines correspond to all other regions.

Ethnicity

Figure 12. Weekly incidence of confirmed COVID-19 cases per 100,000 population by ethnicity (Pillar 1), England [note 5]



[note 5] The highlighted line corresponds to the ethnicity in the subplot title, grey lines correspond to all other ethnicities.

Microbiological surveillance

SARS-CoV-2 variants

This section is updated fortnightly. The next update will be included in the week 51 report.

The UK Health Security Agency (UKHSA) conducts genomic surveillance of SARS-CoV-2 variants.

This section provides an overview of new and current circulating variants in England.

Detailed information on circulating SARS-CoV-2 lineages are published monthly and can be found in the [SARS-CoV-2 genome sequence prevalence and growth rate updates](#).

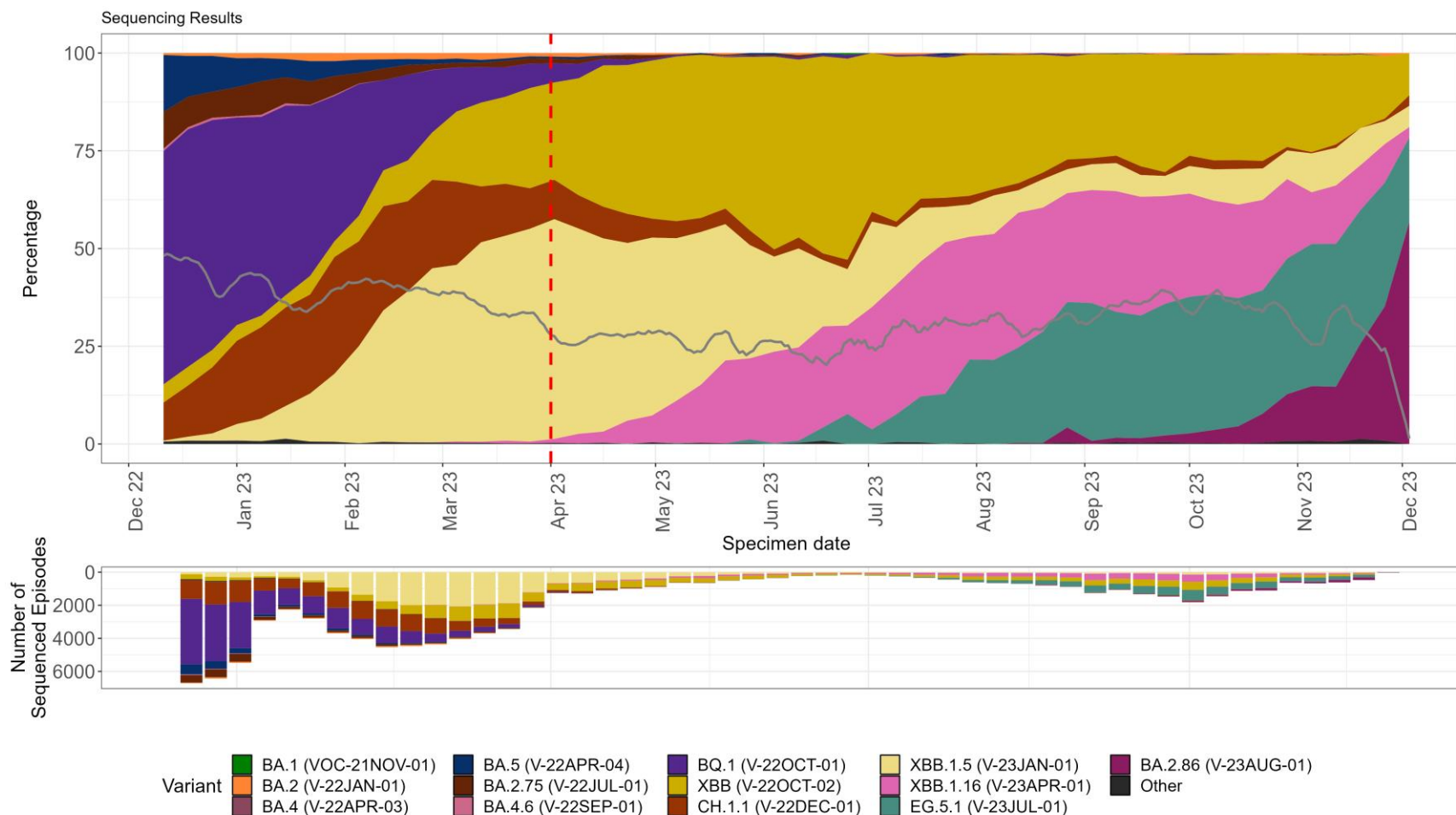
Information on whole genome sequencing coverage of PCR tests can be found in the accompanying slide set.

Poorer quality sequence data may be classified as a more ancestral variant due to missing data. Furthermore, variants may include sub-lineages that have not been individually designated for example JN.1 within BA.2.86 (V-23AUG-01). Once a sub-lineage meets required thresholds, it will be designated as a variant and prevalence of this sub-lineage in positive cases will then be identifiable in the data. The [UKHSA variant definition repository](#) contains the previous genomic definitions for UKHSA declared variants.

The prevalence of different UKHSA-designated variants amongst sequenced cases is presented in Figure 13.

To account for sequencing delays, we report the proportion of variants from sequenced cases between 20 November 2023 and 26 November 2023. Of those sequenced in this period, 34.4% were classified as BA.2.86 (V-23AUG-01), 31.7% as EG.5.1 (V-23JUL-01), 15.9% as XBB (V-22OCT-02), 9.9% as XBB.1.16 (V-23APR-01) and 5.9% as XBB.1.5 (V-23JAN-01).

Figure 13. Prevalence of SARS-CoV-2 variants amongst available sequenced cases for England from 21 November 2022 to 3 December 2023 [note 6]



The grey line indicates proportion of cases sequenced. The vertical dashed line (red) in April 2023 denotes changes in PCR testing in social care and hospital settings.

[note 6] Recombinants such as XD, are not specified but are largely within the 'Other' group currently as numbers are too small.

Table 1. Total distribution of SARS-CoV-2 variants detected in England in the last 12 weeks, up to week 48 (3 December 2023) [note 7]

Variant	Other names by which this variant is known	Total sequenced cases [note 7] in the last 12 weeks	Last reported specimen date
V-22OCT-02	Omicron XBB	3,059	28-11-2023
V-22DEC-01	Omicron CH.1.1	195	27-11-2023
V-23JAN-01	Omicron XBB.1.5	901	27-11-2023
V-23APR-01	Omicron XBB.1.16	2,659	27-11-2023
V-23JUL-01	Omicron EG.5.1	4,004	28-11-2023
V-23AUG-01	Omicron BA.2.86	935	28-11-2023

Designated variants with 50 or more sequenced cases in the past 12 weeks are presented in the table above.

Sequencing data has a lag of approximately 2 weeks therefore the data presented should be interpreted in this context.

Cumulative numbers may be revised up or down as a result of reclassification, re-infections and changes to diagnostic tests, new variants or public health management levels.

[note 7] Sequenced cases are PCR confirmed COVID-19 cases with a validated sequencing result meeting the case definitions.

Influenza virus characterisation

UKHSA characterises the properties of influenza viruses through one or more tests, including genome sequencing (genetic analysis) and haemagglutination inhibition (HI) assays (antigenic analysis). These data are used to compare how similar the currently circulating influenza viruses are to the strains included in seasonal influenza vaccines, and to monitor for changes in circulating influenza viruses. The interpretation of genetic and antigenic data sources is complex due to a number of factors, for example, not all viruses can be cultivated in sufficient quantity for antigenic characterisation, so that viruses with sequence information may not be able to be antigenically characterised as well. Occasionally, this can lead to a biased view of the properties of circulating viruses, as the viruses which can be recovered and analysed antigenically, may not be fully representative of majority variants, and genetic characterisation data does not always predict the antigenic characterisation.

As of week 49 of 2023, the UKHSA Respiratory Virus Unit (RVU) has genetically characterised 109 influenza A(H3N2) viruses, which were detected since week 34. Sequencing of the haemagglutinin (HA) gene shows that the 107 of these A(H3N2) viruses belong in genetic subclade 3C.2a1b.2a.2 in the 2a.3a.1 subgroup. One A(H3N2) virus belonging to the 2a.3 subgroup and one A(H3N2) virus belonging to the 2a.3a subgroup were detected. The Northern Hemisphere 2023/24 influenza A(H3N2) vaccine strain (an A/Darwin/9/2021-like virus) also belongs in genetic subclade 3C.2a1b.2a.2

Eighty-eight influenza A(H1N1)pdm09 viruses have been characterised to date this season, with 63 belonging in genetic subgroup 6B.1A.5a.2a and 25 in subgroup 6B.1A.5a.2a.1. The Northern Hemisphere 2023/24 influenza A(H1N1)pdm09 vaccine strain (an A/Victoria/4897/2022 (H1N1)pdm09-like virus) also belongs in genetic subclade 6B.1A.5a, within the 6B.1A.5a.2a.1 cluster.

Six influenza B/Victoria lineage viruses have been genetically characterised belonging in subclade V1A3, within the subgroup V1A3a.2. The Northern Hemisphere 2023/24 influenza B/Victoria lineage vaccine strain (a B/Austria/1359417/2021-like virus) also belongs in this V1A3a.2 subclade/group.

At this early stage of the influenza season, it is too early to predict which influenza lineages will dominate throughout the season, and a close watch will be kept on the proportion of different viruses circulating to assist with the evaluation of vaccine effectiveness.

The RVU has confirmed by genome sequencing the detection of live attenuated influenza vaccine (LAIV) viruses in 5 influenza A positive samples and in 6 influenza B positive samples collected since week 40, from children aged between 2 and 16 years.

One influenza A(H1N2)v virus has been genetically characterised belonging in clade 1B 1.1. This is an unusual detection of a variant H1N2 (H1N2v) virus in a human clinical sample. The

HA and NA genes as well as internal gene segments from the A(H1N2)v detection show a very close relationship to contemporary 1B.1.1 swine influenza A viruses from the UK.

Table 2. Number of influenza viruses characterised by genetic and antigenic analysis at the UKHSA Respiratory Virus Unit since week 34 of 2023

(Sub)type	Total number characterised	Genetic characterisation: genetic group	Genetic characterisation: number sequenced
A(H3N2)	109	3C.2a1b.2a.2a.3	1
A(H3N2)	109	3C.2a1b.2a.2a.3a	1
A(H3N2)	109	3C.2a1b.2a.2a.3a.1	107
A(H1N1)pdm09	88	6B.1A.5a.2a	63
A(H1N1)pdm09	88	6B.1A.5a.2a.1	25
B/Victoria-lineage	6	V1A3a.2	6
A(H1N2)v	1	1B 1.1	1

Influenza antiviral susceptibility

Influenza positive samples are genome sequenced and screened for mutations in the virus neuraminidase (NA) and the cap-dependent endonuclease (PA) genes known to confer neuraminidase inhibitor or baloxavir resistance, respectively. The samples tested are routinely obtained for surveillance purposes, but diagnostic testing of patients suspected to be infected with antiviral-resistant virus is also performed.

Influenza virus sequences from samples collected between weeks 34 of 2023 and 49 of 2023 have been analysed. Analysis of 108 A(H3N2) viruses found no viruses with known markers of resistance to neuraminidase inhibitors. Analysis of 82 A(H1N1)pdm09 by sequencing found one oseltamivir resistant virus with an H275Y amino acid substitution (99% H275Y). The sample was collected from an immune compromised adult who was known to have received oseltamivir treatment. Analysis of 5 influenza B NA sequences found no evidence of known markers of resistance to neuraminidase inhibitors.

No viruses with known markers of resistance to baloxavir marboxil were detected in 96 A(H3N2), 76 A(H1N1)pdm09 and 4 influenza B PA sequences analysed.

Table 3. Antiviral susceptibility of influenza positive samples tested at UKHSA-RVU

(Sub)type	Neuraminidase inhibitors: susceptible	Neuraminidase inhibitors: reduced susceptibility	Baloxavir: susceptible	Baloxavir: reduced susceptibility
A(H3N2)	108	0	96	0
A(H1N1)pdm09	81	1	76	0
B/Victoria-lineage	5	0	4	0

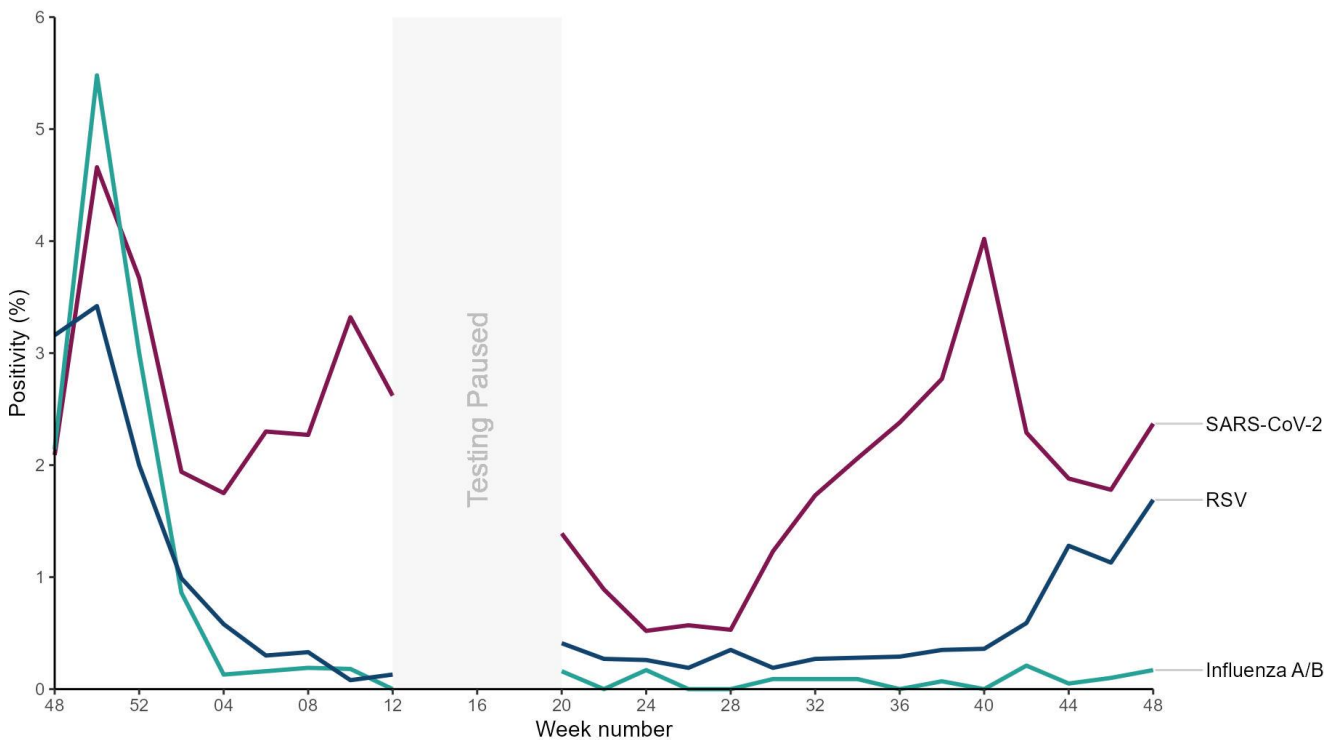
Community surveillance

SIREN healthcare cohort study

The SIREN healthcare cohort study was set up in June 2020 and recruited over 44,500 participants to investigate SARS-CoV-2 infections and immunity among UK healthcare workers. 6,000 participants from the original cohort were re-recruited into the study and undergo fortnightly asymptomatic PCR testing for SARS-CoV-2, influenza A/B and RSV, to monitor positivity rates and the emergence of new SARS-CoV-2 variants. Participants are distributed across the UK, with a median age of 53 years, and 78% are female.

Figure 14 describes fortnightly positivity rates (per 100 tests) of SARS-CoV-2, Influenza A/B and RSV in the SIREN cohort over the last 12 months. During the fortnight commencing 27 November 2023, 4,019 swabs were returned (67.3% of participants). Influenza positivity currently remains low (0.17% positive compared to 0.10% in previous fortnight). SARS-CoV-2 positivity has increased since the last fortnight (2.37% positive compared to 1.78% in previous fortnight). RSV positivity has increased since the start of October (1.69% swabs positive compared to 1.13% in previous fortnight).

Figure 14. SIREN study fortnightly PCR positivity (%) for influenza, SARS-CoV-2 and RSV, UK [note 8]



[note 8] The week number indicates the fortnight commencing.

Acute respiratory infection incidents (ARI)

Here we present data on ARI incidents in different settings that are reported to UKHSA Health Protection Teams (HPTs).

There were 83 new ARI incidents reported in week 49 in England, including:

- 65 incidents reported from care homes, of which 26 were laboratory confirmed for SARS-CoV-2, 7 for influenza A(not subtyped), 6 for RSV and 1 for rhinovirus
- 8 incidents reported from hospitals, of which 6 were laboratory confirmed for SARS-CoV-2, and 2 for influenza A(not subtyped)
- 5 incidents reported from educational settings, of which 2 were laboratory confirmed for SARS-CoV-2
- 1 incident reported from a prison, which was laboratory confirmed for SARS-CoV-2
- 4 incidents from other settings, of which 2 were laboratory confirmed for SARS-CoV-2, and 1 for RSV

Please note that, in this week’s report, data back to week 40 has been retrospectively updated following an improvement. In the method to assign incidents to an identified pathogen using reports from health protection teams.

