UK Health Security Agency

National Influenza and COVID-19 surveillance report

Week 47 report (up to week 46 data)

23 November 2023

Contents

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.

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 46 (between 13 November and 19 November 2023).

Overall

In week 46, from most indicators influenza activity remained stable and within baseline. COVID-19 activity decreased in almost all indicators. Respiratorty syncytial virus (RSV) activity among under 5 year olds remains high, but with some possible signs of slowing in swab positivity and admissions for this age group. Overall RSV activity increased due to increases in other age groups.

Influenza

Through Respiratory DataMart, influenza positivity remained stable at 1.8% in week 46 compared to 1.8% in the previous week.

Through primary care surveillance, the influenza-like-illness (ILI) consultations indicator decreased to 3.4 per 100,000 in week 46 compared to 3.8 per 100,000 the previous week and was within the baseline activity level range.

There were 2 influenza confirmed outbreaks reported in England in week 46.

Overall, influenza hospitalisations remained within baseline activity levels in week 46. Influenza intensive care unit (ICU) or high dependency unit (HDU) admissions remained within baseline activity levels compared to the previous week. There were 6 new influenza ICU or HDU admissions in week 46.

Emergency department (ED) attendances for ILI remained stable nationally.

Weekly influenza vaccine uptake for the 2023 to 2024 season compared to the equivalent week in the 2022 to 2023 season, remains higher for those aged 65 years and over and 2 and 3 year olds; is comparable for pregnant women and is lower for those under 65 years in clinical risk groups. Monthly vaccine uptake data is reported for the first time this season for GP patients, school-aged children and frontline healthcare workers.

COVID-19

Through Respiratory DataMart, SARS-CoV-2 positivity decreased to 5.8% in week 46 compared to 6.4% in the previous week.

COVID-19 case rates and positivity rates through Pillar 1 decreased in most age groups, regions and ethnic groups in week 46.

The overall number of reported SARS-CoV-2 confirmed outbreaks decreased compared to the previous week. There were 6 SARS-CoV-2 confirmed outbreaks reported in week 46 in England.

Overall, COVID-19 hospitalisations decreased to 2.7 per 100,000 in week 46 compared to 2.8 per 100,000 in the previous week. Hospitalisations were highest in the 85 years and over age group. COVID-19 ICU admissions remained low and stable in week 46 compared to the previous week.

Through syndromic surveillance indicators, ED attendances for COVID-19-like illness continued to decrease nationally.

RSV

Through Respiratory DataMart, positivity for RSV increased slightly to 12.5%, with the highest positivity in those aged under 5 years old at 38.7%. ED attendances for acute bronchiolitis continued to increase nationally. Overall, RSV hospitalisations increased slightly to 2.5 per 100,000 compared to 2.4 per 100,000 in the previous week. The highest rate was seen in the under 5 year olds at 25.2 per 100,000, which decreased from 32.8 per 100,000 in the previous week.

Other viruses

Adenovirus positivity remained low at 2.1%, with the highest positivity in children under 5 years old at 4.7%. Human metapneumovirus (hMPV) positivity increased to 2.5%, with the highest positivity in those aged between 5 and 15 years old at 4.8%. Parainfluenza positivity decreased slightly to 0.9%, with the highest positivity in children under 5 years old at 1.7%. Rhinovirus positivity decreased to 13.2% overall, with the highest positivity in children under 5 years old at 24.1%.

Laboratory surveillance

Respiratory DataMart system (England)

In week 46, data is based on reporting from 10 out of the 16 sentinel laboratories.

In week 46, 5,208 respiratory specimens reported through the Respiratory DataMart System were tested for influenza. There were 96 positive samples for influenza; 62 influenza A(not subtyped), 24 influenza A(H3N2), 2 were influenza A(H1N1)pdm09 and 8 were influenza B (Figure 4). Overall, influenza positivity remained stable at 1.8% in week 46 compared to 1.8% in the previous week.

In week 46, 5,350 respiratory specimens reported through the Respiratory DataMart System were tested for SARS-CoV-2. There were 308 positive sampes for SARS-CoV-2 with an overall positivity of 5.8%, which decreased compared to 6.4% in the previous week. The highest positivity was seen in adults older than 65 years of age at 8.0%.

RSV positivity increased slightly to 12.5%, with the highest positivity in those aged under 5 years old at 38.7%.

Adenovirus positivity remained low at 2.1%, with the highest positivity in children under 5 years old at 4.7%.

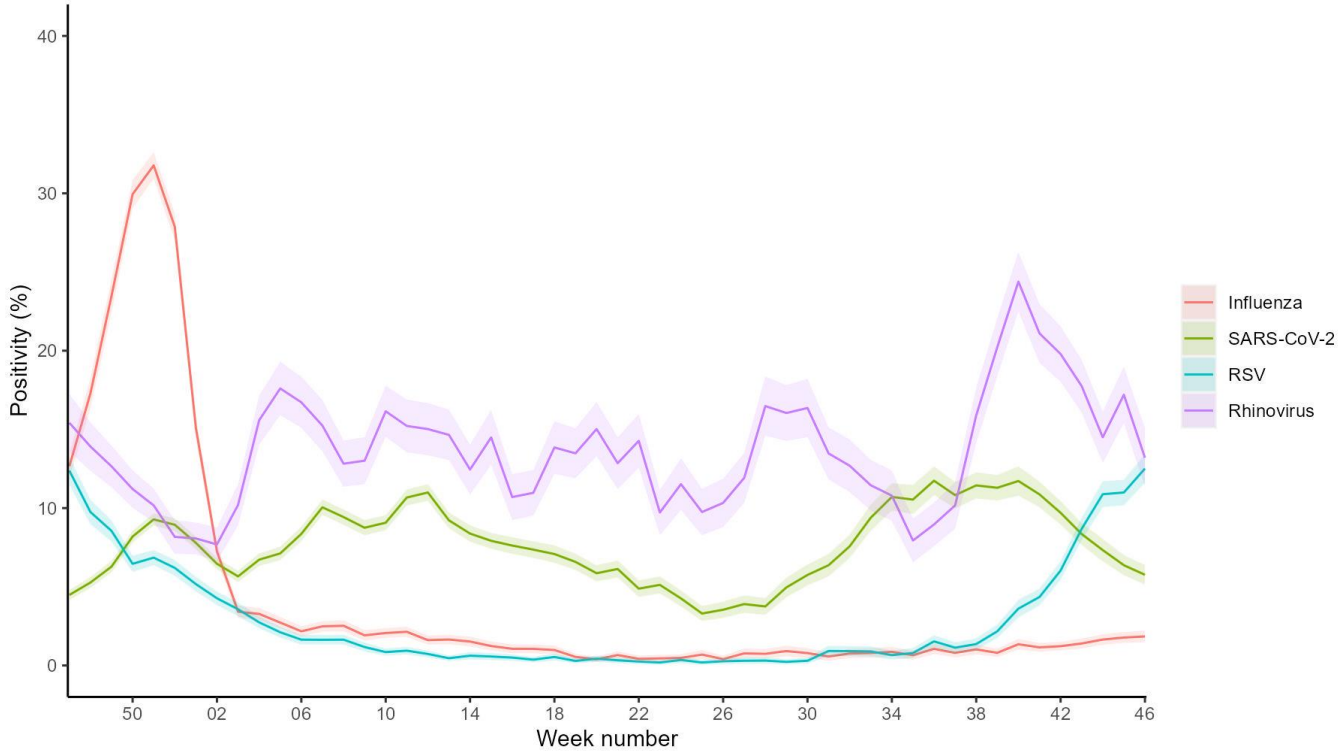
Human metapneumovirus (hMPV) positivity increased to 2.5%, with the highest positivity in those aged between 5 and 14 years old at 4.8%.