Figure 15. Number of ARI incidents by setting, England

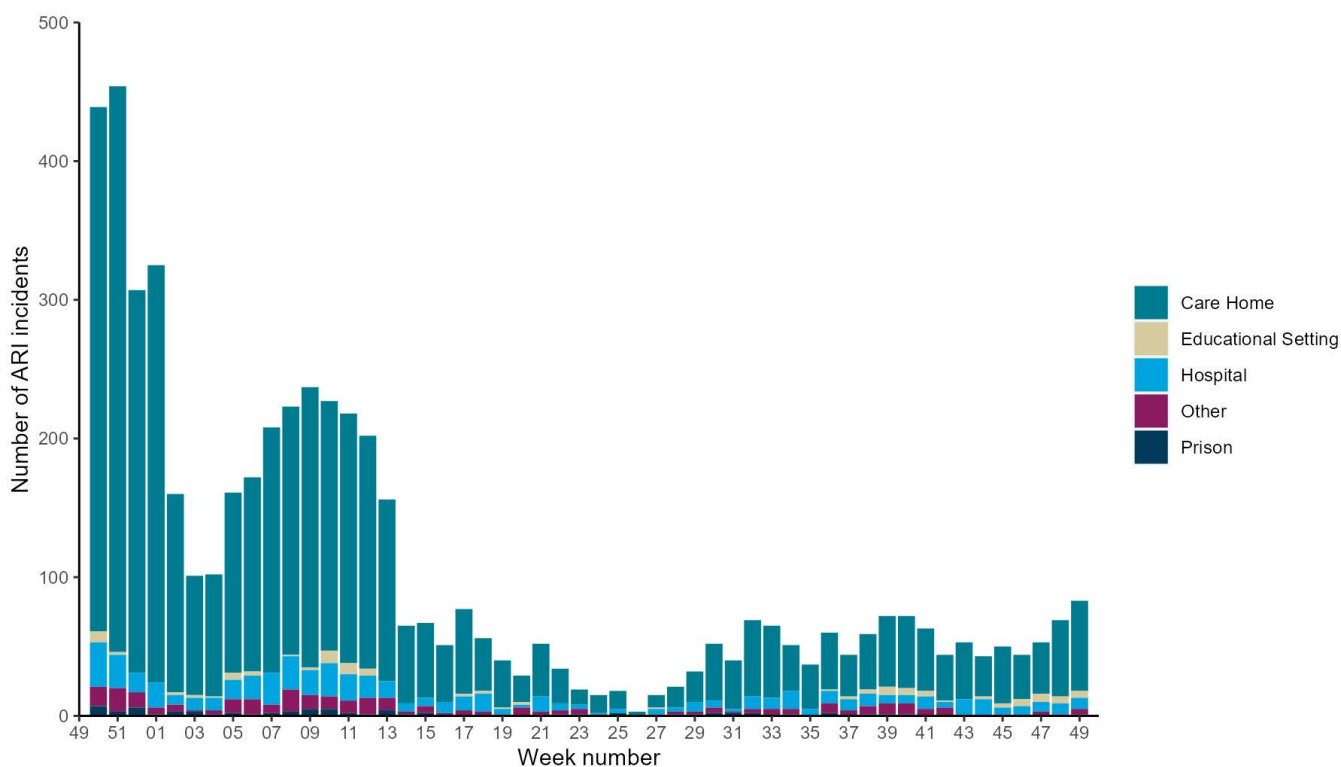


Figure 16. Number of ARI incidents in all settings by virus type, England

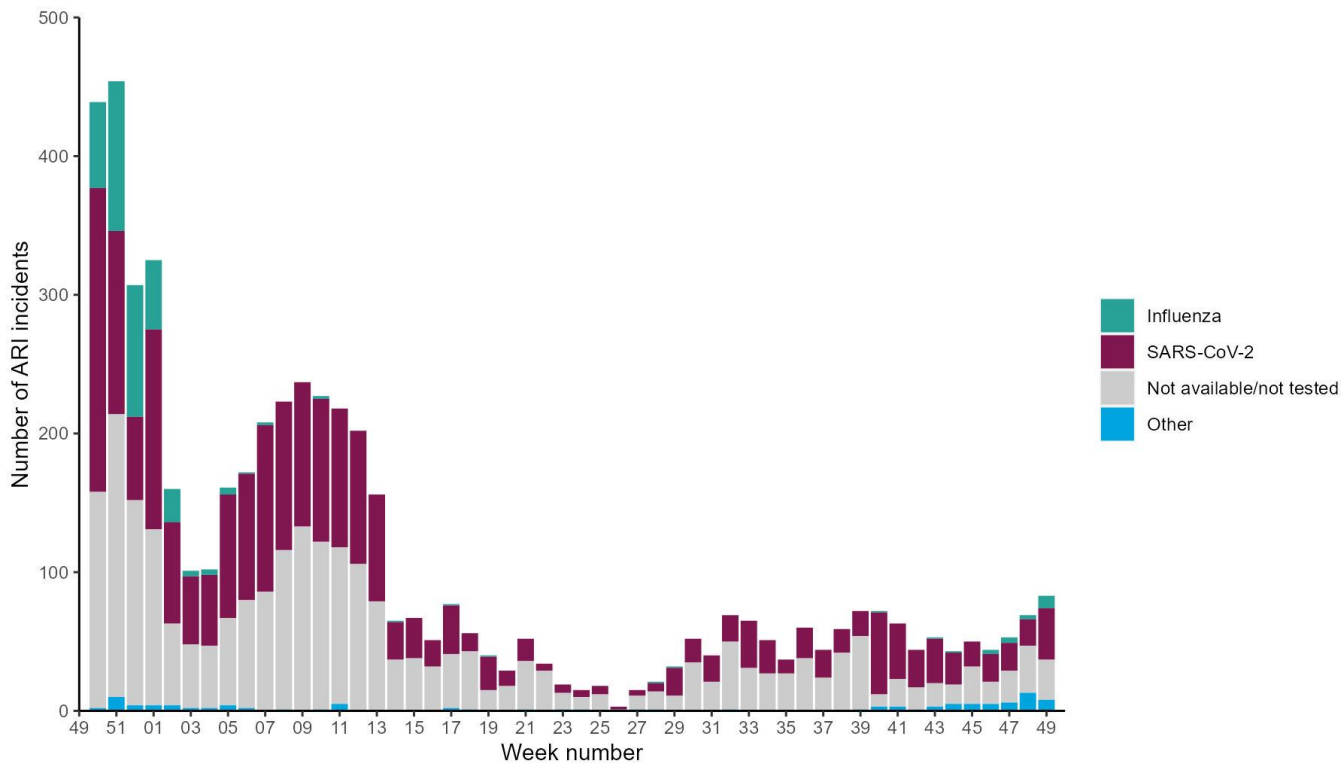


Figure 17. Number of ARI incidents in care homes by virus type, England

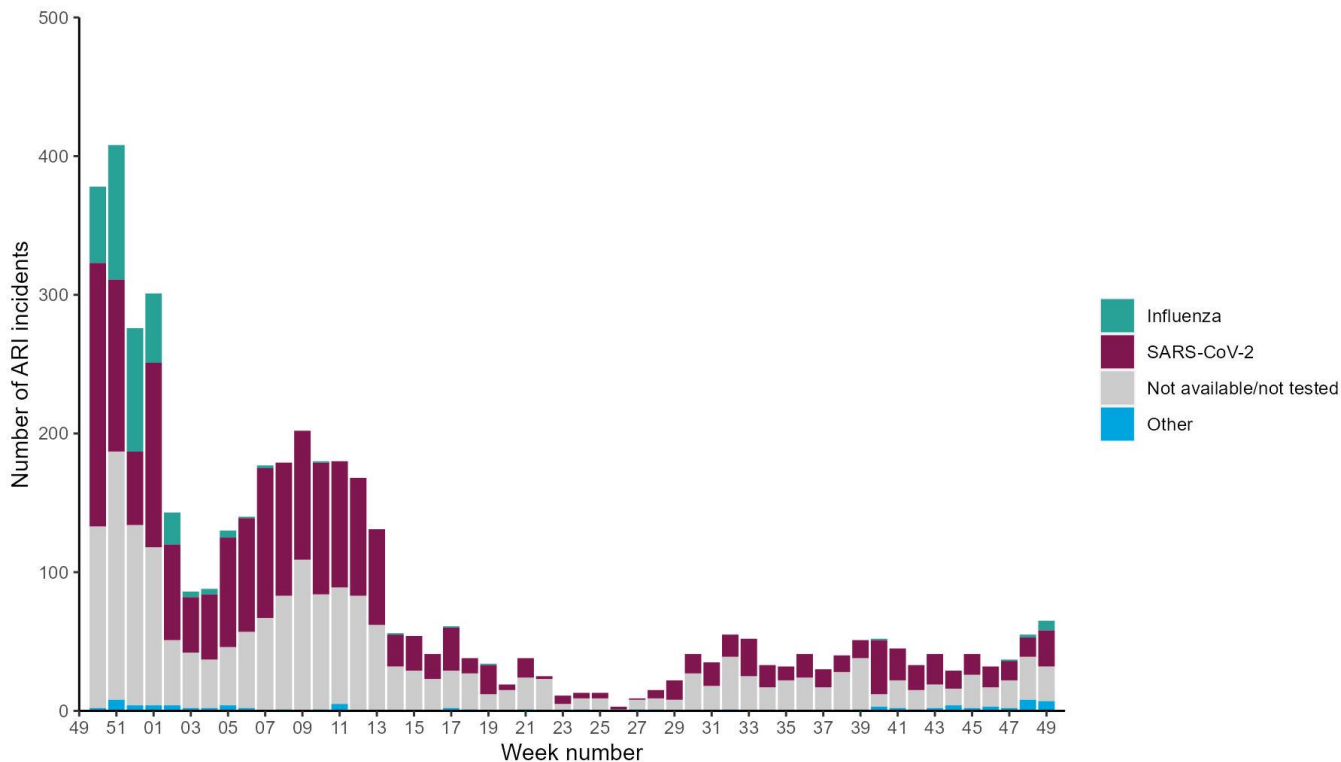
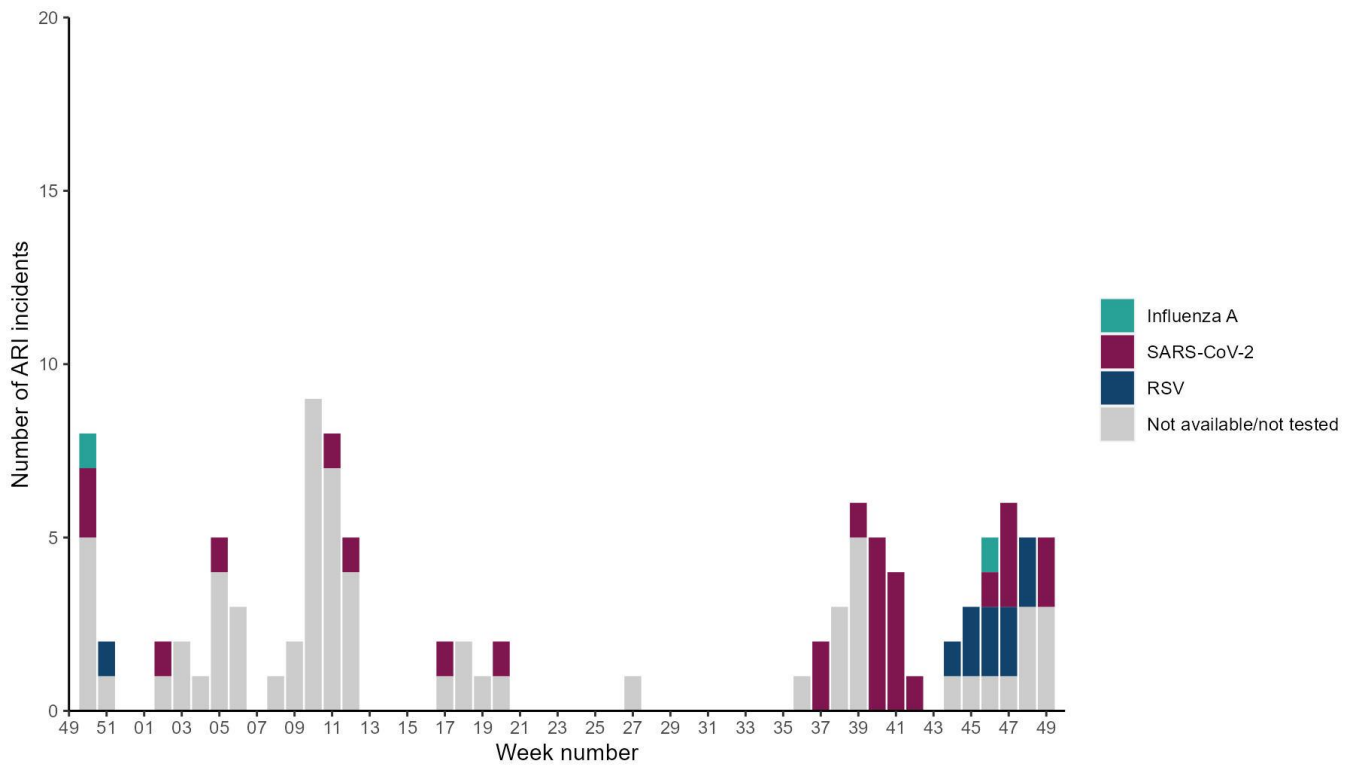


Figure 18. Number of ARI incidents in educational settings by virus type, England



FluSurvey

[FluSurvey](#) is an internet-based participatory surveillance system based on the InfluenzaNet platform. FluSurvey monitor trends of influenza-like illness (ILI) in the community using self-reported respiratory symptoms from registered participants. The platform has been adapted to capture respiratory symptoms, exposure risk and healthcare seeking behaviours among registered participants to contribute to national surveillance of COVID-19 activity as well as influenza activity since week 44 of 2020.

The survey had a planned pause in summer 2023 (as was the norm prior to COVID-19 emergence) and restarted in autumn 2023 on the FluSurvey 2.0 web platform with a mixture of previous participants and new participants. Therefore, the baseline demographics and level of symptoms may have changed compared to last season, including the possibility that new registrations and re-registrations may have been initiated by recent onset of illness.

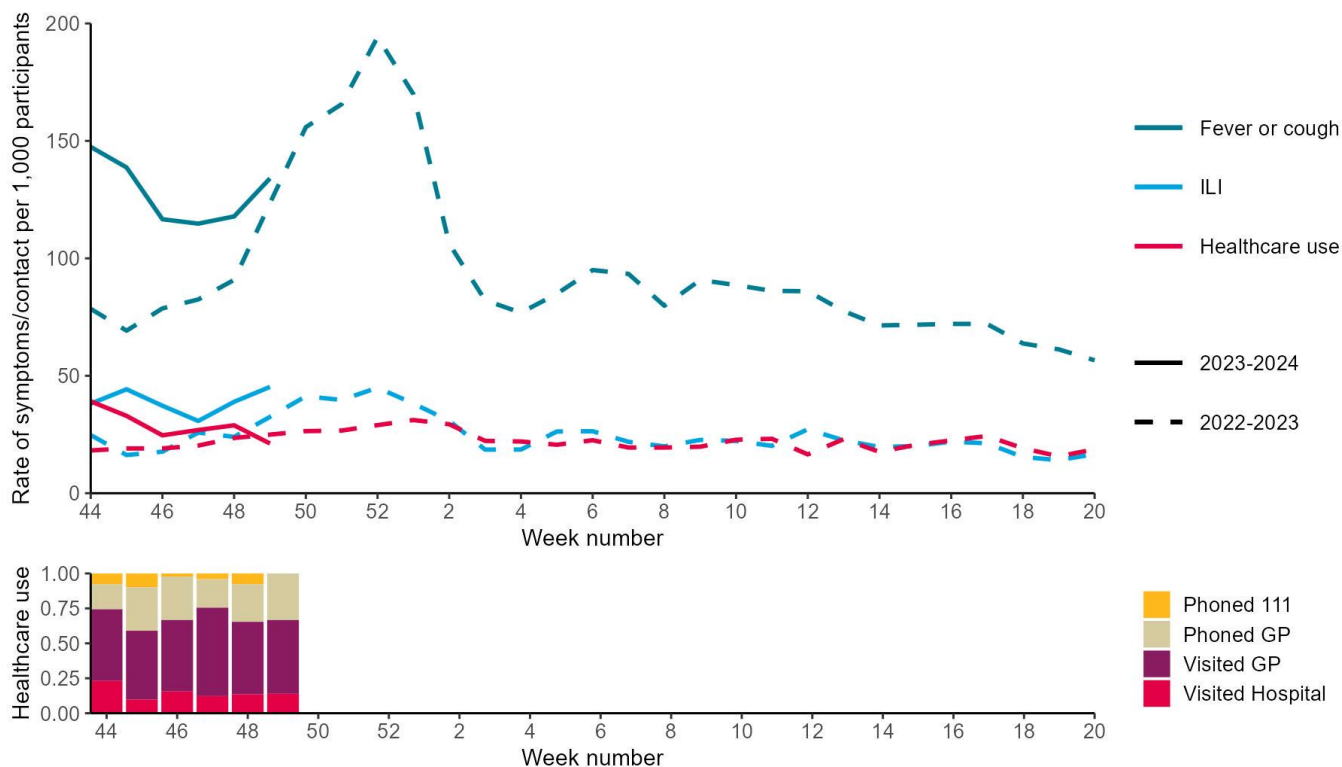
Note that ILI is defined as sudden onset of symptoms with at least one of fever (chills), malaise, headache, muscle pain and at least one of cough, sore throat, shortness of breath.

During week 49, there were 1,701 participants completing the weekly symptoms questionnaire of which 228 (13.4%) reported fever or cough and 77 (4.5%) reported ILI. Amongst people reporting at least one respiratory symptoms, the most commonly reported contact with healthcare services was a visit to their GP surgery.

Healthcare use is presented as total use due to reported related symptoms and is classified by the most resource intensive use of health care resource if any is used (hospital being more intensive than physically visiting the general practitioner). This showed that participants that used health care were most likely to visit their GP provider (Figure 19).

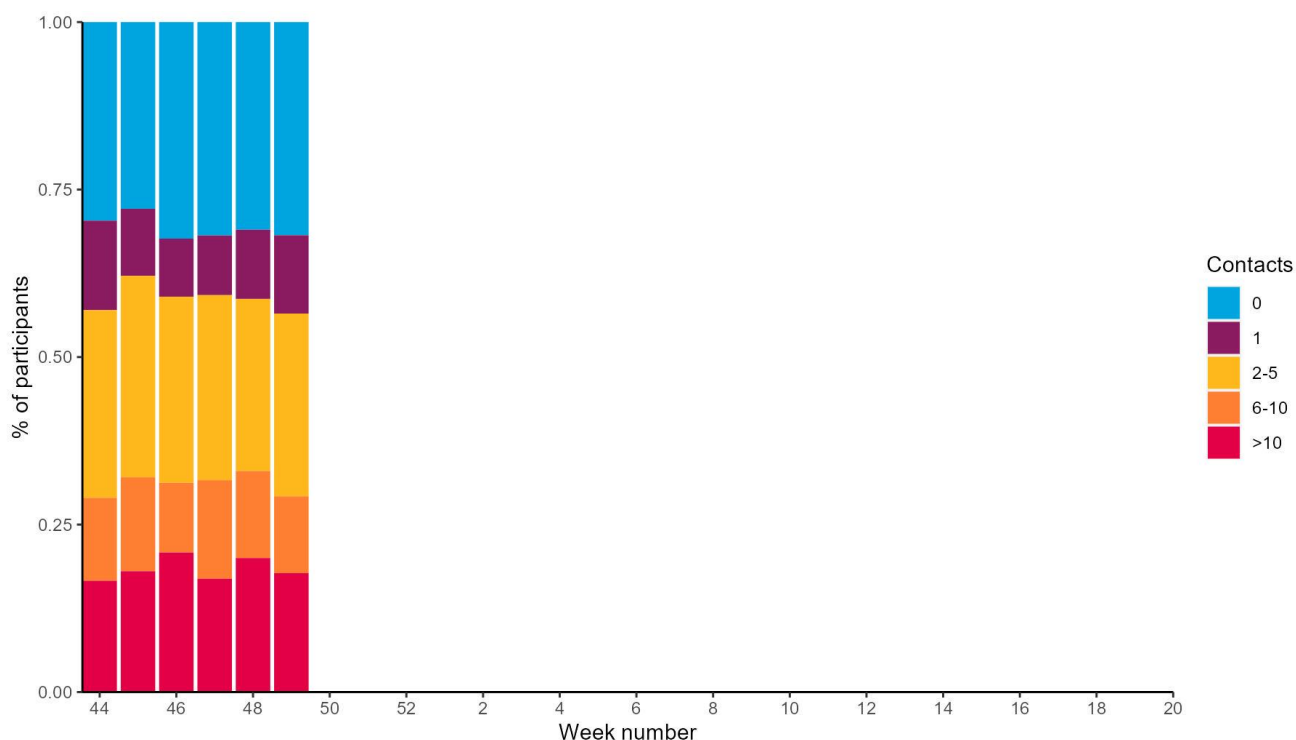
Self-reported daily social contact patterns are also reported. A contact is defined as a person outside the household who is approached at a distance of less than one metre, on the day prior to survey completion (Figure 20).

Figure 19. FluSurvey participants self-reporting fever or cough and ILI symptoms, and trends in healthcare seeking behaviour among these participants, England [note 9]



[note 9] Please note in week 49 of 2022 there was no data available. The lines in the upper panel have been continued using interpolation.

Figure 20. FluSurvey participants' self-reported number of social contacts outside the household

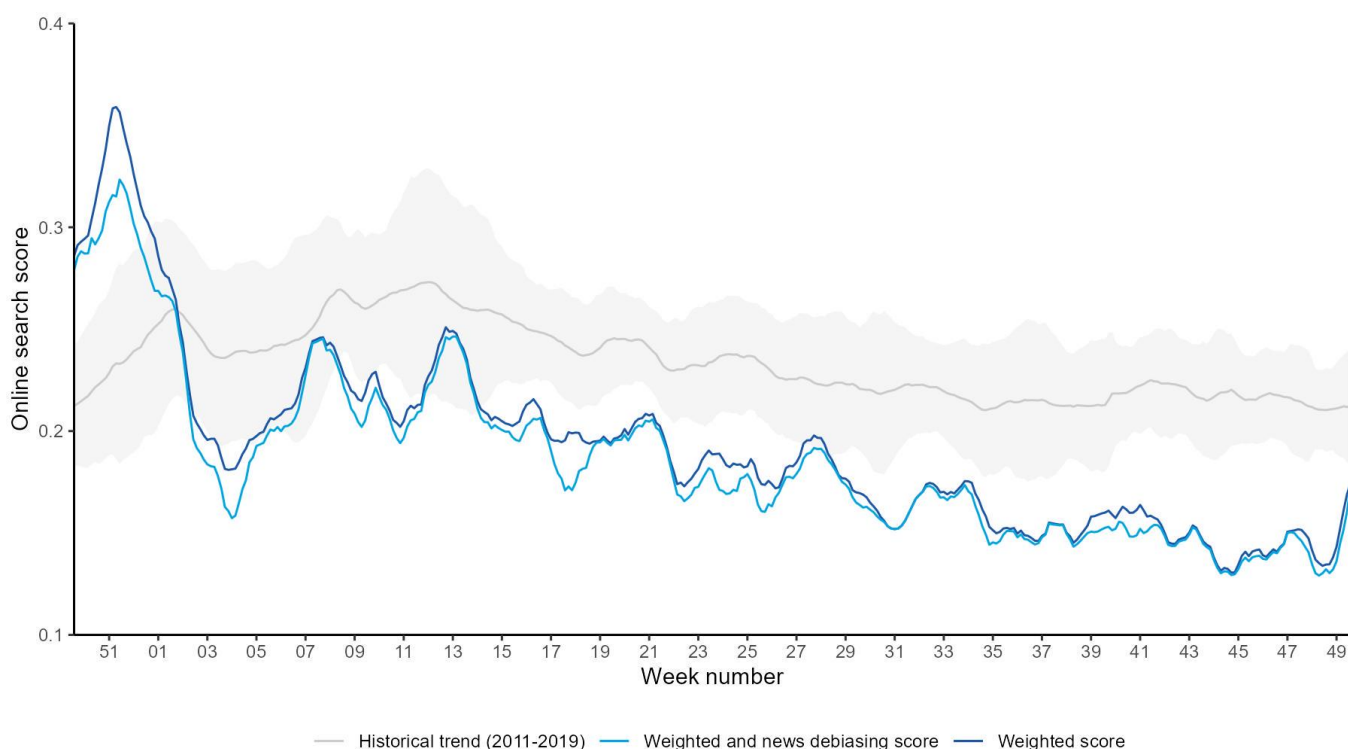


Google search queries

This is a web-based syndromic surveillance system which uses daily search query frequency statistics obtained from the Google Health Trends API (Application Programming Interface). This model focuses on search queries about COVID-19 symptoms as well as generic queries about 'coronavirus' (for example 'COVID-19'). The search query frequency time series is weighted based on symptom frequency as reported in other data sources. Frequency of searches for symptoms is compared with a baseline calculated from historical daily data. [Further information on this model](#) is available online.

During week 49, the overall and media-debiasing weighted Google search scores increased compared to the previous week (Figure 21).

Figure 21. Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England



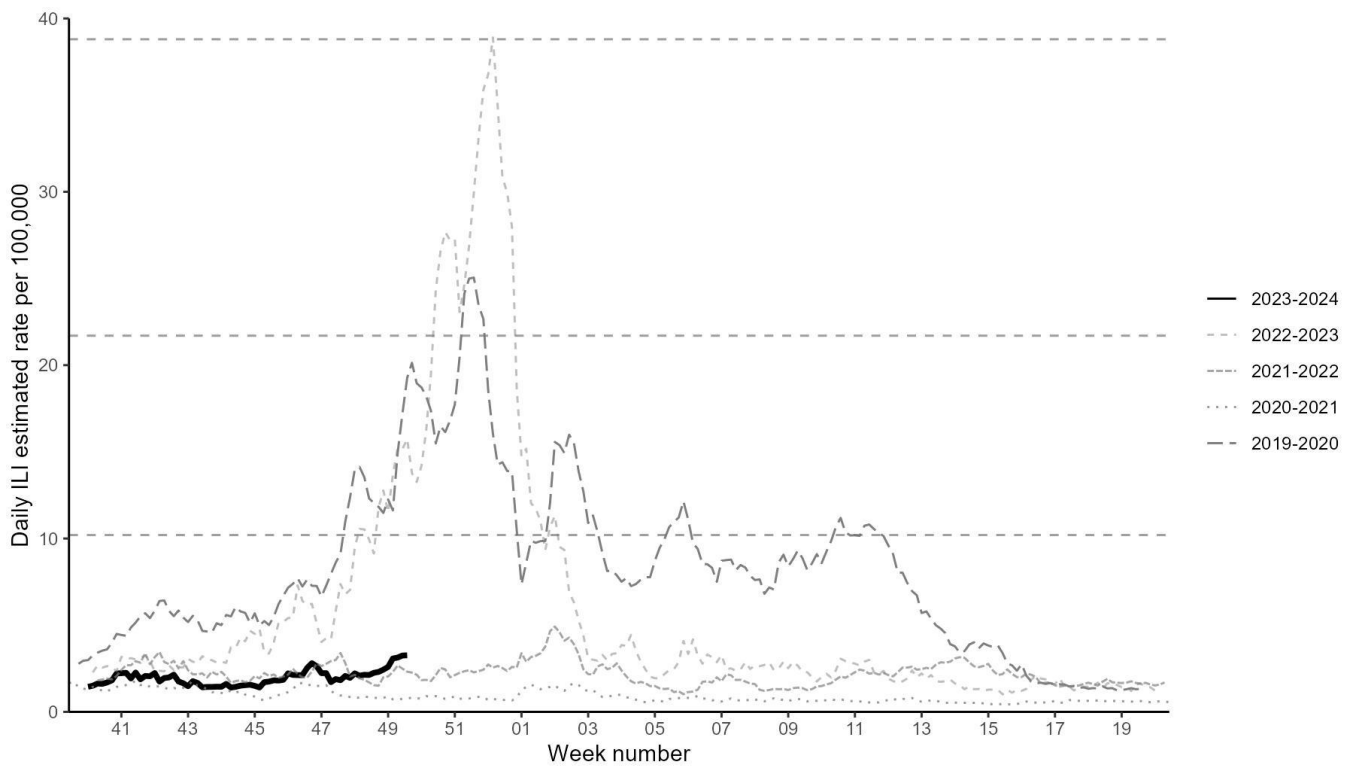
Flu Detector

FluDetector is a web-based model which assesses internet-based search queries for influenza-like illness (ILI) in the general population.

Daily ILI rate estimates are based on uniformly averaged search query frequencies for a week-long period (including the current day and the 6 days before it).

For week 49, the daily ILI rate was low and below the baseline threshold of 10.25 per 100,000 for the 2023 to 2024 season (Figure 22).

Figure 22. Daily estimated ILI Google search query rates per 100,000 population, England

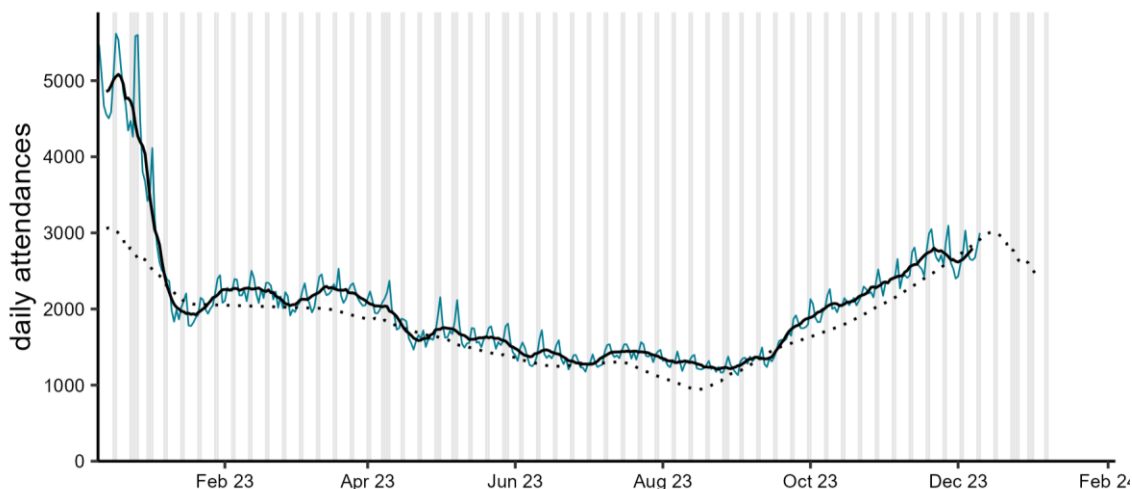


Syndromic Surveillance

During week 49, NHS 111 calls for cough increased overall. NHS 111 calls for cold or flu increased and remained below baseline levels. GP in-hours consultation rates for ILI increased and remained similar to seasonally expected levels. ED attendances for acute bronchiolitis continued to decrease in children aged under 5 years. ARI attendances increased nationally in line with seasonal expectations. ARI attendances increased in those aged over 5 years of age. COVID-19-like attendances increased, notably in the over 65 years age group and in the London and South East regions. ILI attendances also increased.

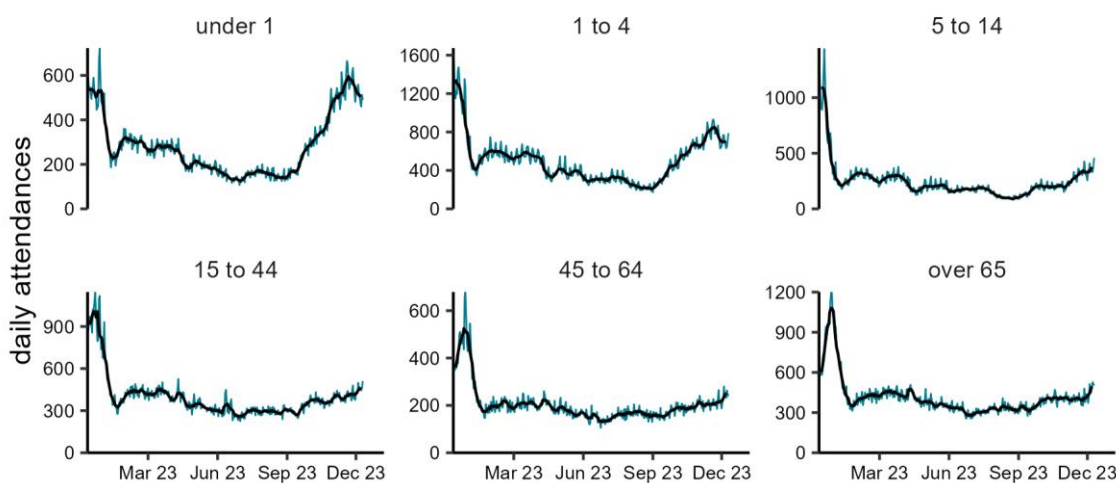
For further information on syndromic surveillance please see the [Syndromic Surveillance: weekly summaries](#).

Figure 23a. Daily ED attendances for acute respiratory infection nationally, England [note 10]



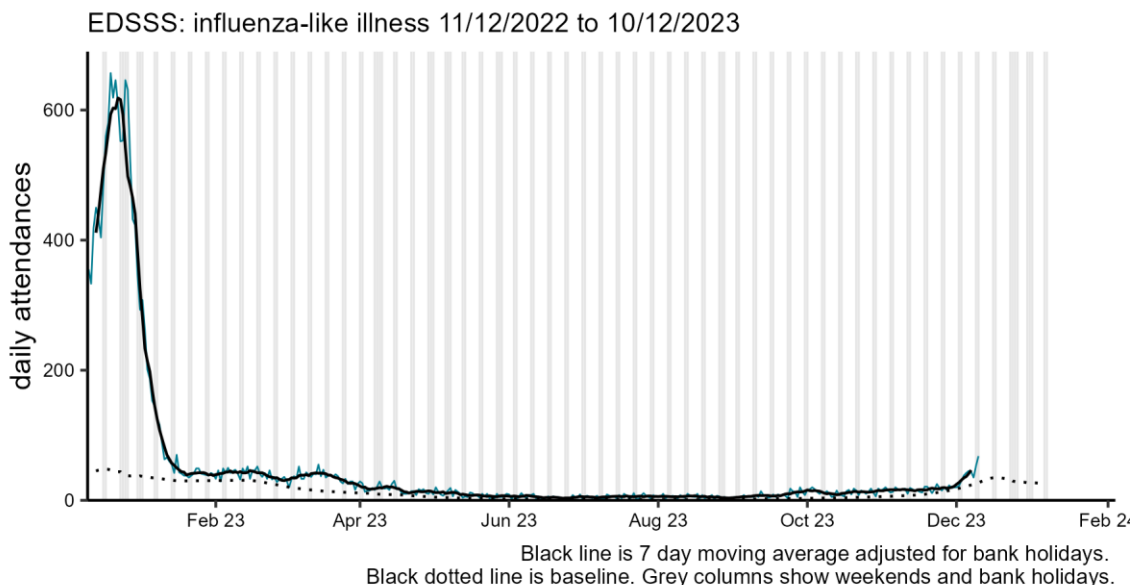
[note 10] The solid black line is a 7-day moving average adjusted for holidays. The black dotted line is the baseline. The grey columns show weekends and bank holidays.

Figure 23b. Daily ED attendances for acute respiratory infection by age group, England [note 11]



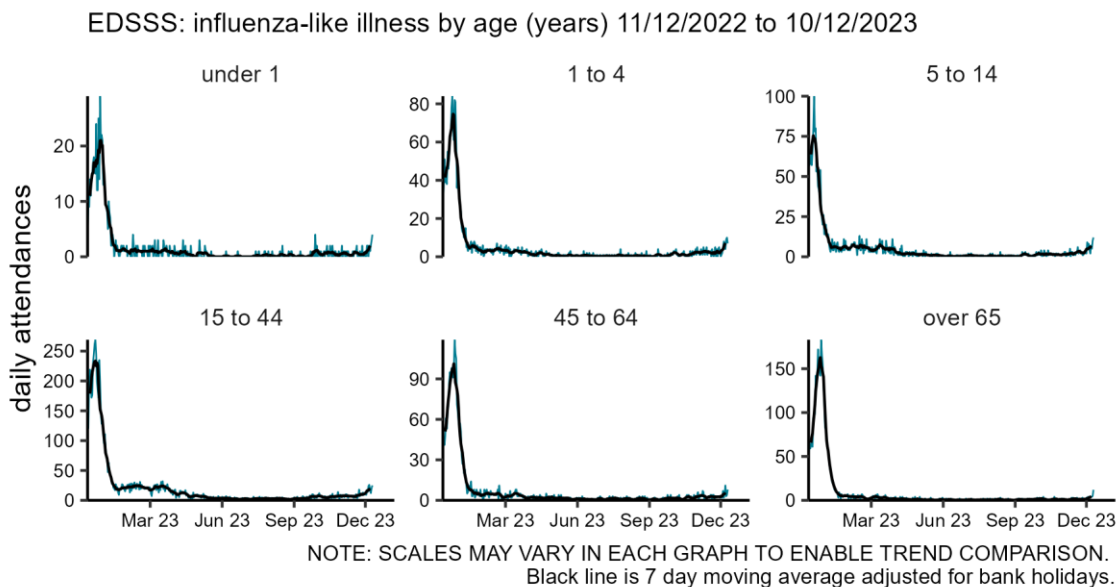
[note 11] The scales may vary in each graph to enable trend comparison. The black line is the 7-day moving average adjusted for bank holidays.

Figure 24a. Daily ED attendances for influenza-like illness nationally, England [note 10]



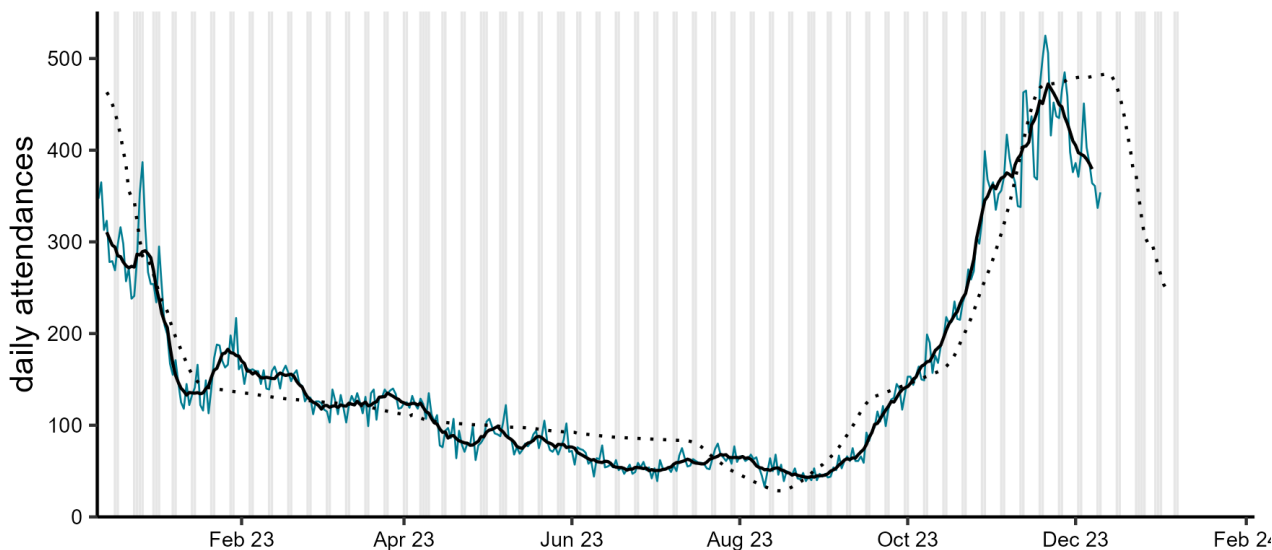
See [note 10] as above.

Figure 24b. Daily ED attendances for influenza-like illness by age group, England [note 11]



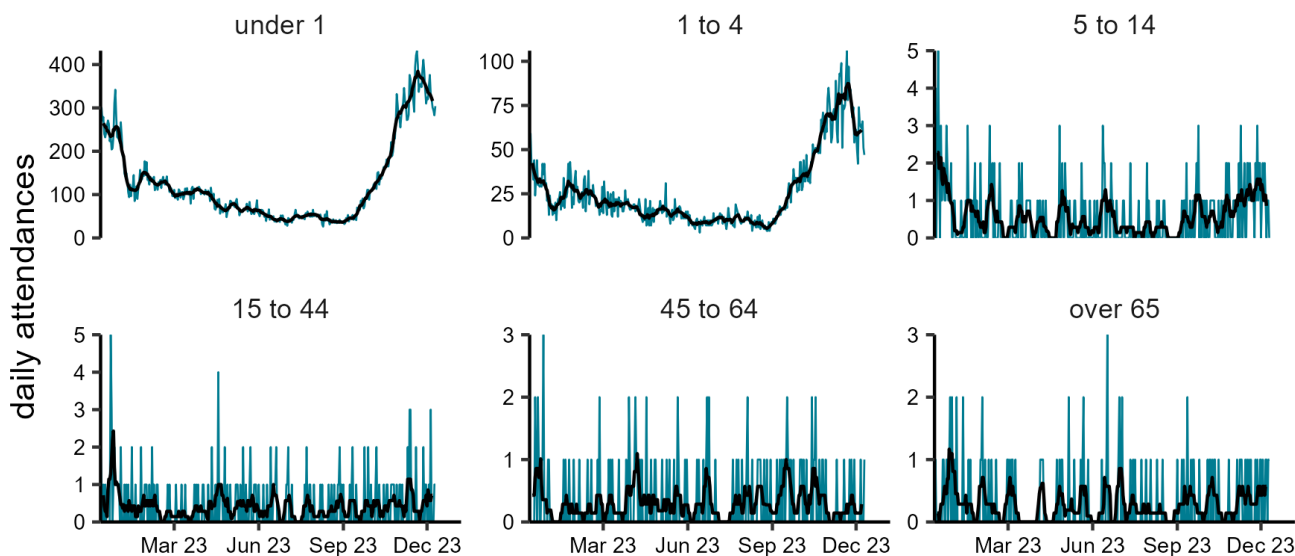
See [note 11] as above.

Figure 25a. Daily ED attendances for acute bronchiolitis nationally, England [note 10, 12]



See [note 10] as above.

Figure 25b. Daily ED attendances for acute bronchiolitis by age group, England [note 11, 12]



See [note 11] as above.

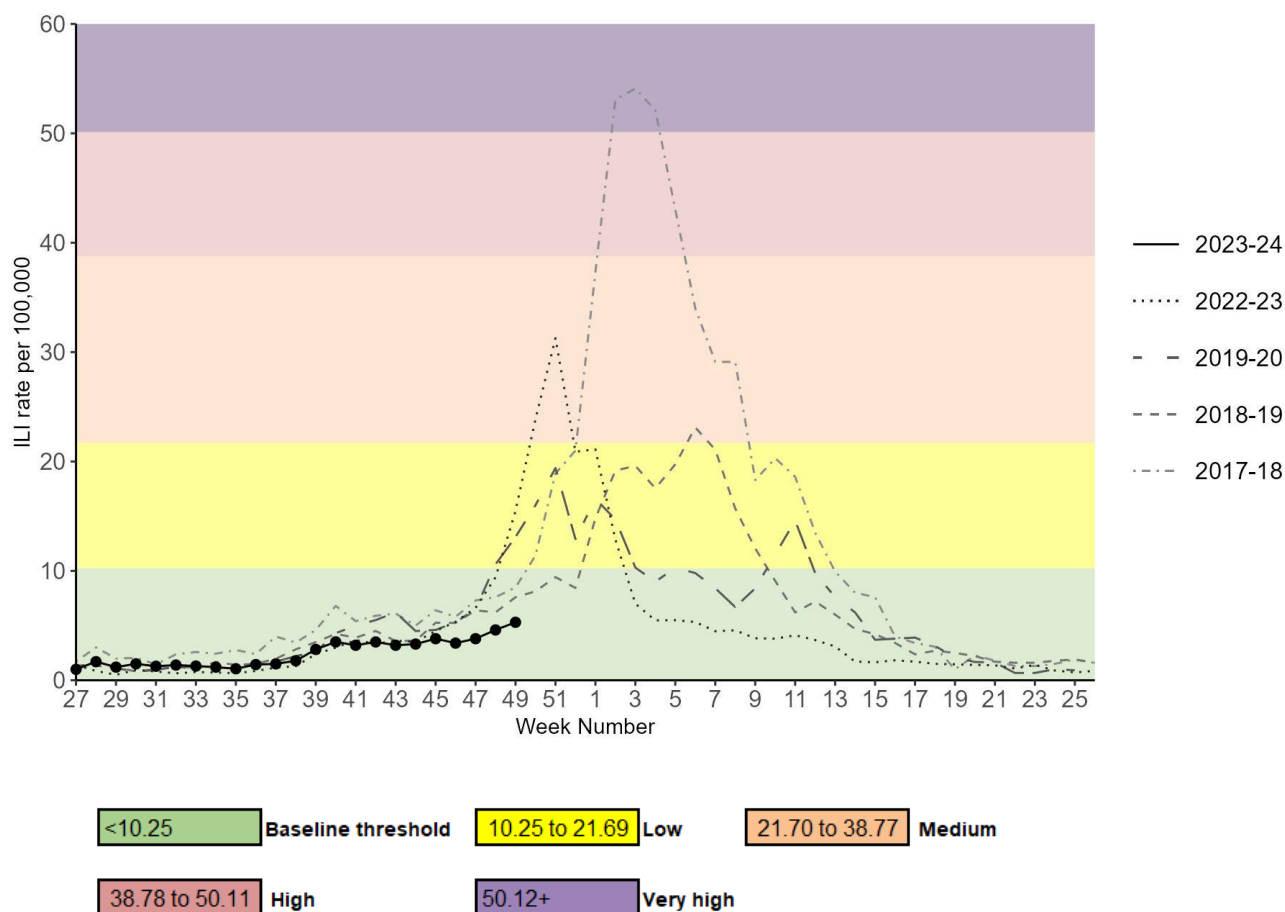
[note 12] Please note, there was no update in week 14 for acute bronchiolitis syndromic surveillance.

Primary care surveillance

RCGP Clinical Indicators (England)

The weekly ILI consultation rate through the Royal College of General Practitioners (RCGP) surveillance increased to 5.3 per 100,000 registered population in participating GP practices in week 49 compared to 4.6 per 100,000 in the previous week, showing an increase in activity compared to recent weeks. This is still within baseline activity levels (less than 10.25 per 100,000) (Figure 26). By age group, the highest rates were seen those aged between 45 and 64 years (6.4 per 100,000), followed by those aged between 15 and 44 years (6.2 per 100,000). The lower respiratory tract infections (LRTI) consultation rate increased slightly to 136.0 per 100,000 in week 49 compared to 126.3 per 100,000 in the previous week.

Figure 26. RCGP ILI consultation rates, all ages, England



Moving Epidemic Method (MEM) thresholds are based on data from the 2015 to 2016 season to the 2022 to 2023 season. Please note the 2020 to 2021 and 2021 to 2022 seasons have been removed due to low activity throughout these seasons.