Parainfluenza positivity decreased slightly to 0.9%, with the highest positivity in children under 5 years old at 1.7%.

Rhinovirus positivity decreased to 13.2% overall, with the highest positivity in children under 5 years old at 24.1%.

Figure 1: Respiratory DataMart weekly positivity (%) for a) influenza, SARS-CoV-2, RSV and rhinovirus and b) adenovirus, hMPV and parainfluenza, England

a)



b)

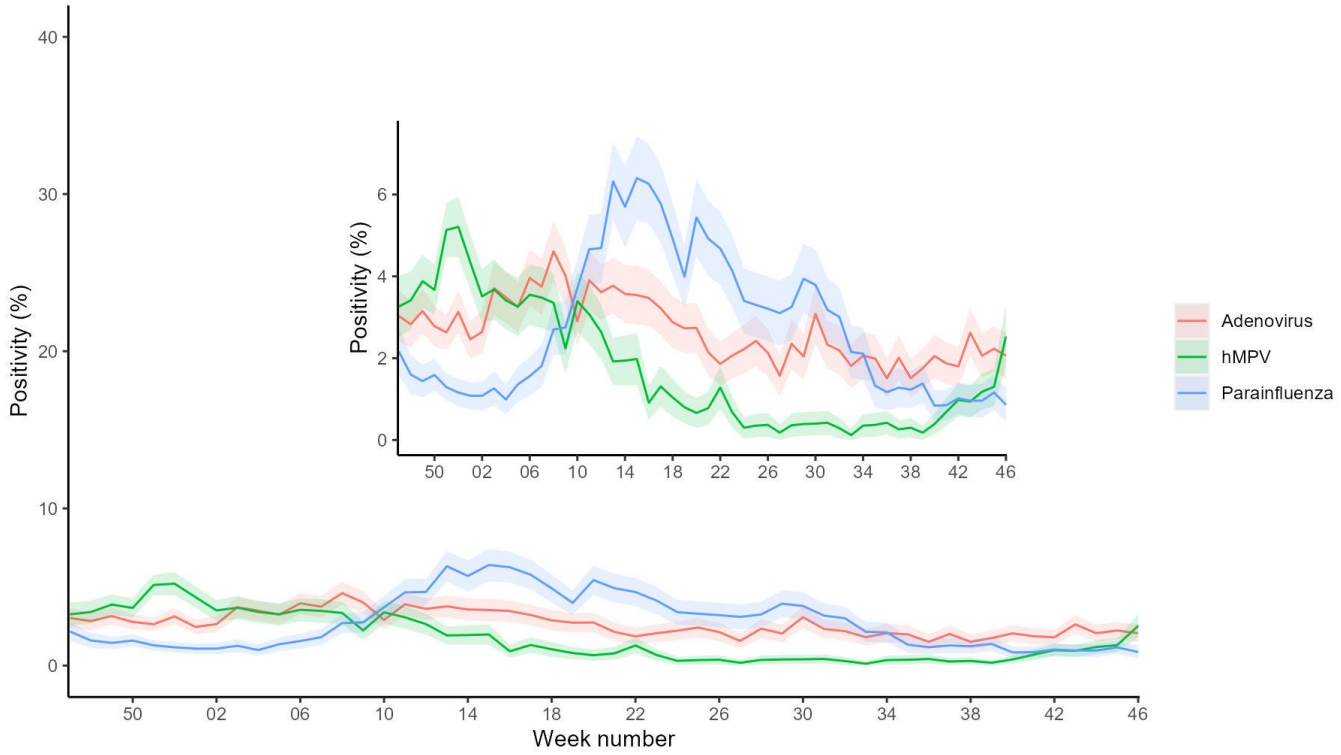
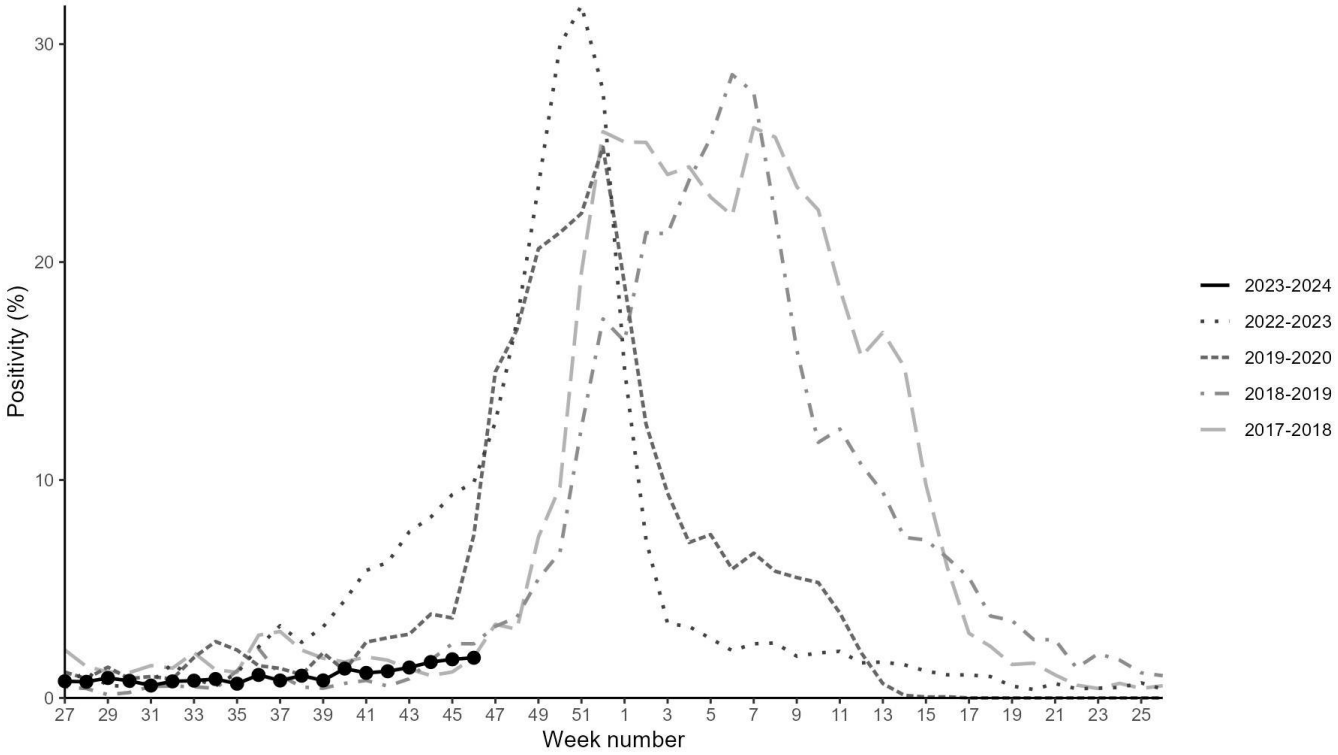


Figure 2: Respiratory DataMart weekly positivity (%) for influenza by year, England



Please note 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

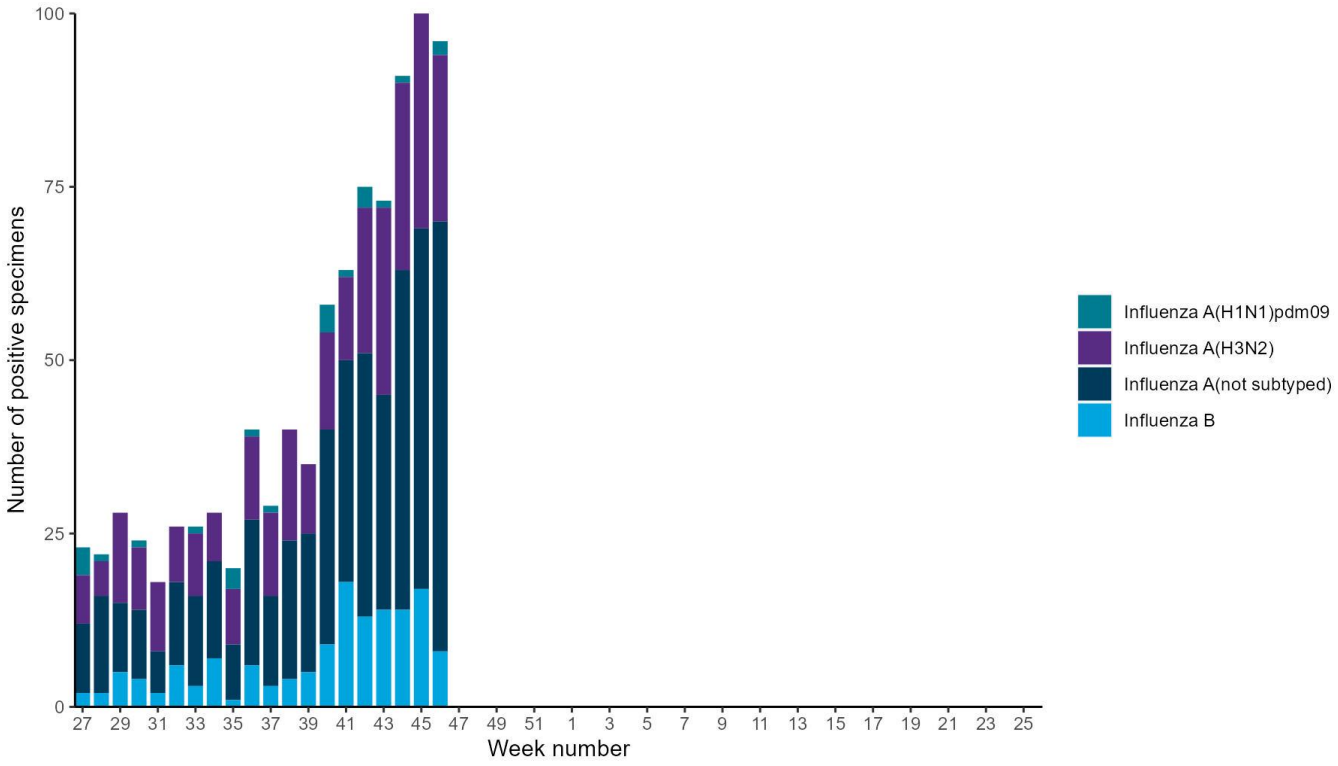


Figure 4: Respiratory DataMart weekly positivity (%) for influenza by age, England