RCGP sentinel swabbing scheme in England

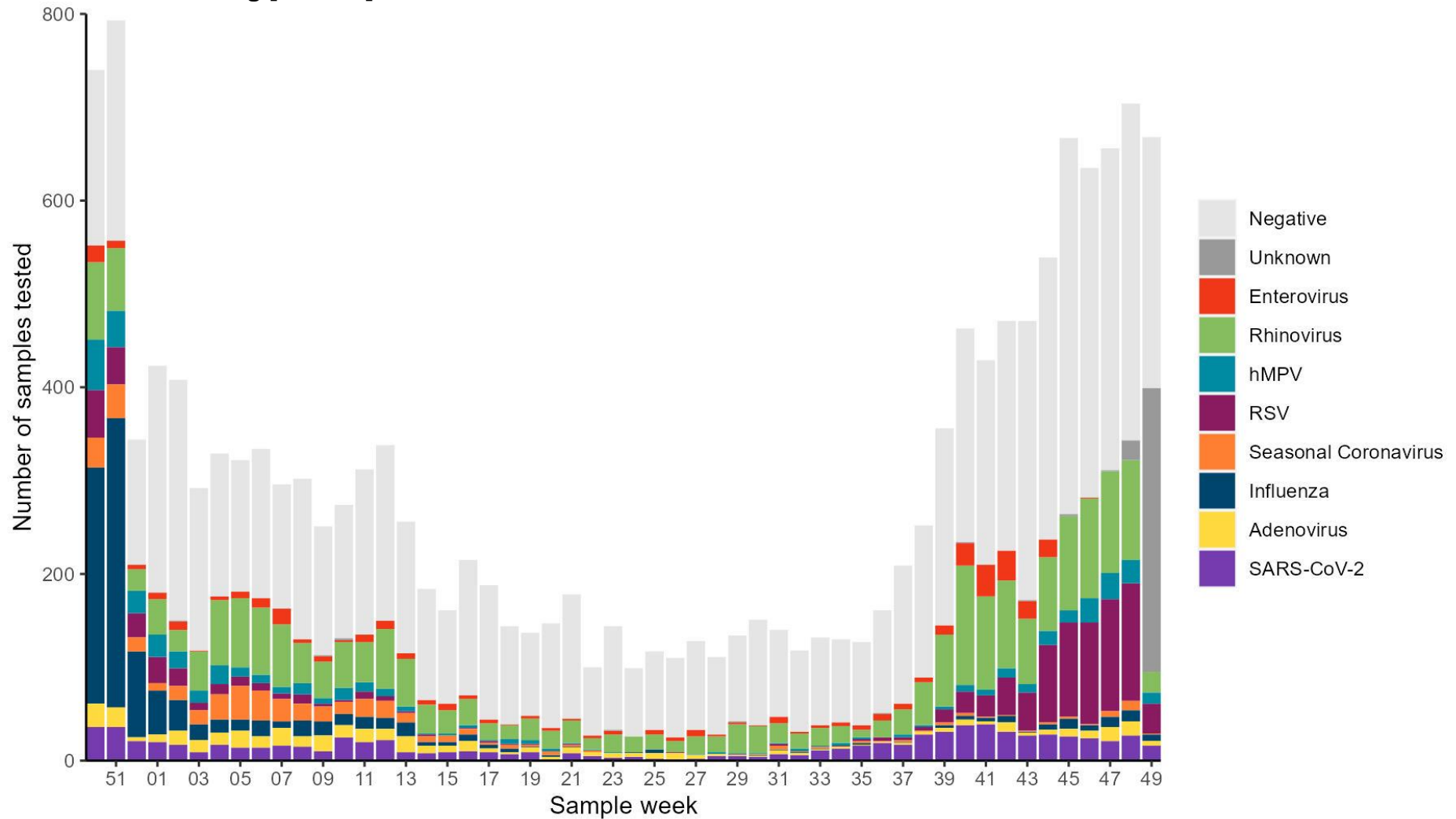
Based on the date samples were taken, in week 49 of 2023 (week commencing 4 December 2023) 660 samples were tested through the GP sentinel swabbing scheme in England, of which 95 samples tested positive (Figure 27). Among all positive samples, 33.7% were positive for RSV, 23.2% were positive for rhinovirus, 16.8% were positive for SARS-CoV-2, 12.6% were positive for hMPV, 7.4% were positive for influenza, 5.3% were positive for adenovirus, and 1.1% were positive for other seasonal coronaviruses (Figure 28).

In week 49, positivity for RSV was 10.3%, positivity for SARS-CoV-2 was 4.9%, and positivity for influenza was 2.3% (Figure 29). Data from the latest week will be updated retrospectively.

In previous reports, Figure 27 and Figure 28 were produced based on the date samples were received in the reference laboratory. These figures have been updated to be based on the date samples were taken.

From 27 November 2023, swabbing was increased in the Yorkshire and Humber region in response to the [identification of a case of influenza A\(H1N2\)v](#). This may lead to an over-representation of the Yorkshire and Humber region.

Figure 27. Number of samples tested for SARS-CoV-2, influenza, and other respiratory viruses in England by week, GP sentinel swabbing [note 13]



[note 13] Unknown category corresponds to samples with no result yet.

Figure 28. Proportion of detections of SARS-CoV-2, influenza, and other respiratory viral strains amongst virologically positive respiratory surveillance samples in England by week, GP sentinel swabbing scheme

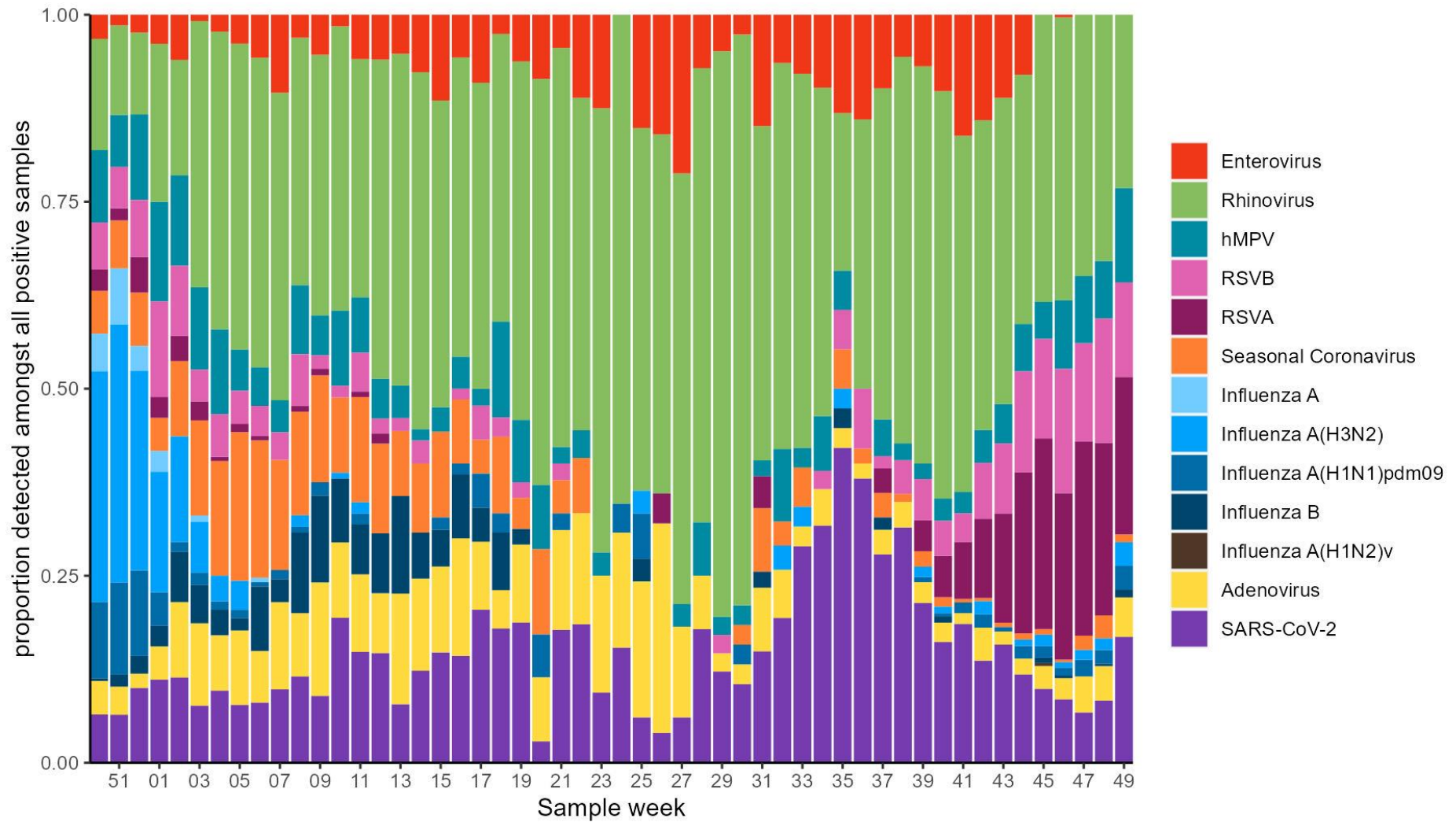
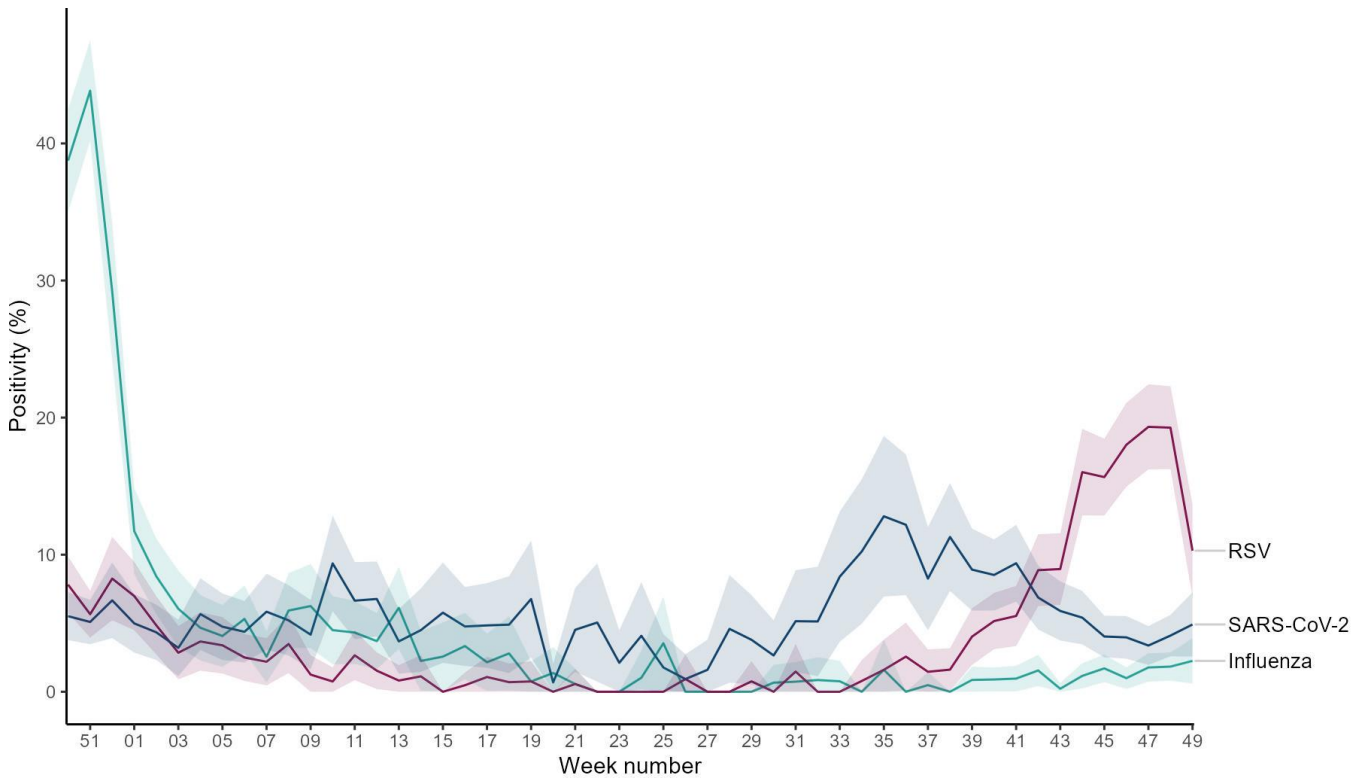


Figure 29. Weekly positivity (%) for COVID-19, influenza and RSV in England, GP sentinel swabbing



Secondary care surveillance

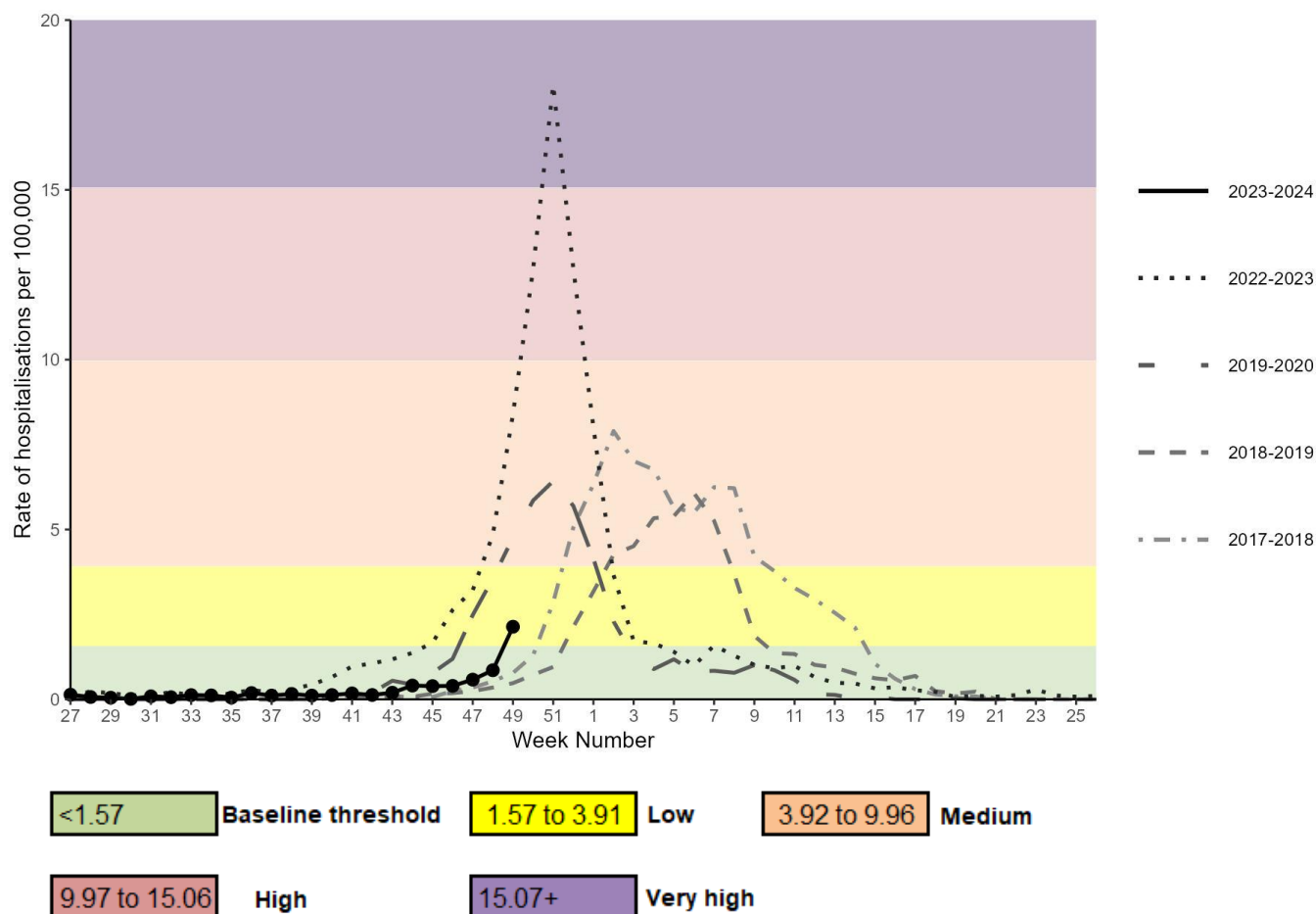
Influenza, SARI Watch

Surveillance of influenza hospitalisations to all levels of care is based on data from a small sentinel network of acute NHS trusts in England. Surveillance of admissions to ICU or HDU for influenza is mandatory with data required from all acute NHS trusts in England. Please note that the SARI-Watch rates for 2023 to 2024 use the latest trust catchment population. For consistency the rates have been updated back to October 2020. The population denominator reflects changes in trust reconfiguration, hospital admission activity and population estimates.

In week 49 (ending 10 December 2023), the overall weekly hospital admission rate for influenza increased to 2.14 per 100,000 compared to 0.86 per 100,000 in the previous week. The latest rate has crossed into the low impact range (1.57 to 3.91 per 100,000). There were 183 new hospital admissions for influenza (136 influenza A(not subtyped), 31 influenza A(H3N2), 11 influenza A(H1N1)pdm09, and 5 influenza B).

In week 49, the overall ICU or HDU rate for influenza increased to 0.08 per 100,000 compared to 0.02 per 100,000 in the previous week. The rate in the latest week remained within baseline activity levels. There were 35 new case reports of an ICU or HDU admission for influenza in week 49.

Figure 30. Weekly overall influenza hospital admission rates per 100,000 trust catchment population with MEM thresholds, reported through SARI Watch, England

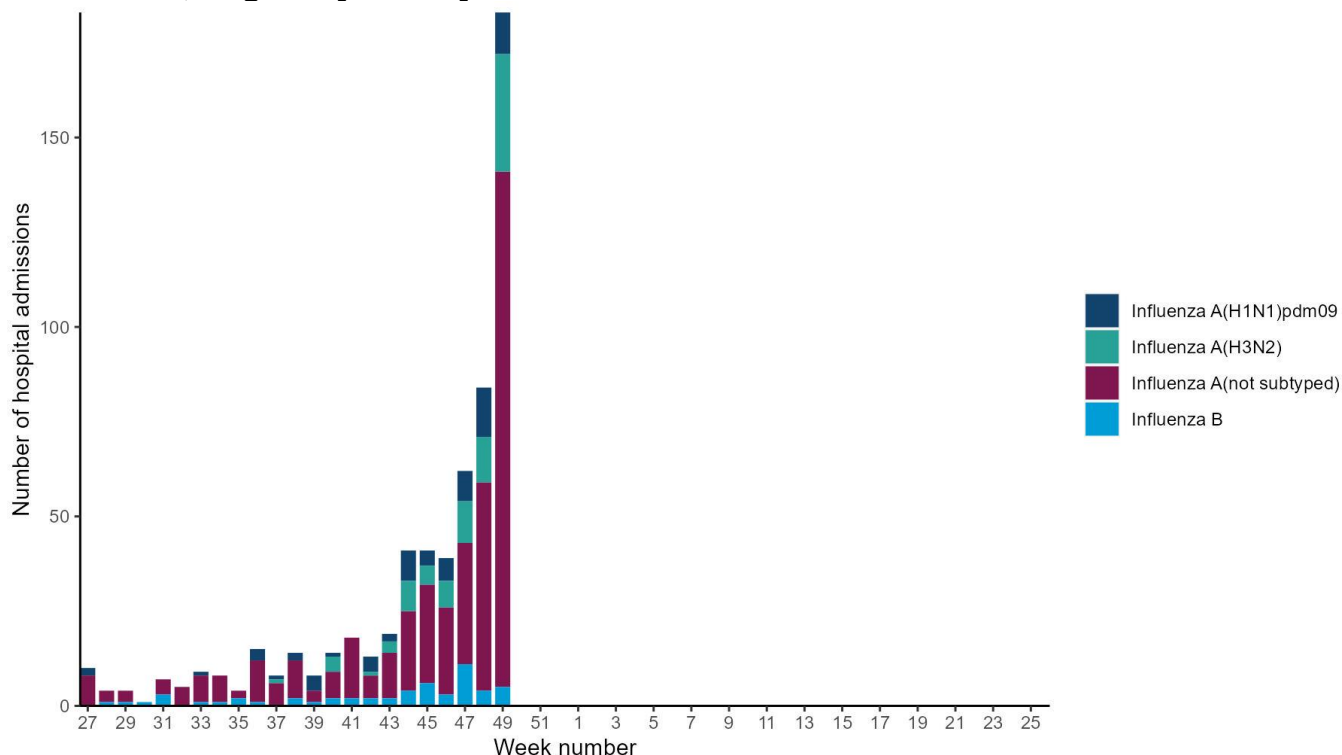


MEM thresholds are based on data from the 2015 to 2016 season to the 2022 to 2023 season. Please note the 2020 to 2021 and 2021 to 2022 seasons have been removed due to low activity throughout these seasons.

Influenza hospital admission rate based on 21 sentinel NHS trusts for week 49.

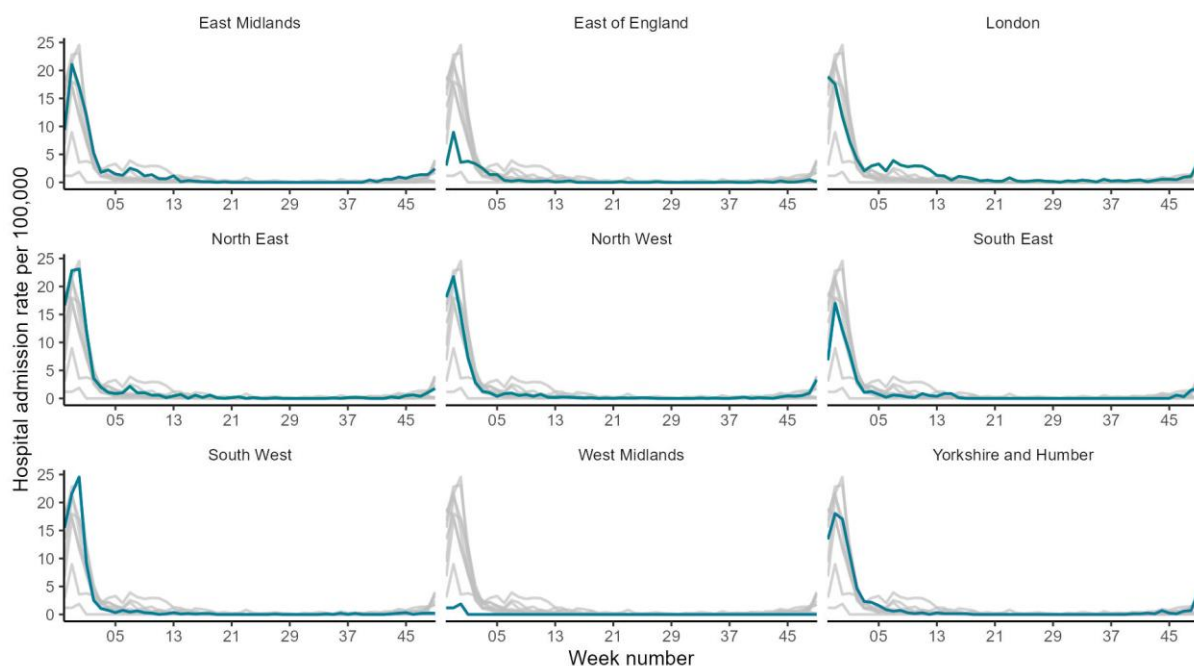
SARI Watch data is provisional and subject to retrospective updates.