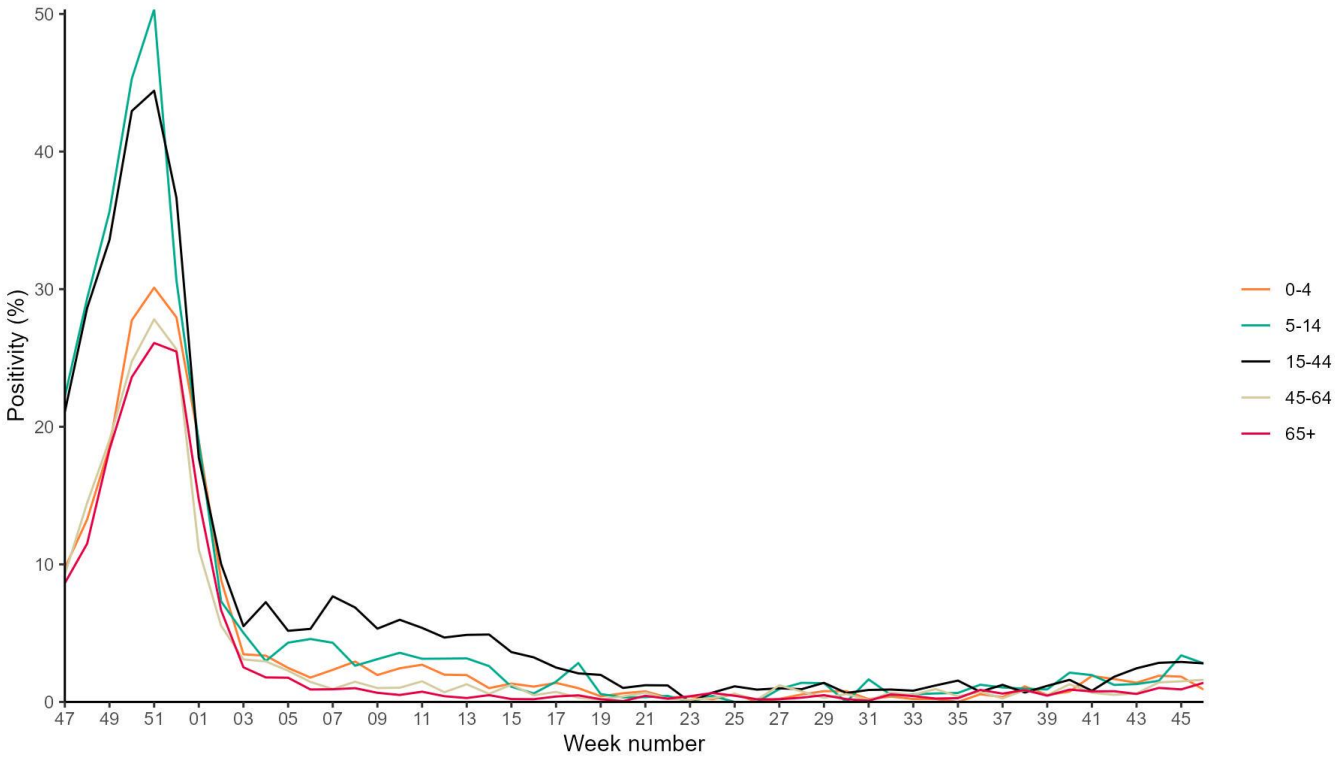


Figure 5: Respiratory DataMart weekly positivity (%) for SARS-CoV-2 by year, England

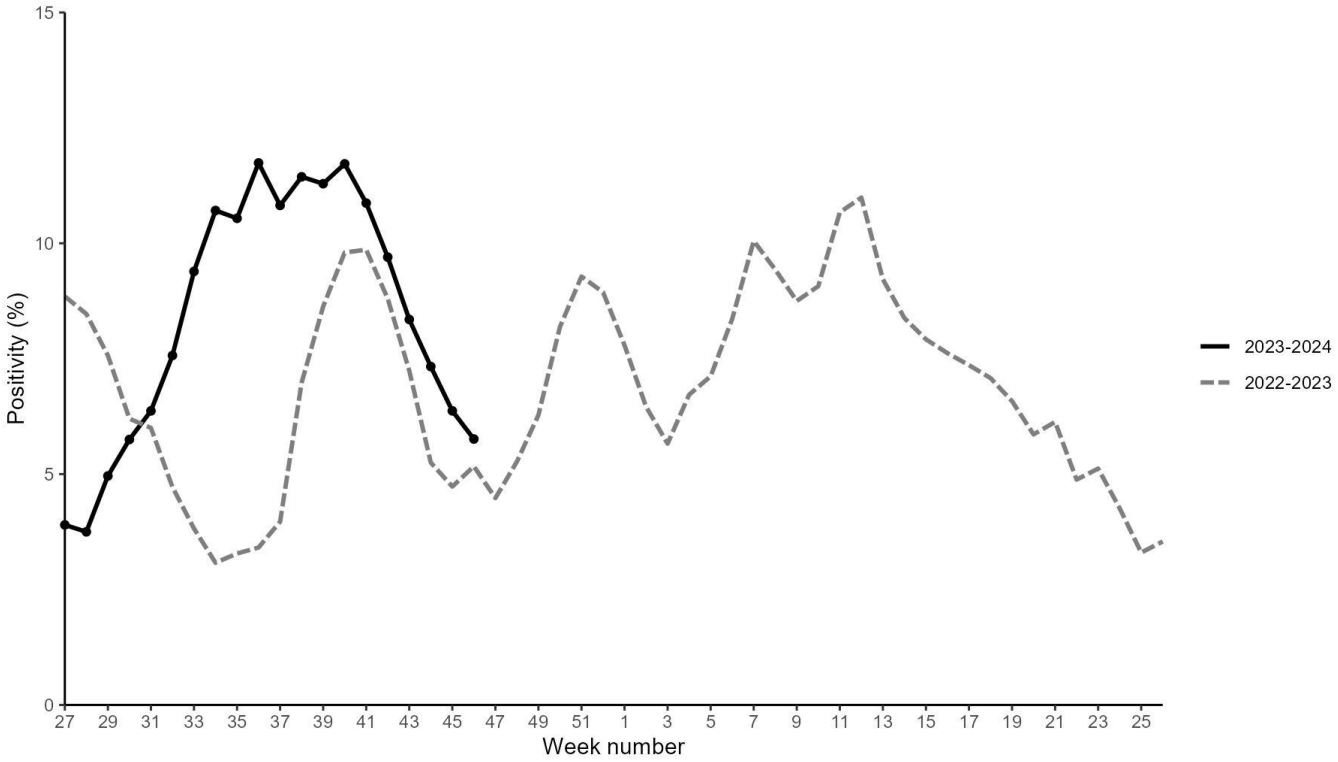


Figure 6: Respiratory DataMart weekly positivity (%) for SARS-CoV-2 by age, England