Figure 31. Weekly influenza hospital admissions by influenza type, reported through SARI Watch, England [note 14]



[note 14] Number of influenza hospital admissions based on sentinel NHS trusts.

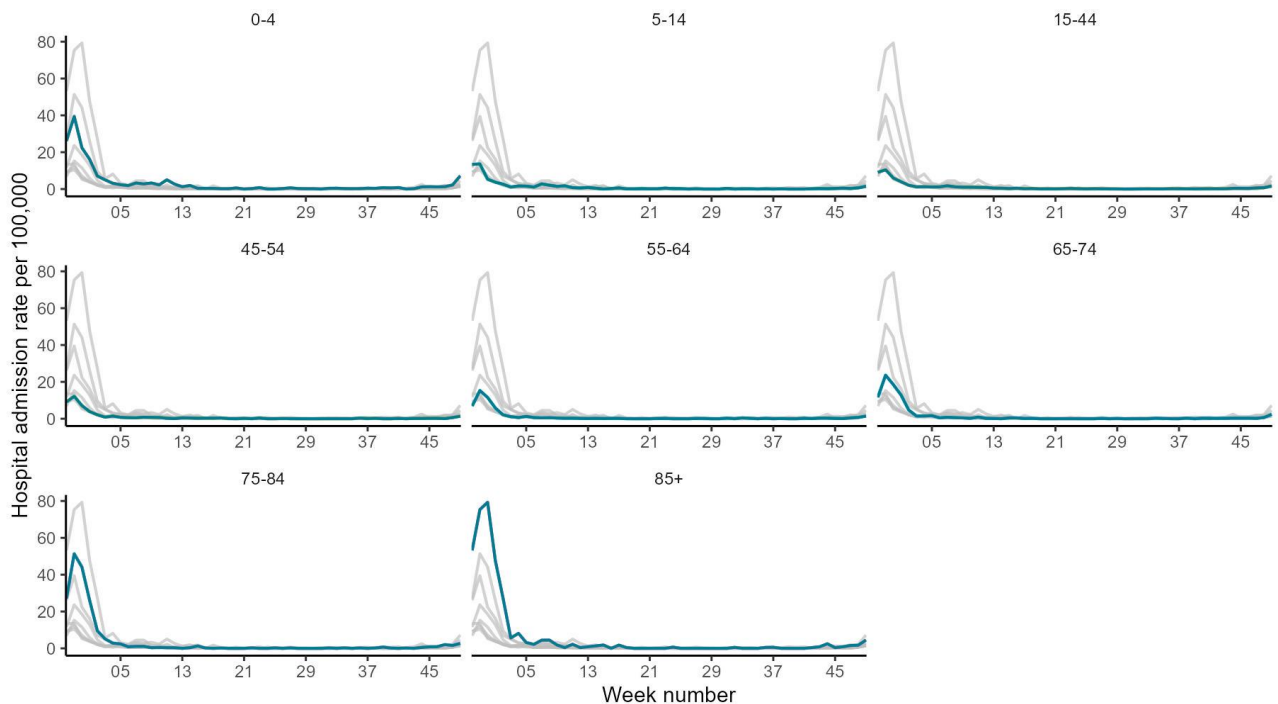
Figure 32. Weekly hospital admission rate by UKHSA region for new influenza reported through SARI Watch [note 4, 15]



[note 15] Rates in some regions may not include all influenza surveillance sentinel sites from week to week.

See [note 4] as above.

Figure 33a. Weekly hospital admission rate by age group for new influenza reported through SARI Watch - fixed y-axis [note 3]



See [note 3] as above.

Figure 33b. Weekly hospital admission rate by age group for new influenza reported through SARI Watch - adjusted y-axis

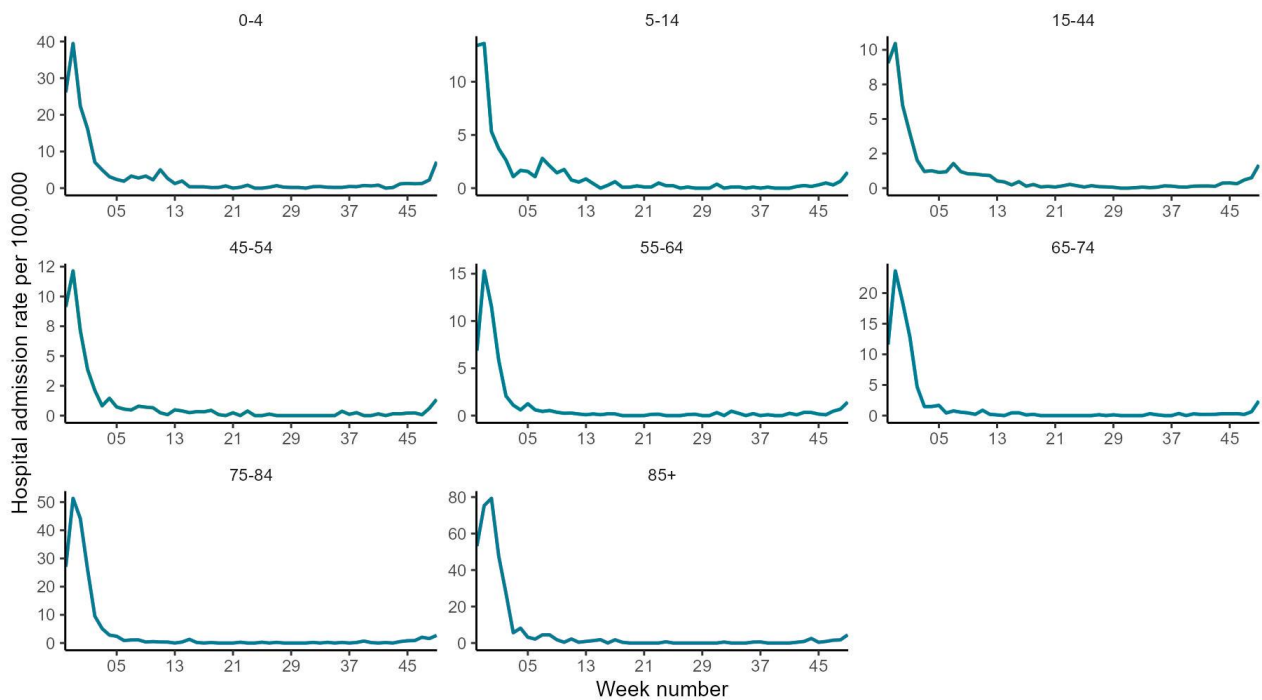
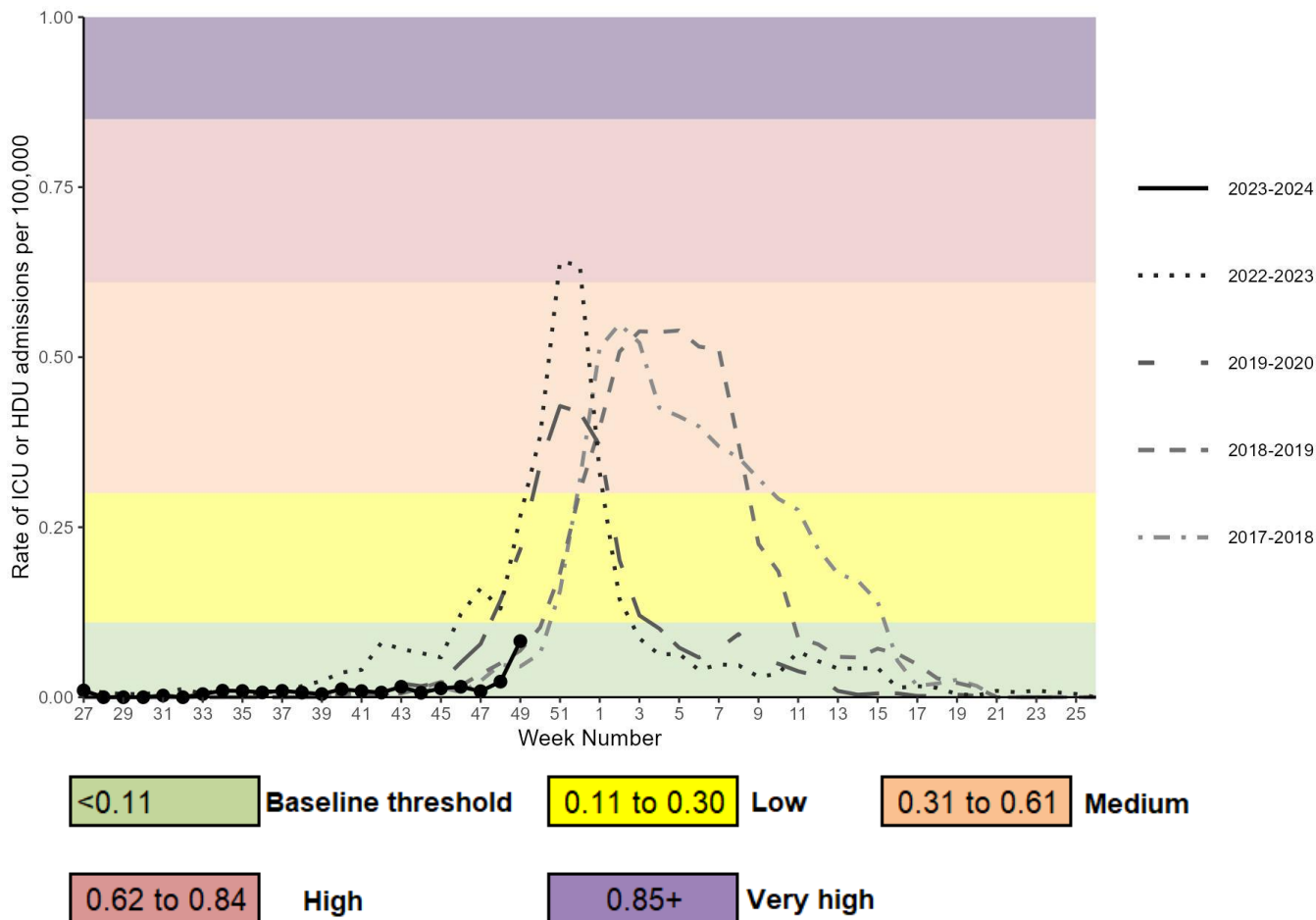


Figure 34. Weekly overall influenza ICU or HDU admission rates per 100,000 trust catchment population with MEM thresholds, reported through SARI Watch, England



MEM thresholds are based on data from the 2015 to 2016 to the 2022 to 2023 seasons. Please note the 2020 to 2021 and 2021 to 2022 seasons have been removed due to low activity throughout these seasons.

Influenza ICU or HDU admission rate based on 97 NHS trusts for week 49.

SARI Watch data is provisional and subject to retrospective updates.

Figure 35. Weekly influenza ICU or HDU admissions by influenza type, reported through SARI Watch, England

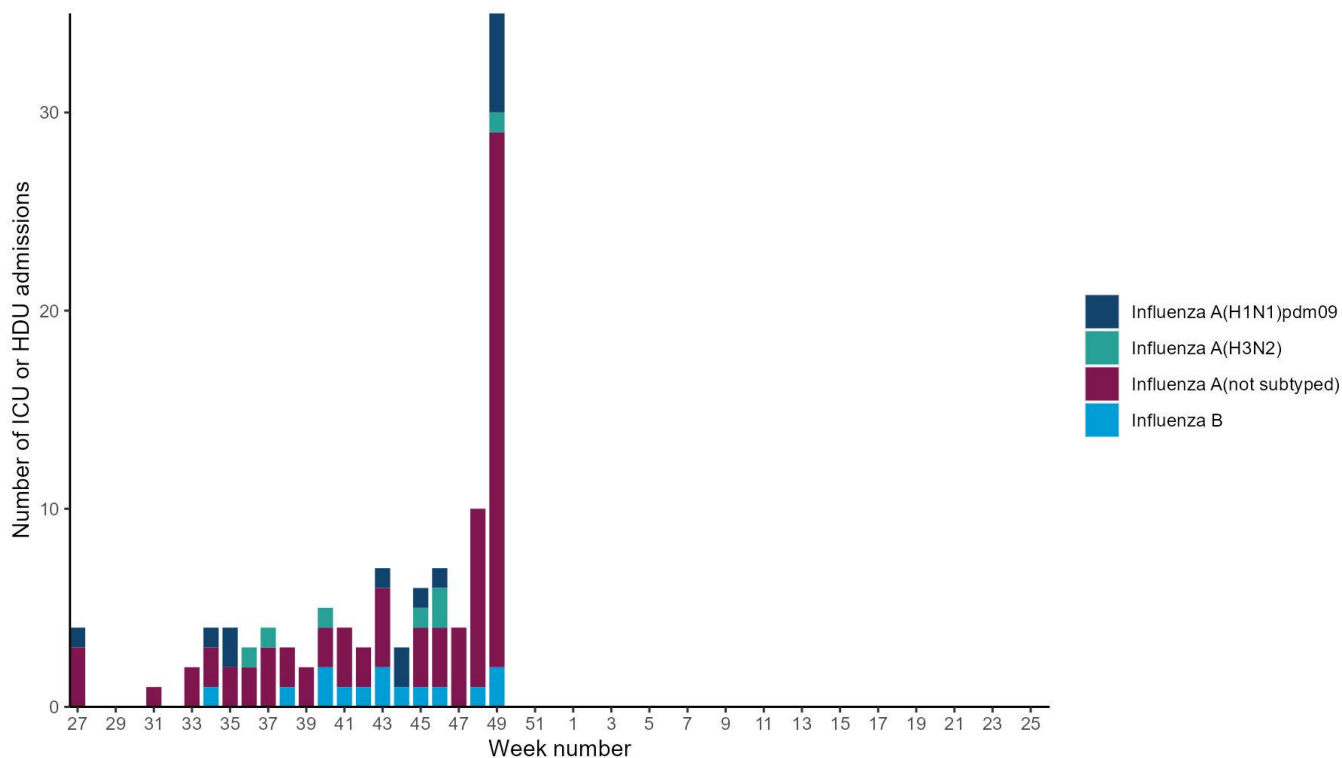
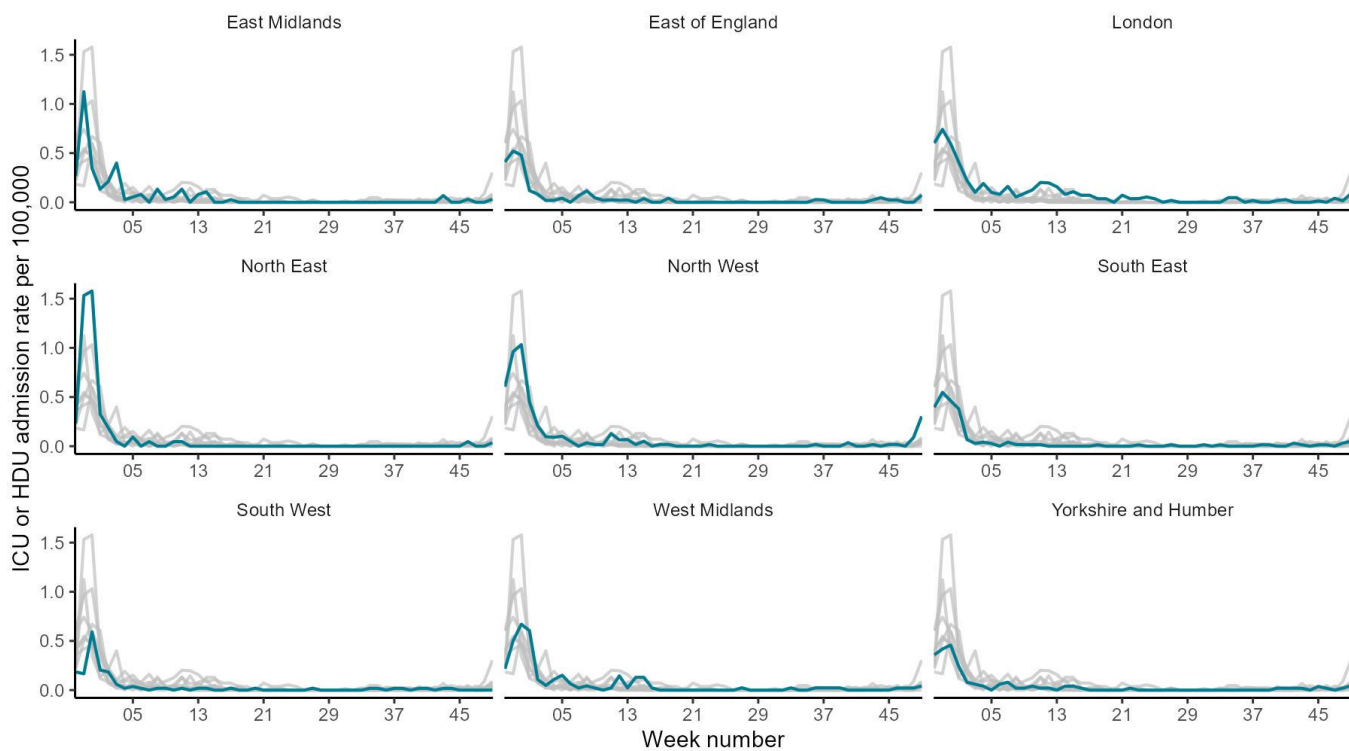
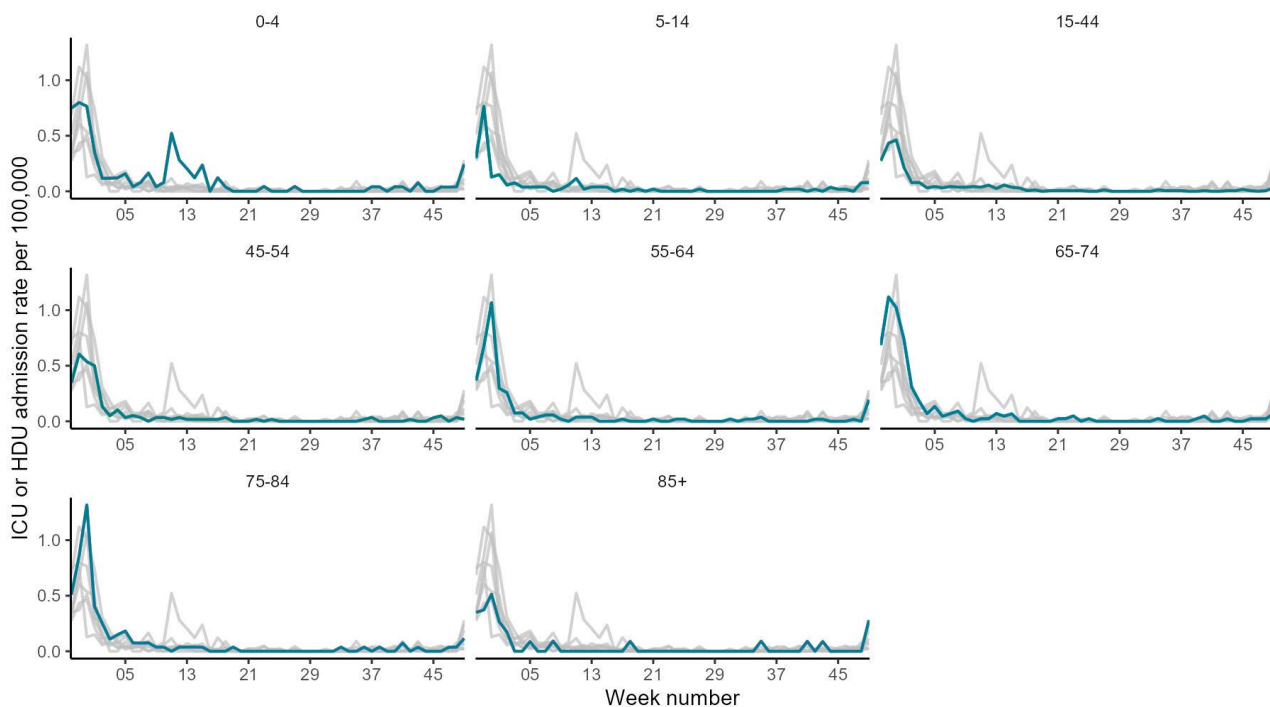


Figure 36. Weekly ICU or HDU admission rate by UKHSA region for new influenza, reported through SARI Watch [note 4]



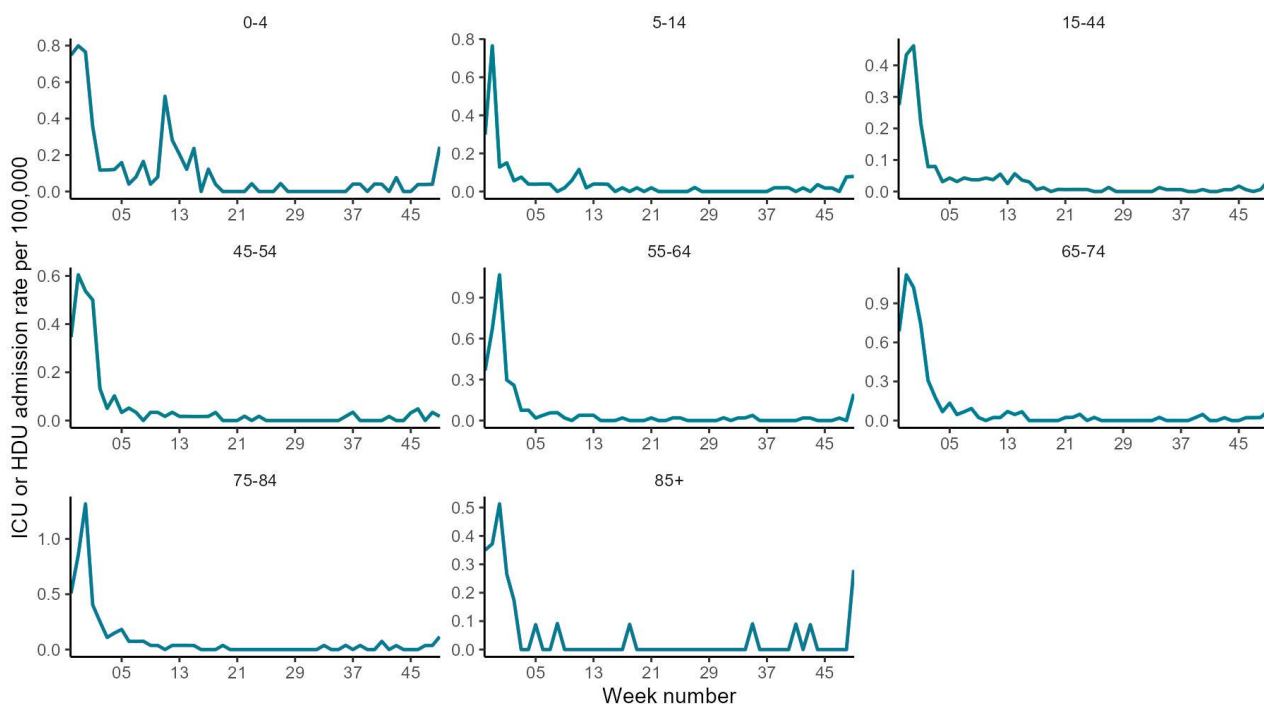
See [\[note 4\]](#) as above

Figure 37a. Weekly ICU or HDU admission rate by age group for new influenza cases, reported through SARI Watch - fixed y-axis [note 3]



See [note 3] as above.

Figure 37b. Weekly ICU or HDU admission rate by age group for new influenza cases, reported through SARI Watch - adjusted y-axis



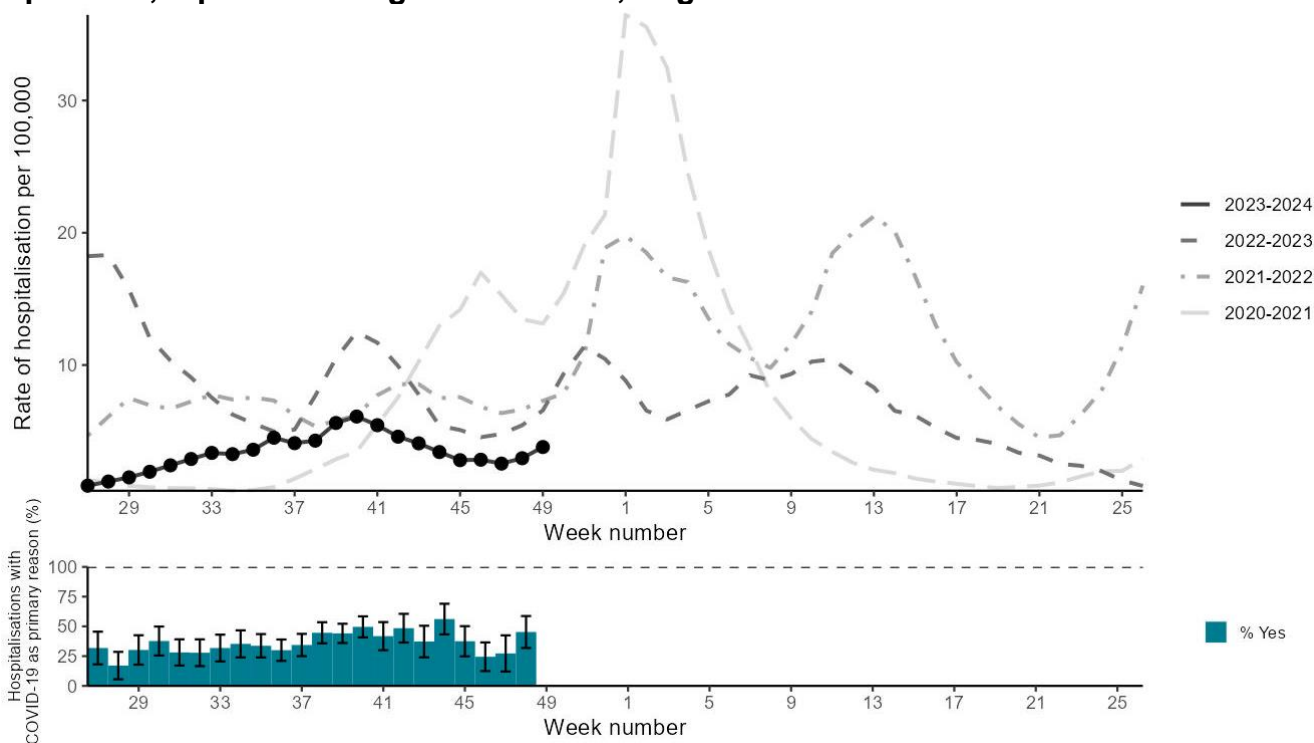
COVID-19, SARI Watch

Surveillance of COVID-19 hospitalisations to all levels of care and surveillance of admissions to ICU or HDU for COVID-19 are both mandatory with data required from all acute NHS trusts in England. Please note that the SARI-Watch rates for 2023 to 2024 use the latest trust catchment population. For consistency the rates have been updated back to October 2020.

In week 49 (ending 10 December 2023), the overall weekly hospital admission rate for COVID-19 increased slightly to 3.80 per 100,000 compared to 2.96 per 100,000 in the previous week. By UKHSA region, the highest hospital admission rate for COVID-19 was observed in London (increasing to 5.10 per 100,000, also increasing in the remaining regions except in East of England where a slight decrease was registered at 2.76 per 100,000). By age group, the highest hospital admission rate for confirmed COVID-19 continues to be in those aged 85 years and over, increasing further to 42.1 per 100,000. Hospital admission rates increased in all other age groups.

In week 49 (ending 10 December 2023), the overall weekly ICU or HDU admission rate for COVID-19 remained very low at 0.14 per 100,000, despite an increase from 0.09 per 100,000 in the previous week. Note that ICU or HDU admission rates may represent a lag from admission to hospital to an ICU or HDU ward. The ICU or HDU admission rate for COVID-19 by UKHSA region or by age group fluctuated at low levels in week 49 due to low underlying numbers.

Figure 38. Weekly overall COVID-19 hospital admission rates per 100,000 trust catchment population, reported through SARI Watch, England

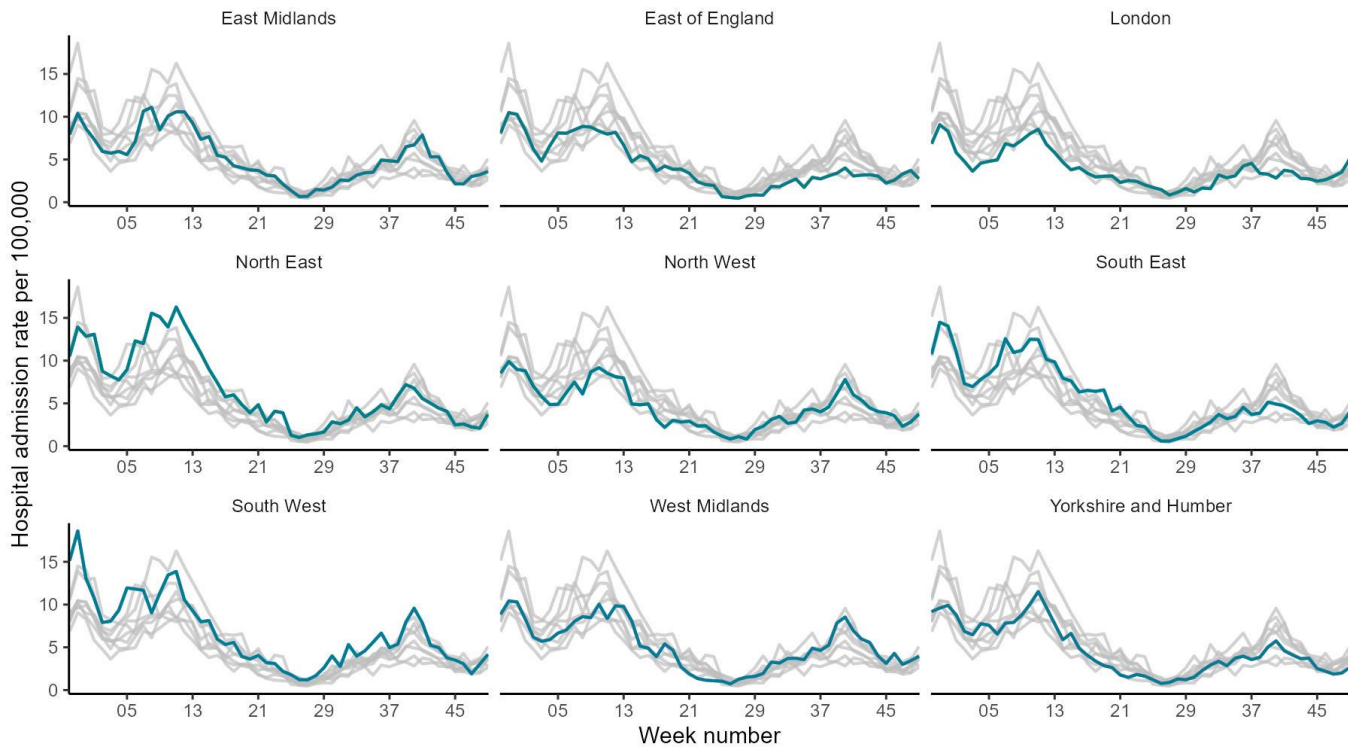


COVID-19 hospital admission rate based on 94 NHS trusts for week 49.

SARI-Watch data is provisional and subject to retrospective updates.

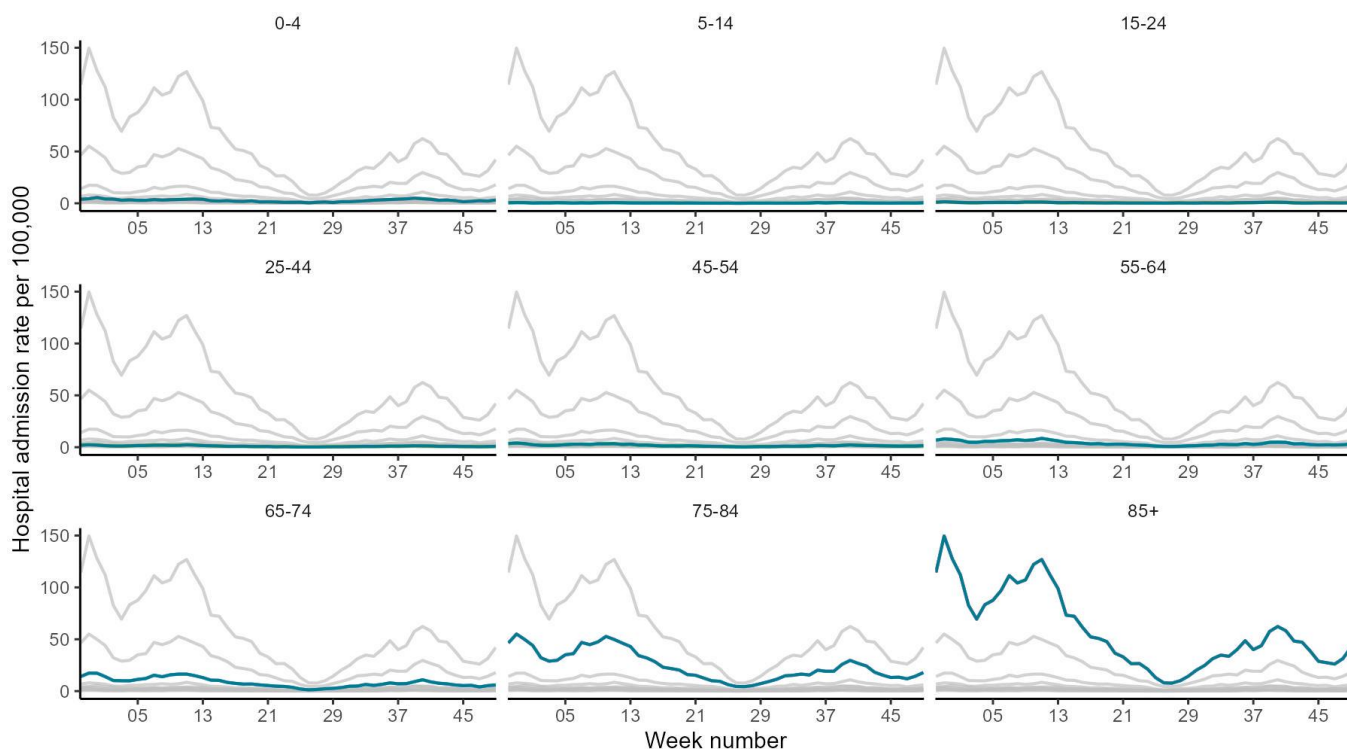
Data on proportions of hospitalisations primarily due to COVID-19 is based on returns from a smaller number of participating trusts and may not be representative of all acute NHS trusts.

Figure 39. Weekly hospital admission rate by UKHSA region for new COVID-19 positive cases, reported through SARI Watch [note 4]



See [\[note 4\]](#) as above

Figure 40a. Weekly hospital admission rate by age group for new COVID-19 positive cases reported through SARI Watch - fixed y-axis [note 3]



See [note 3] as above.

Figure 40b. Weekly hospital admission rate by age group for new COVID-19 positive cases reported through SARI Watch - adjusted y-axis

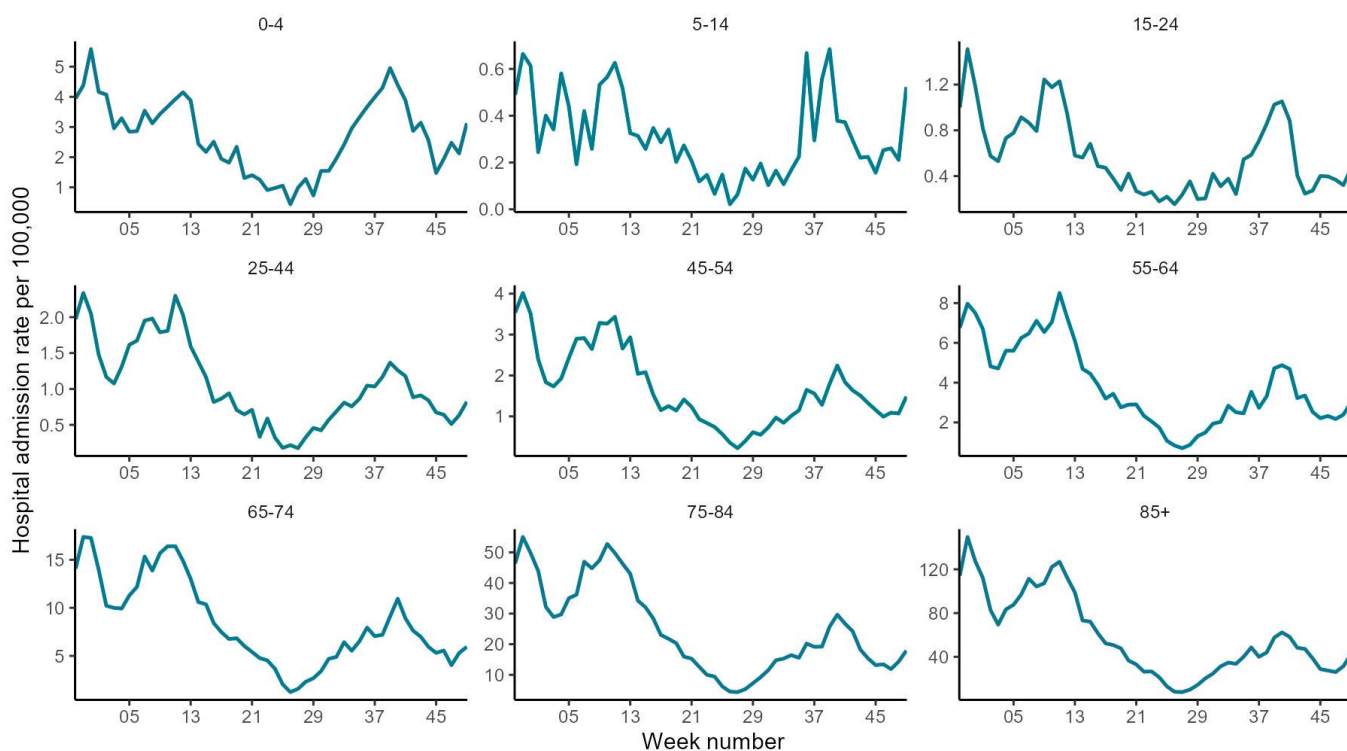
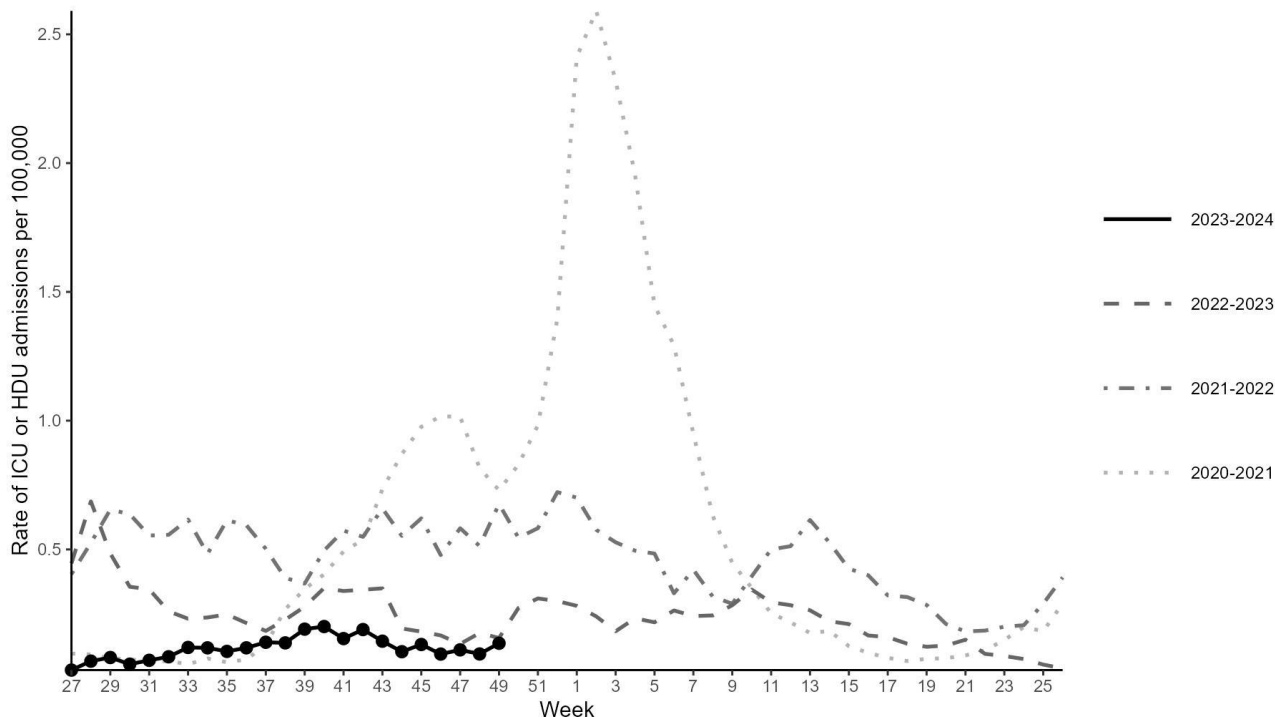


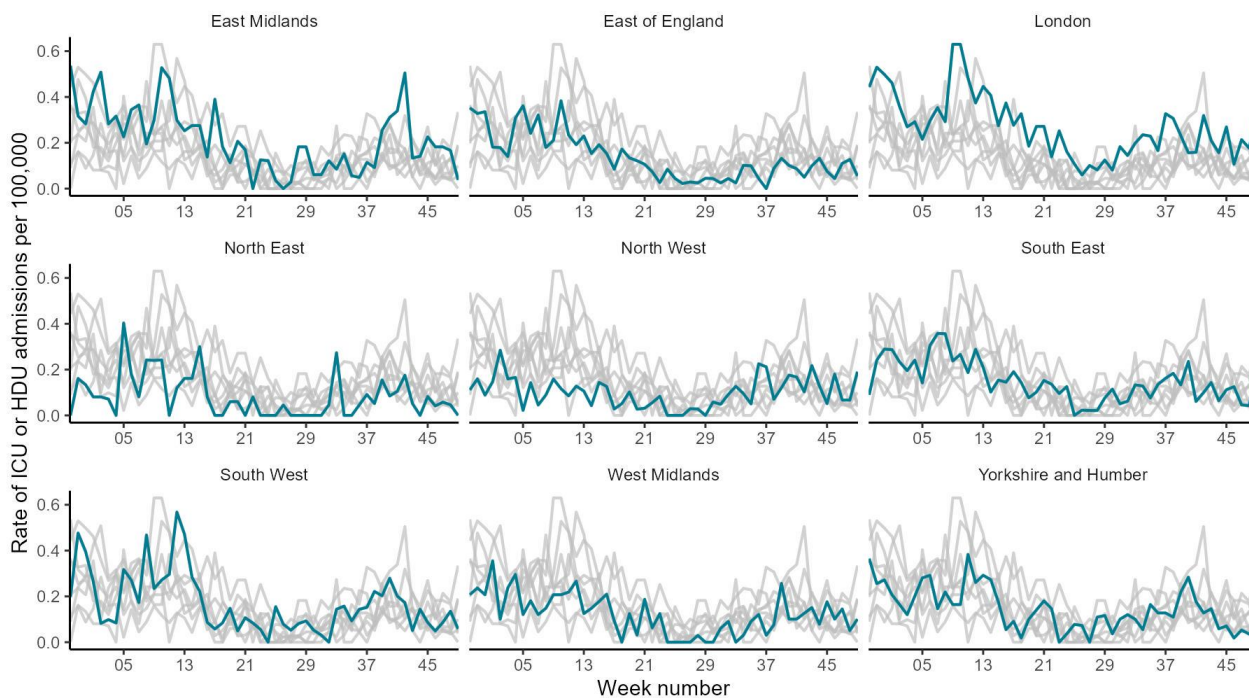
Figure 41: Weekly overall COVID-19 ICU or HDU admission rates per 100,000 trust catchment population, reported through SARI Watch, England



COVID-19 ICU or HDU admission rate based on 84 NHS trusts for week 49.