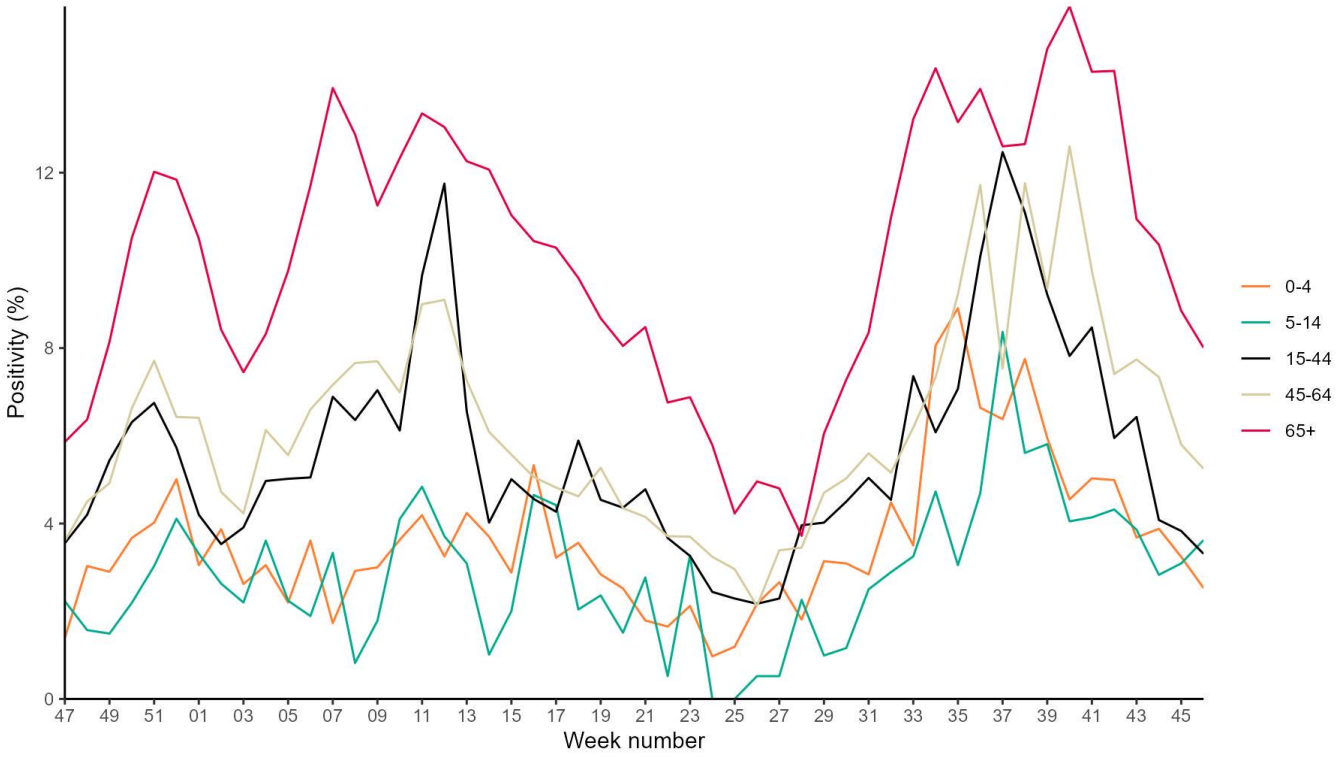


Figure 7: Respiratory DataMart weekly positivity (%) for RSV by year, England

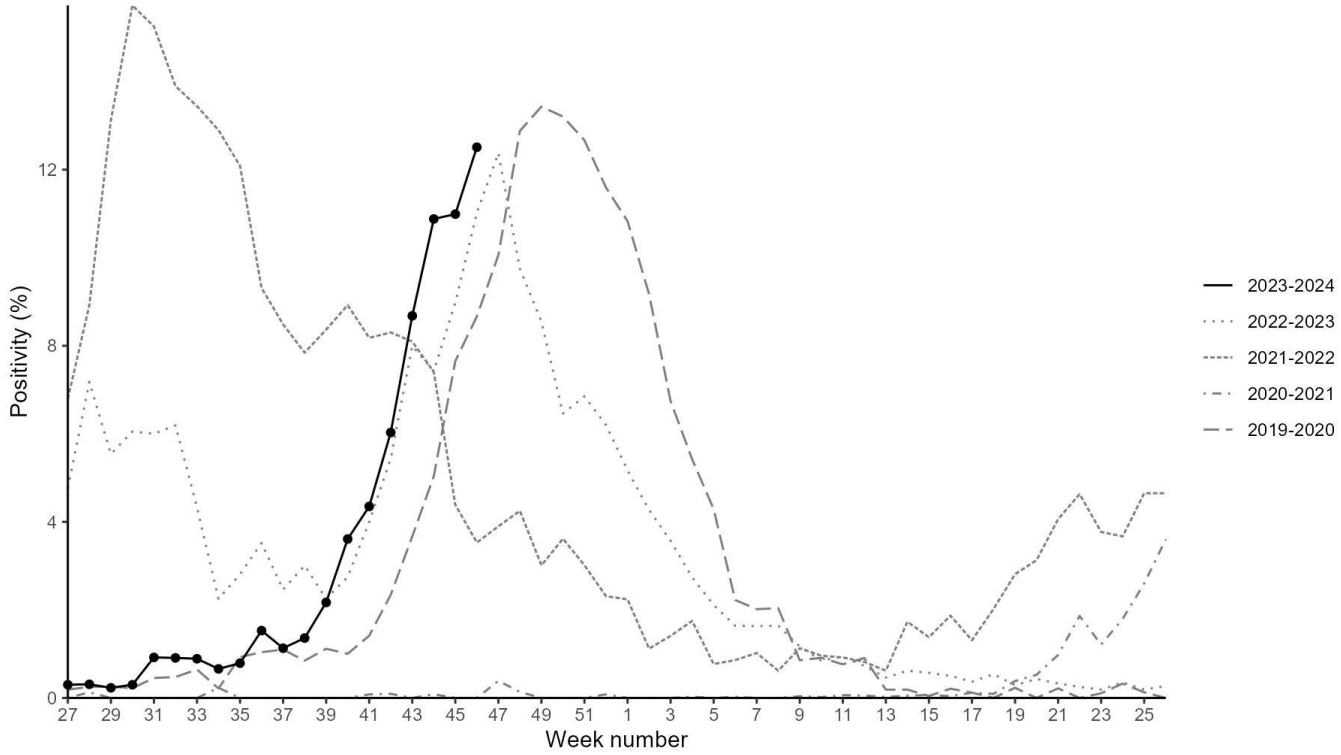
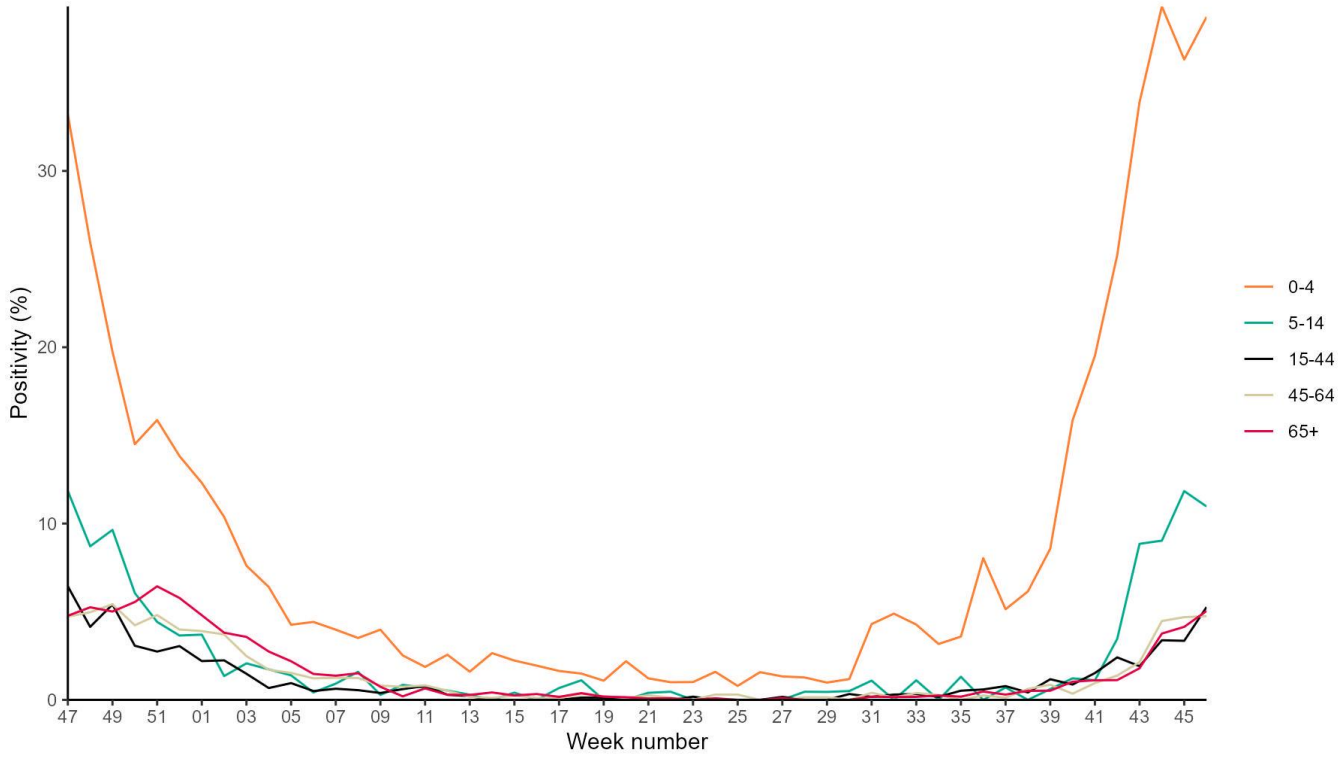


Figure 8: Respiratory DataMart weekly positivity (%) for RSV by age, England



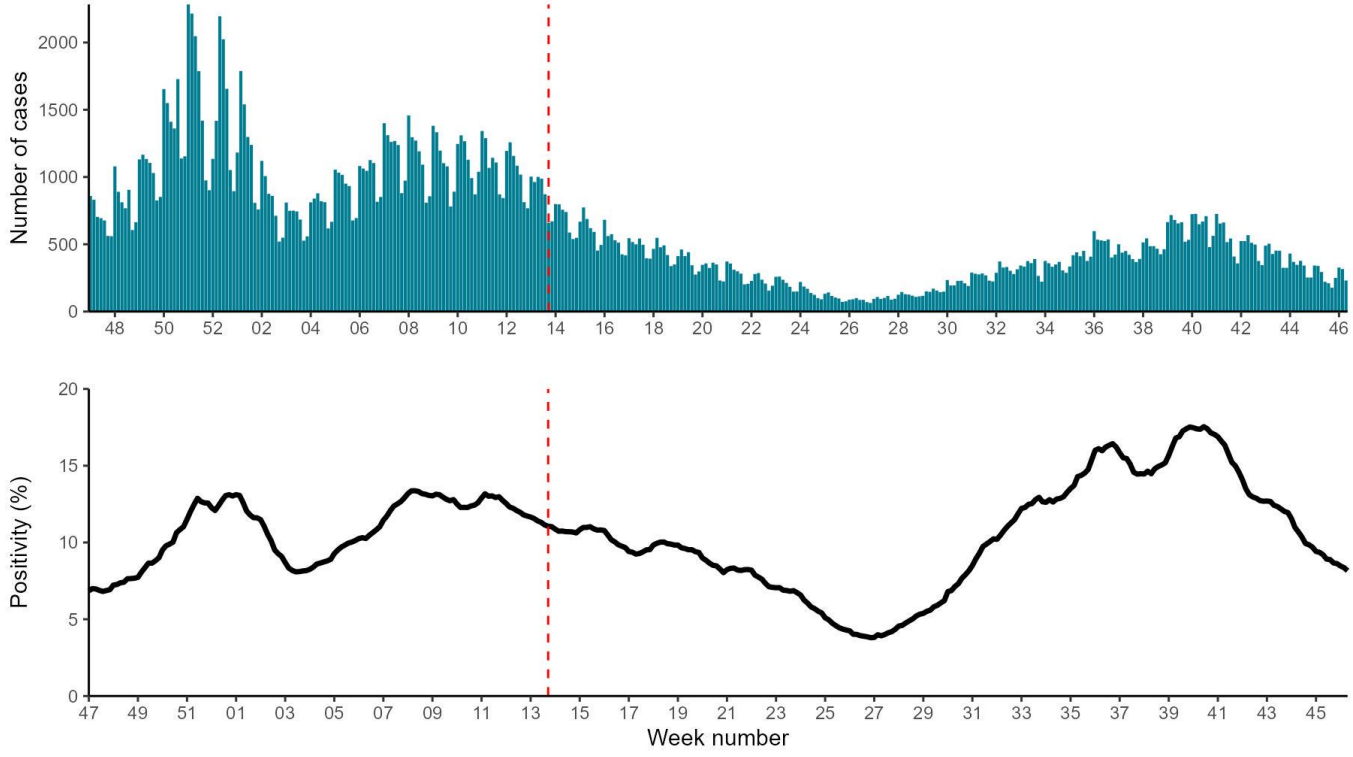
Confirmed COVID-19 cases (England)