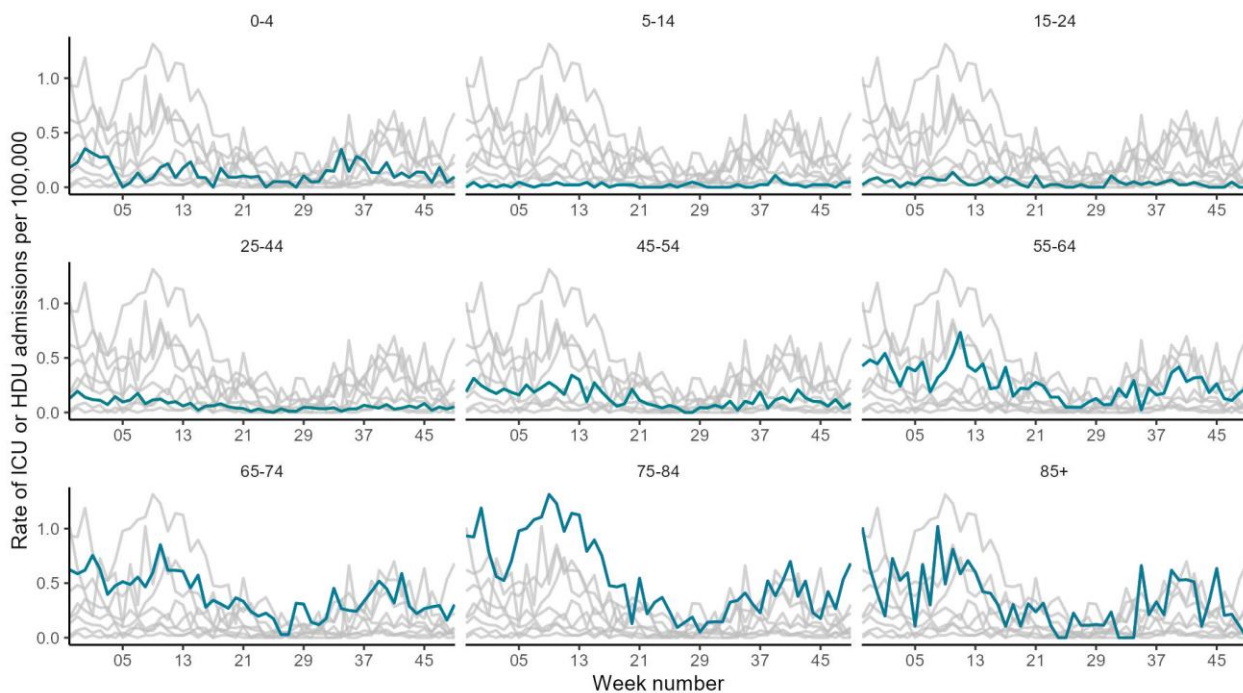
SARI Watch data is provisional and subject to retrospective updates.

Figure 42: Weekly ICU or HDU admission rate by UKHSA region for new COVID-19 positive cases reported through SARI Watch [note 4]



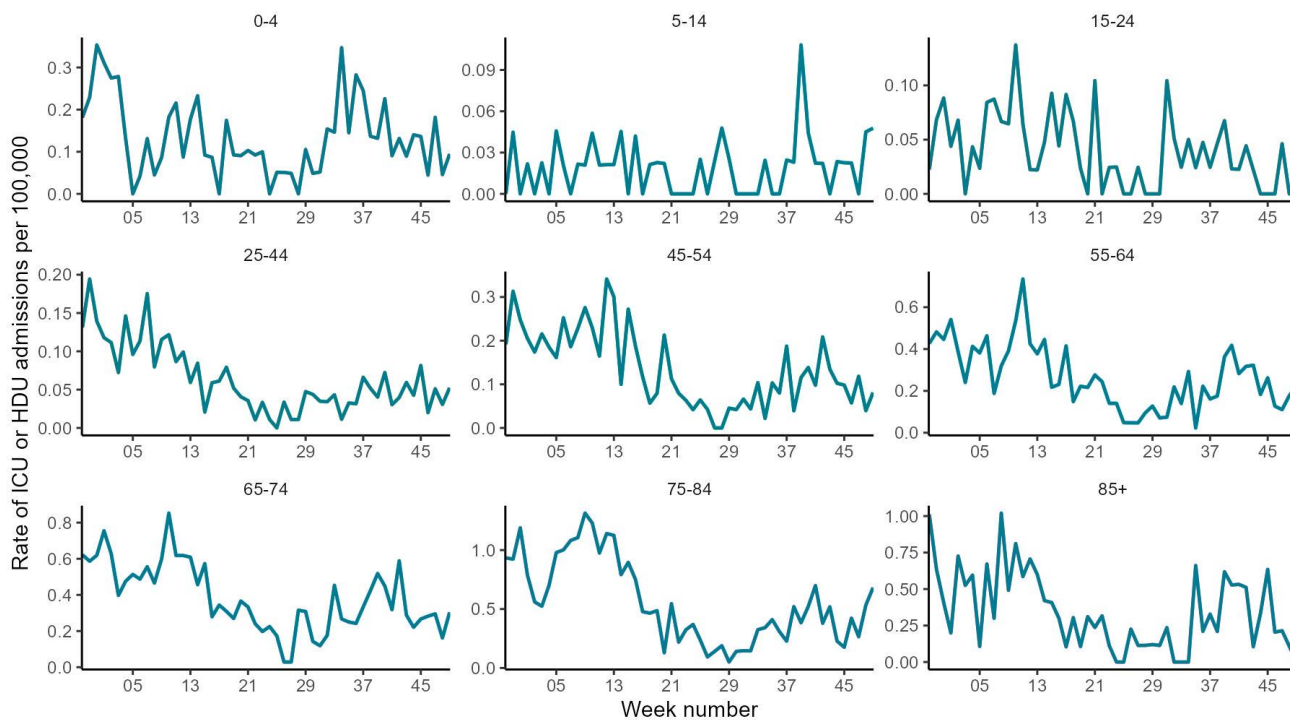
See [note 4] as above.

Figure 43a. Weekly ICU or HDU admission rate by age group for new COVID-19 positive cases reported through SARI Watch - fixed y-axis [note 3]



See [note 3] as above.

Figure 43b. Weekly ICU or HDU admission rate by age group for new COVID-19 positive cases reported through SARI Watch adjusted y-axis

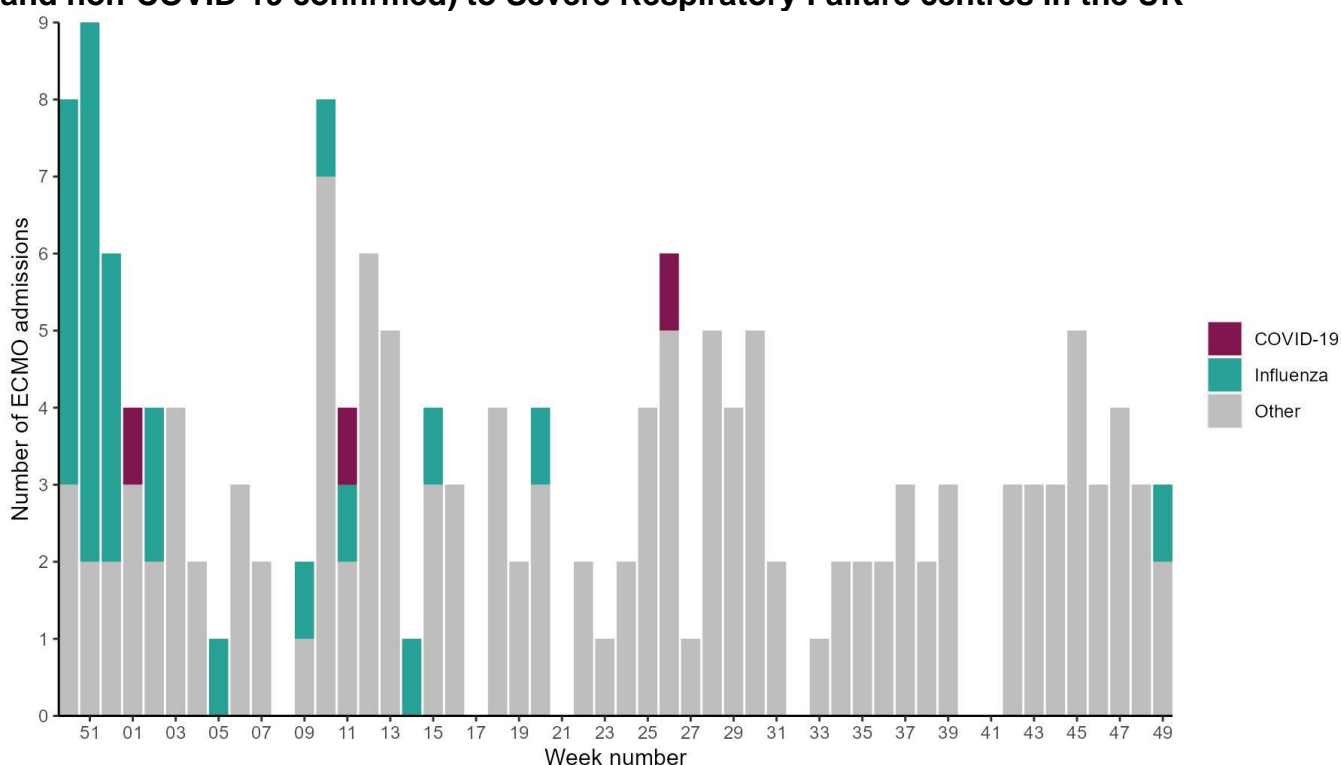


ECMO, SARI Watch

There were 3 new extra corporeal membrane oxygenation (ECMO) admissions reported in week 49 from the 7 Severe Respiratory Failure (SRF) centres in the UK, of which 1 was due to influenza A(not subtyped) and 2 were not related to ARI infections.

Please note that the other group includes other viral, bacterial or fungal ARI, suspected ARI, non-infection (such as asthma, primary cardiac, and trauma) and sepsis of non-respiratory origin.

Figure 44: Laboratory confirmed ECMO admissions in adults (COVID-19, influenza and non-COVID-19 confirmed) to Severe Respiratory Failure centres in the UK



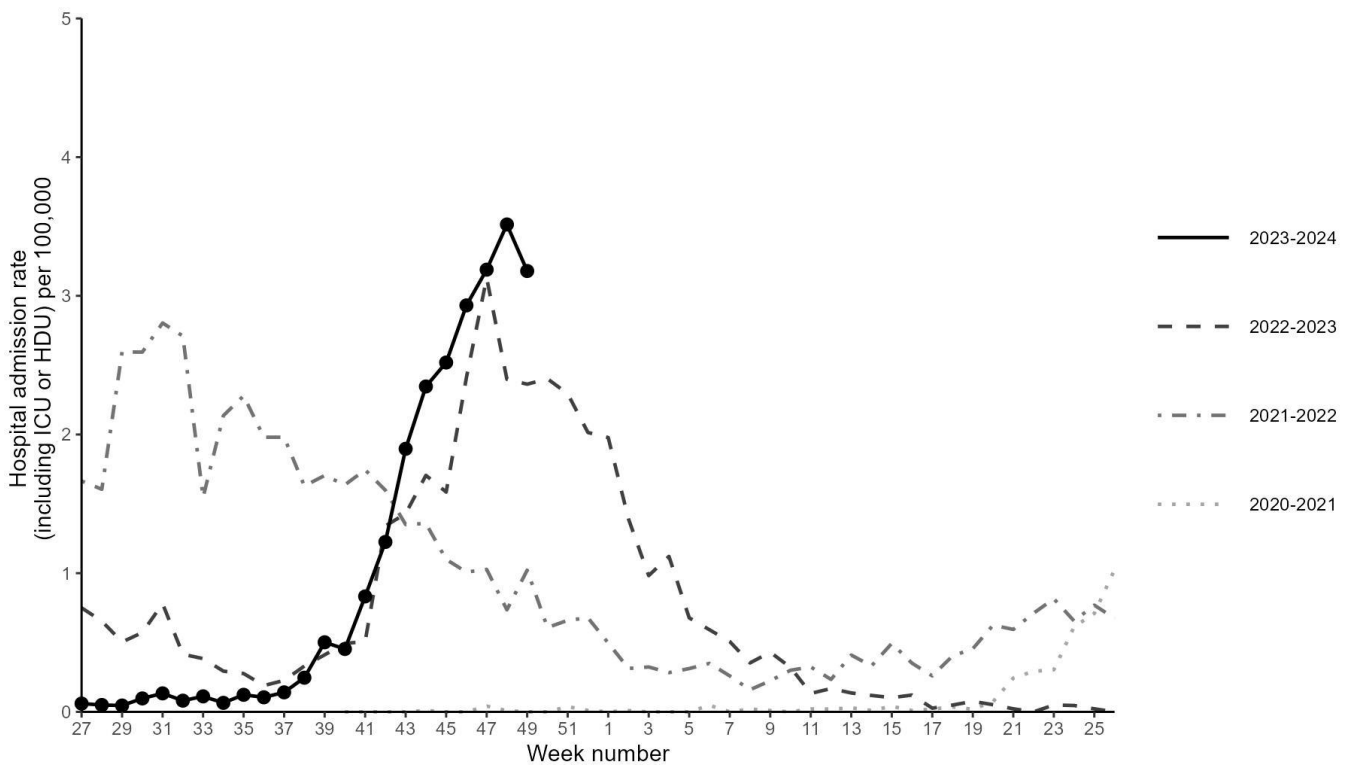
SARI Watch data is provisional and subject to retrospective updates.

RSV admissions, SARI Watch

Data on hospitalisations, including ICU or HDU admissions, with respiratory syncytial virus (RSV) are shown below. RSV SARI Watch surveillance is sentinel. Please note that the SARI-Watch rates for 2023 to 2024 use the latest trust catchment population. For consistency the rates have been updated back to October 2020. The population denominator reflects changes in trust reconfiguration, hospital admission activity and population estimates.

In week 49, the overall hospital admission rate for RSV decreased to 3.2 per 100,000 compared to 3.5 per 100,000 in the previous week. The highest rate was seen in the children under 5 years of age at 30.5 per 100,000 but decreasing from 39.2 per 100,000 in the previous week.

Figure 45. Weekly overall hospital admission rates (including ICU or HDU) of RSV positive cases per 100,000 population reported through SARI Watch, England [note 16]



[note 16] Rates are based on the number of hospitalised cases divided by the Trust catchment population, multiplied by 100,000.

Figure 46: Weekly count hospital admissions of RSV positive cases reported through SARI Watch sentinel surveillance by level of care, England

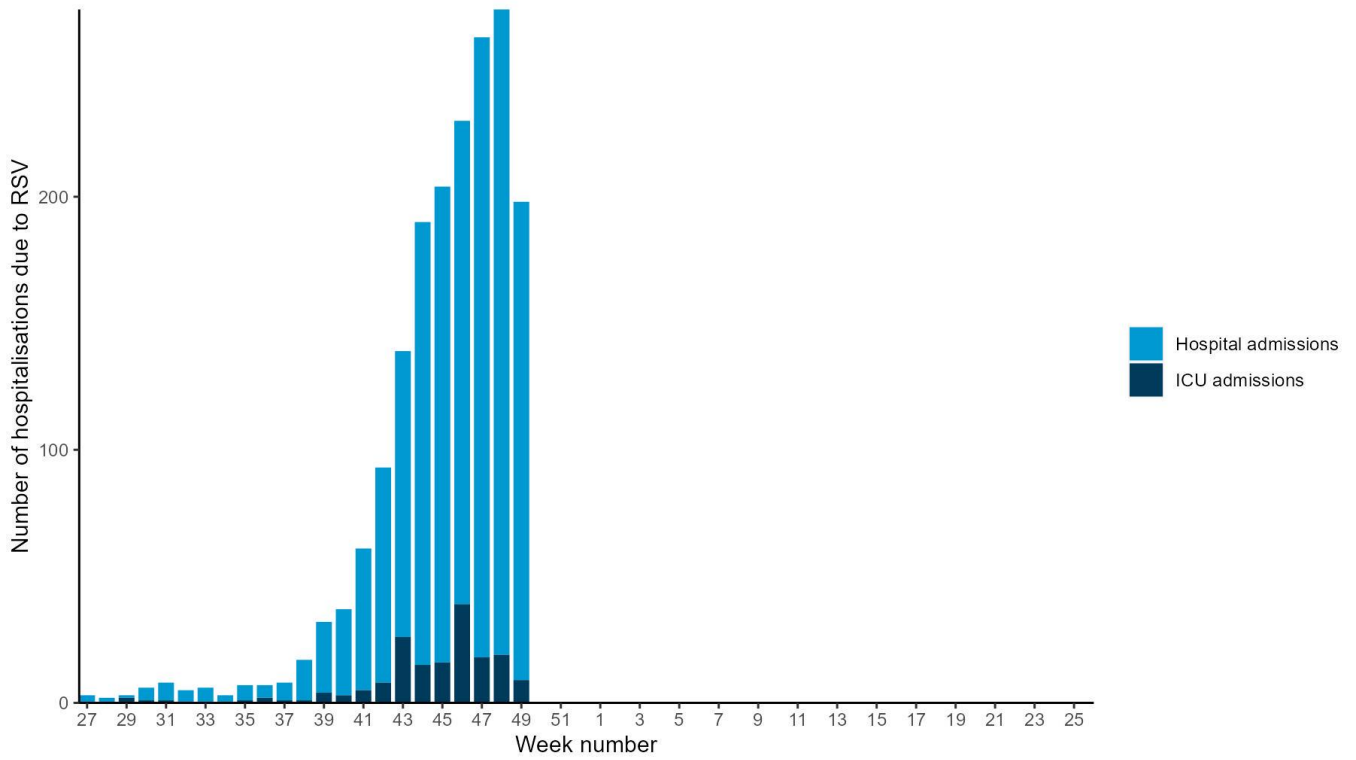
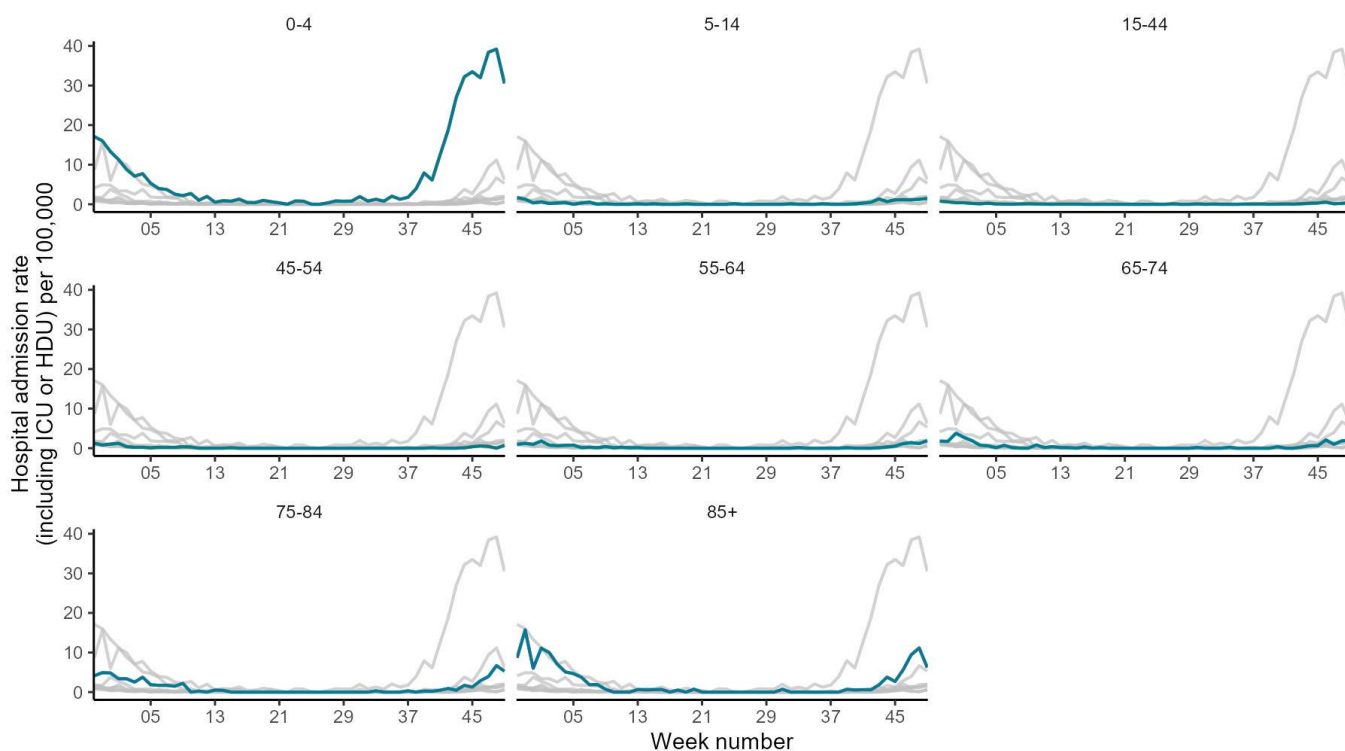
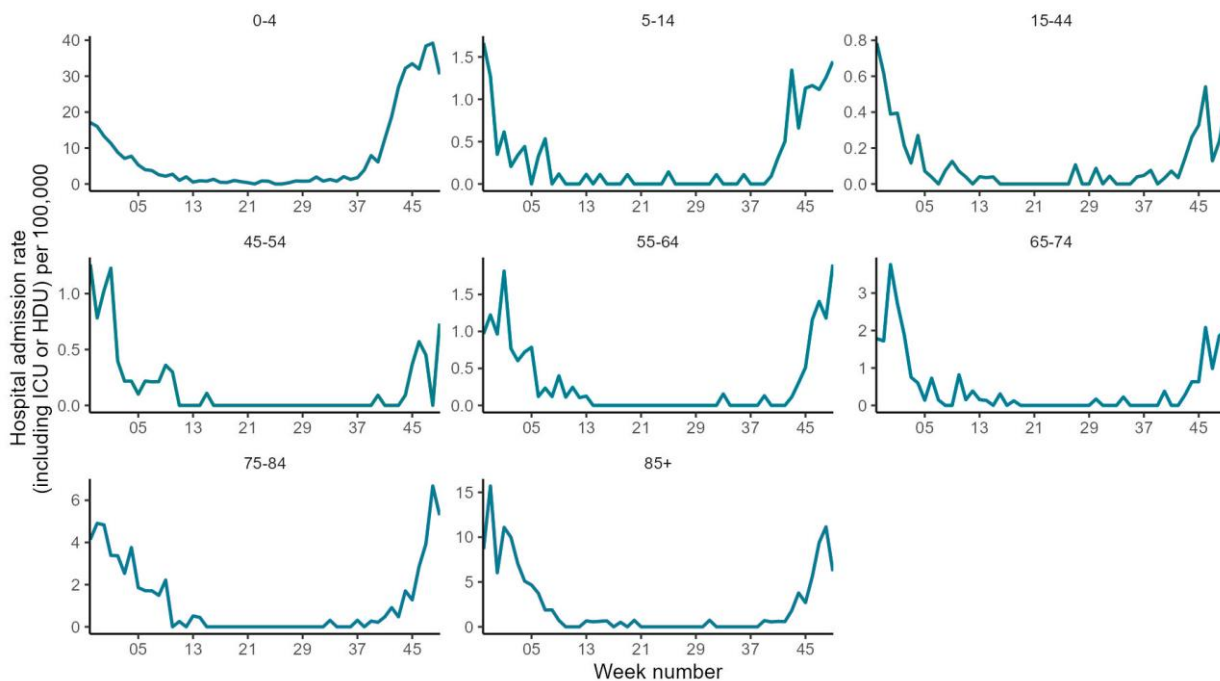


Figure 47a. Weekly hospitalisation (including ICU or HDU) admission rates by age group for RSV cases reported through SARI Watch, England - fixed y-axis [note 3]



See [note 3] as above.