As of 9am on 20 November 2023, a total of 2,154,745 episodes have been confirmed for COVID-19 in England under Pillar 1, and 18,851,665 episodes under Pillar 2, since the beginning of the pandemic. There were a total of 3,669 cases (1,499 in Pillar 1 and 2,170 in Pillar 2) in week 46, a 4% decrease from the previous week.

COVID-19 polymerase chain reaction (PCR) positivity for Pillar 1 decreased in week 46, with a weekly mean positivity rate of 8.1% compared to 9.0% in the previous week. Pillar 1 positivity rates were highest in the 85 years and over age group at a weekly mean positivity rate of 13.3% (a decrease from 15.1% in week 45) and in East of England at a weekly mean positivity rate of 11.6% (a decrease from 12.5% in week 45).

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.

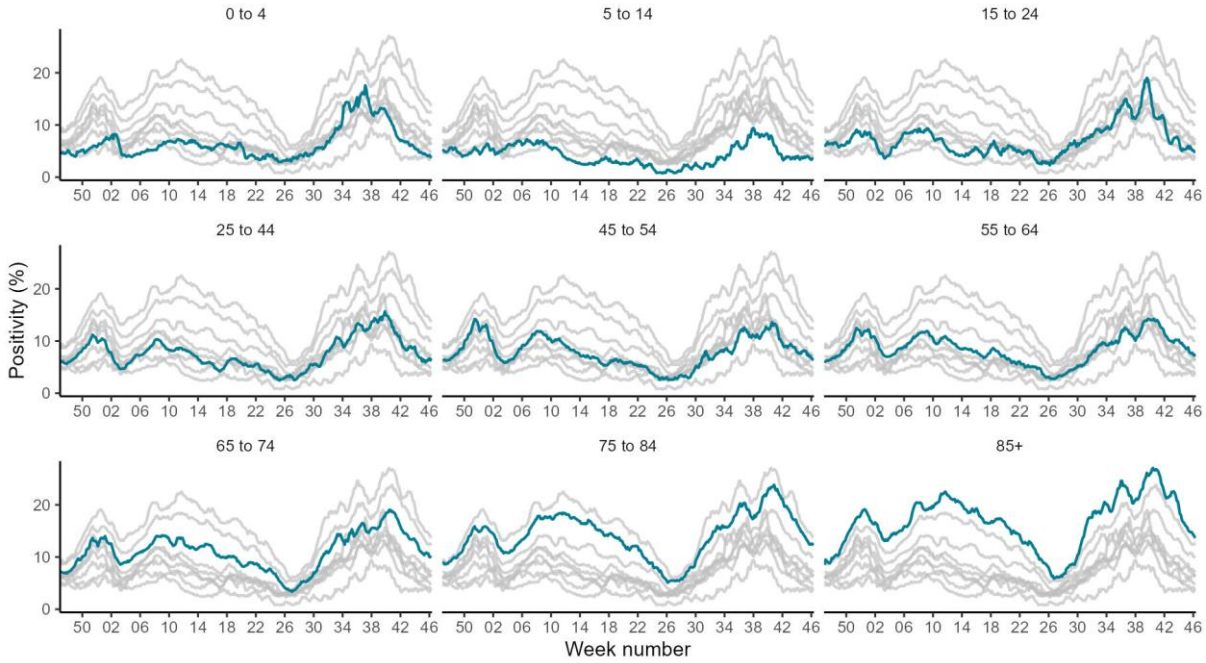
Figure 9: Confirmed COVID-19 episodes tested under Pillar 1, based on sample date with overall seven-day rolling average PCR positivity for Pillar 1 (%)



The vertical dashed line (red) denotes changes in testing policies.