Figure 47b. Weekly hospitalisation (including ICU or HDU) admission rates by age group for RSV cases reported through SARI Watch, England adjusted y-axis



SARI Watch data is provisional.

Mortality surveillance

COVID-19 deaths

For further information on COVID-19 related deaths in England please see the [COVID-19 dashboard for death](#).

Daily excess all-cause mortality (England)

For further information on excess all-cause mortality in England please see the [Fingertips excess mortality in England report](#), which uses Office for National Statistics (ONS) death registration data and the [all-cause mortality surveillance report](#), which uses the European mortality monitoring (EuroMOMO) model to identify weeks with higher than expected mortality.

Influenza vaccination

Influenza vaccine uptake in GP patients

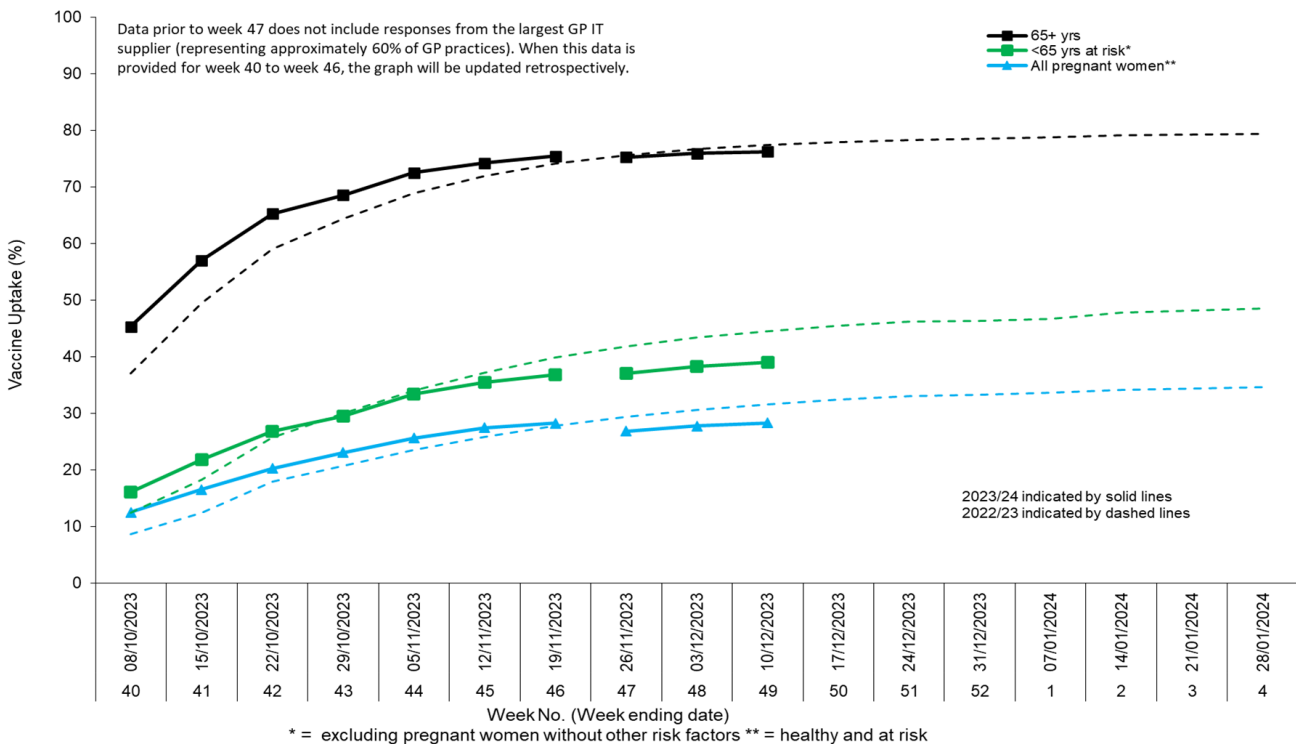
Weekly vaccine coverage data is provisional.

Up to week 49 of 2023, in 95.0% of GP practices reporting weekly to ImmForm for the main collection, the provisional proportion of people in England who had received the 2023 to 2024 influenza vaccine in targeted groups was as follows:

- 39.1% in those aged under 65 years in a clinical risk group
- 28.4% in all pregnant women
- 76.3% in all those aged 65 years and over

This is the third weekly data this season which has included data from all GP IT suppliers for the GP main survey. Data prior to week 47 does not include responses from the largest GP IT supplier (representing approximately 60% of GP practices). When this data is provided for week 40 to week 46, the graph will be updated retrospectively, and a continuous trend line will be plotted for all data points.

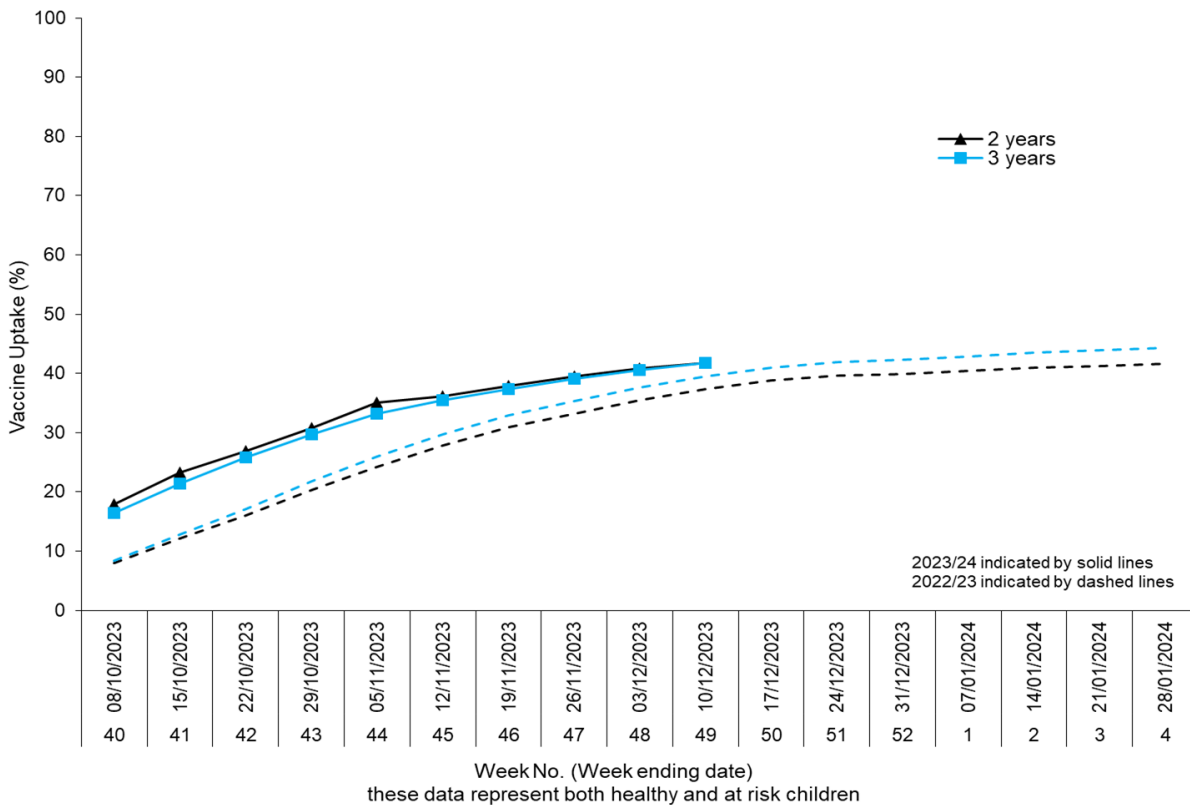
Figure 48. Cumulative weekly influenza vaccine uptake by target group in England



In 2023 to 2024, all children aged 2 and 3 years continue to be eligible for influenza vaccination through their GPs. Up to week 49 of 2023, in 91.8% of GP practices reporting weekly to ImmForm for the childhood collection, the provisional proportion of children in England who had received the 2023 to 2024 influenza vaccine in targeted groups was as follows:

- 41.8% in all children aged 2 years
- 41.7% in all children aged 3 years

Figure 49. Cumulative weekly influenza vaccine uptake in children aged 2 and 3 years, in England



Last week, monthly data which cover vaccinations that were given between 1 September and 31 October 2023 for [GP patients](#), [school aged children](#) and [frontline healthcare workers](#) was published for the first time this season.

The next monthly data will be published on 21 December 2023 and will cover vaccinations given between 1 September and 30 November 2023.

COVID-19 vaccination

COVID-19 vaccine uptake in England

COVID-19 vaccinations began in England on 8 December 2020 during week 50 of 2020 (week ending 13 December 2020). Cumulative data up to week 49 of 2023 (week ending 3 December 2023) was extracted from the National Immunisation Management Service (NIMS). The data presented this week is the provisional proportion of living people resident in England who had received COVID-19 vaccinations. Individuals vaccinated in England who have a registered address outside of England or where their address, age, or sex is unknown have been excluded. Due to changes in GP practice lists, in order to include newly registered patients and remove those who are no longer resident, there will be slight variation to the figures to reflect those who are currently resident in England.

Age is calculated as age on 31 March 2024. From 23 October 2023, data is extracted on a Monday with data capped to the previous Sunday. This change from Tuesday data extraction means that because of data lags, reported coverage for the most recent week is marginally lower than if data was extracted on Tuesday. This change has been implemented to help ensure timely reporting. All backing data is updated each week going back to the start of the programme.

Data is provisional and subject to change following further validation checks. There are significant changes being undertaken in the data feeds that provide these statistics. It is therefore necessary to report the autumn campaign on a fixed denominator, the population as at 31 August 2023. Any changes to historic figures will be reflected in the most recent publication. Please note that numbers published by UKHSA are for public health surveillance purposes only.

Autumn 2023 Campaign

Immunity derived from vaccination declines over time, the Joint Committee on Vaccination and Immunisation (JCVI) has recommended an autumn 2023 campaign with the primary objective to boost immunity in those at higher risk from COVID-19 and thereby optimise protection against severe COVID-19, specifically hospitalisation and death in time for winter 2023 to 2024.

The autumn 2023 data reported below covers any dose administered from 1 September 2023 provided there is at least 20 days from the previous dose. Eligible groups for the autumn campaign are defined in the COVID-19 healthcare guidance [Green Book](#).

Table 4 presents coverage as measured against the total population and includes people who are not yet due to have their autumn 2023 booster, specifically those turning 65 years of age by 31 March 2024. It is important that unvaccinated individuals, especially vulnerable adults, receive a primary course of vaccination, irrespective of whether individuals have had previous infection. To understand the data in the context of vaccine waning across the whole COVID-19

programme, we present Table 5 which shows how recently a person who is living and resident in England has been vaccinated either through the primary vaccination campaign or a subsequent booster campaign.

By the end of week 49 of 2023 (week ending 10 December 2023), 69.6% (7,774,967 out of 11,164,326) of all people aged over 65 years old who are living and resident in England who had been vaccinated with an autumn 2023 booster dose since 1 September 2023, Table 4 and Figure 50.

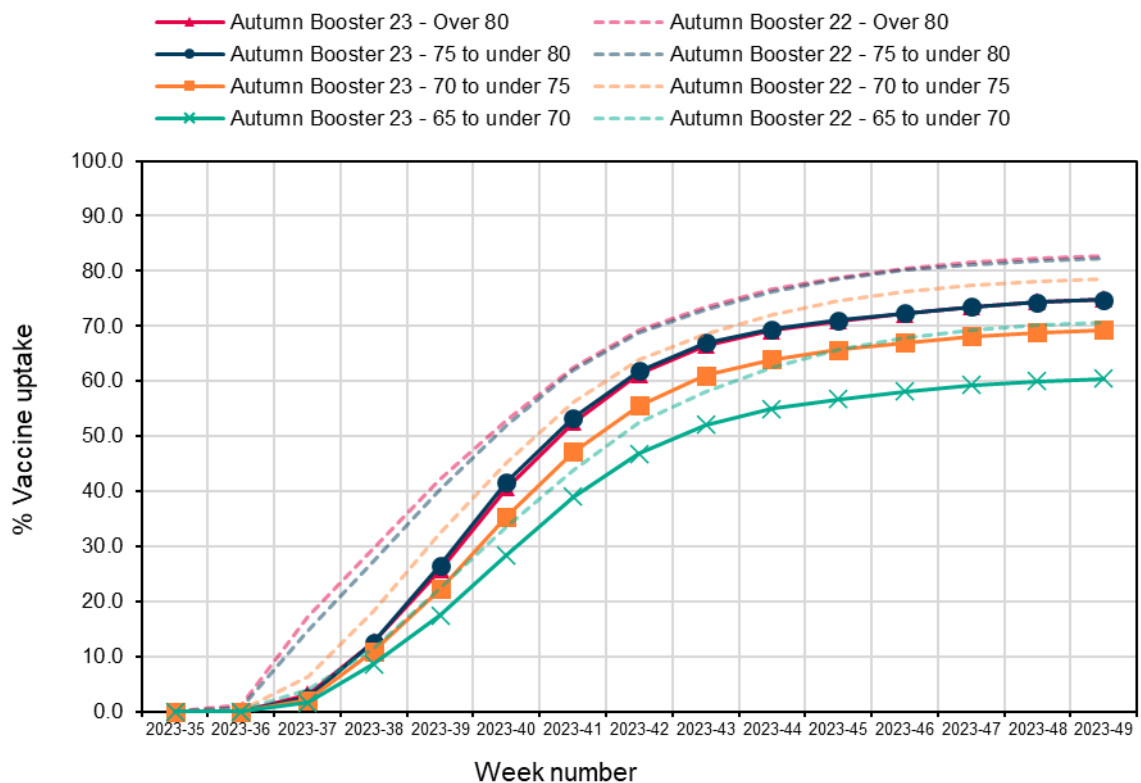
Table 4. Provisional cumulative people vaccinated by age with a dose of COVID-19 vaccine from the 1 September 2023 as part of the autumn 2023 campaign in England

National	People in NIMS cohort who are living and resident in England	Vaccinated since 1 September 2023 [note 17]	Percentage vaccine uptake
Over 80	3,010,182	2,255,358	74.9
75 to under 80	2,458,682	1,839,057	74.8
70 to under 74	2,672,292	1,853,491	69.4
65 to under 70	3,023,170	1,827,061	60.4
Aged 65 years and over	11,164,326	7,774,967	69.6

[note 17] Autumn 2023 booster defined as any dose of vaccine given after 1 September 2023, provided there is an interval of at least 20 days since any previous dose.

On 23 November, monthly data for frontline healthcare workers has been published for the first time this autumn. This covers vaccinations that were given between 1 September and 31 October 2023 and is available under the [joint flu and COVID-19 vaccine uptake report](#).

Figure 50. Cumulative weekly COVID-19 vaccine uptake in those who are living and resident in England vaccinated with an autumn 2023 dose since 1 September 2023 [note 18]



[note 18] This graph shows data for the autumn 2022 campaign and does not correspond to the date axis but is aligned to the current autumn 2023 campaign to allow comparison of the rate of uptake in both campaigns.

Proportion of people vaccinated by time since last vaccination

Table 5. Provisional cumulative people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago

National	People in NIMS cohort who are living and resident in England	Vaccinated in the last 3 months (84 days)		Vaccinated 3 to 6 months ago (85 to 168 days)		Vaccinated 6 months ago (169 or more days)	
		Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated
Over 80	3,010,182	2,171,273	72.1	99,580	3.3	636,964	21.2
75 to under 80	2,458,682	1,784,632	72.6	67,980	2.8	516,777	21.0
70 to under 75	2,672,292	1,806,678	67.6	52,982	2.0	674,137	25.2
65 to under 70	3,023,170	1,786,610	59.1	47,040	1.6	980,526	32.4
60 to under 65	3,691,023	1,071,416	29.0	18,747	0.5	2,283,596	61.9
55 to under 60	4,133,235	783,587	19.0	13,087	0.3	2,899,232	70.1
50 to under 55	4,127,778	563,641	13.7	9,304	0.2	2,998,618	72.6
45 to under 50	3,873,067	349,563	9.0	6,114	0.2	2,793,487	72.1
40 to under 45	4,410,433	279,309	6.3	4,961	0.1	3,089,119	70.0
35 to under 40	4,711,499	226,916	4.8	4,044	0.1	3,161,183	67.1
30 to under 35	4,788,980	186,373	3.9	3,152	0.1	3,114,905	65.0
25 to under 30	4,416,848	130,916	3.0	2,262	0.1	2,880,058	65.2
20 to under 25	3,787,791	82,914	2.2	1,527	0.0	2,599,024	68.6
18 to under 20	1,402,413	19,976	1.4	546	0.0	934,501	66.6
16 to under 18	1,430,176	12,366	0.9	301	0.0	860,922	60.2
12 to under 16	2,994,199	23,230	0.8	440	0.0	1,235,791	41.3
5 to under 12	4,998,730	14,768	0.3	567	0.0	461,158	9.2

Table 5 is presented to provide an overview of how recently a person has been vaccinated either through the primary vaccination campaign or subsequent booster campaigns. This helps us understand the data in the context of vaccine waning across the whole COVID-19 programme. Breakdowns by Ethnicity, and IMD, for those aged 65 and over can be found in the supplementary datafile.

A regional breakdown of the ethnicity data is available in the [accompanying data file](#) for this report.

COVID-19 data on the real-world effectiveness of the COVID-19 vaccines, and on COVID-19 vaccination in pregnancy is available in [the COVID-19 vaccine surveillance reports](#).

COVID-19 management information on the number of COVID-19 vaccinations provided by the NHS in England is available on the [COVID-19 vaccinations](#) webpage.

UK COVID-19 daily vaccination figures and definitions are available on the [Vaccinations' section of the UK COVID-19 dashboard](#).

The population coverage data representing the evergreen offer of doses 1, 2, and 3 has changed little in recent months and are no longer presented in both the UKHSA weekly flu and COVID-19 surveillance reports and in the UK COVID-19 Dashboard. Both the UKHSA weekly flu and COVID-19 surveillance reports and in the UK COVID-19 Dashboard now highlight data on the most recent vaccination campaign in those at higher risk from COVID-19 as immunity derived from vaccination declines over time. The overall vaccine uptake in the living and resident population for those with at least dose 1, 2 and 3 doses is still available within the backing tables for this section and in the dashboard APIs.

International update

Global COVID-19 update

For further information on the global COVID-19 situation please see the [World Health Organization \(WHO\) COVID-19 situation reports](#).

Global influenza update

For further information on the global influenza situation please see the [World Health Organization \(WHO\) Influenza update](#).

Influenza in Europe

For further information on influenza in Europe please see the [European Respiratory Virus Surveillance Summary weekly update](#).

Influenza in North America

For further information on influenza in the United States of America please see the [Centre for Disease Control weekly influenza surveillance report](#). For further information on influenza in Canada please see the [Public Health Agency weekly influenza report](#).

Influenza in Australia

For further information on influenza in Australia, please see the [Australian Influenza Surveillance Report and Activity Updates](#).

Other respiratory viruses

Avian influenza and other zoonotic influenza

For further information, please see the [Latest WHO update on 1 November 2023](#) and the [Latest UKHSA avian influenza technical briefing 14 July 2023](#)

Middle East respiratory syndrome coronavirus (MERS-CoV)

For further information please see the [WHO Disease Outbreak News Reports](#) and the [WHO publishes monthly updates](#).

[Further information on management and guidance of possible cases](#) is available online. The latest [ECDC MERS-CoV risk assessment](#) highlights that risk of widespread transmission of MERS-CoV remains very low.

Related links

[Previous national COVID-19 reports](#)

[Previous weekly influenza reports](#)

[Annual influenza reports](#)

[COVID-19 vaccine surveillance reports](#)

[Previous COVID-19 vaccine surveillance reports](#)

[Public Health England \(PHE\) monitoring of the effectiveness of COVID-19 vaccination](#)

[Investigation of SARS-CoV-2 variants of concern: technical briefings](#)

[Sources of surveillance data for influenza, COVID-19 and other respiratory viruses](#)

[RCGP Virology Dashboard](#)

UKHSA has delegated authority, on behalf of the Secretary of State, to process Patient Confidential Data under Regulation 3 The Health Service (Control of Patient Information) Regulations 2002

Regulation 3 makes provision for the processing of patient information for the recognition, control and prevention of communicable disease and other risks to public health.

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