Age

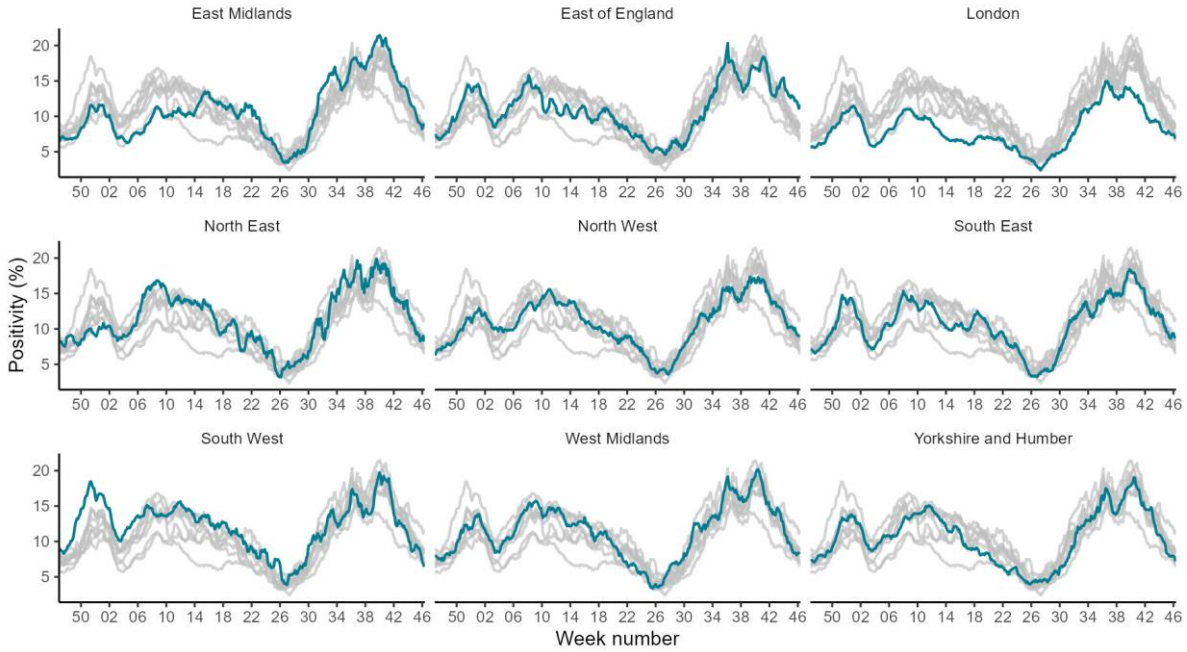
Figure 10: Seven-day rolling average PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1 by age group



Please note 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



Please note 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

Please note 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 with updated data presented in this report. This week's report contains an update.

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.

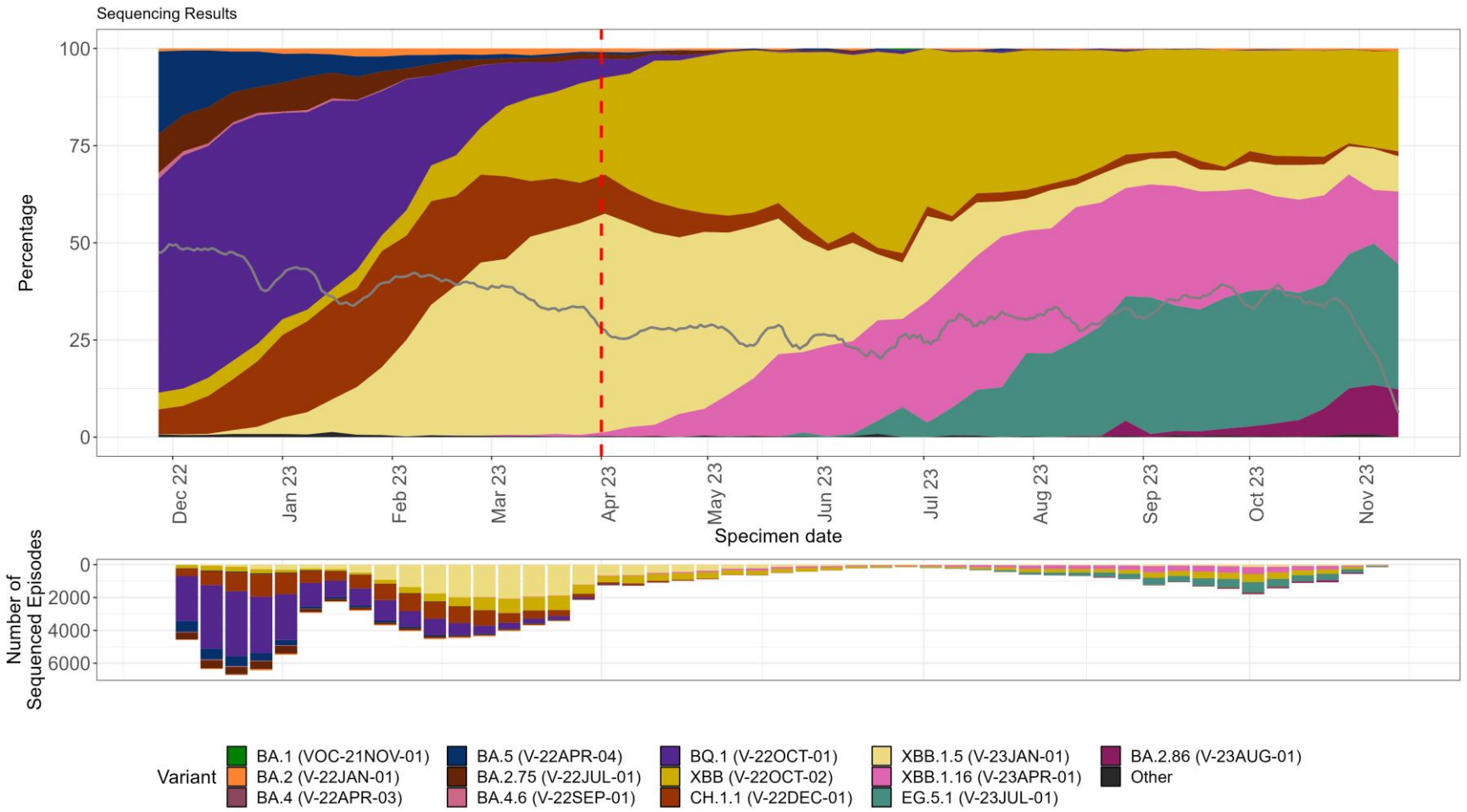
Information on whole genome sequencing coverage of PCR tests can be found in the accompanying slide set.

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 30 October 2023 and 5 November 2023. Of those sequenced in this period, 36.4% were classified as EG.5.1 (V-23JUL-01), 24.7% as XBB (V-22OCT-02), 13.8% as XBB.1.16 (V-23APR-01), 12.7% as BA.2.86, (V-23AUG-01) and 10.6% 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 19 November 2023



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 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 46 (week ending 19 November 2023)

Variant	Other names by which this variant is known	Total sequenced cases* in the last 12 weeks	Last reported specimen date
V-22OCT-02	Omicron XBB	3,494	11-11-2023
V-22DEC-01	Omicron CH.1.1	243	09-11-2023
V-23JAN-01	Omicron XBB.1.5	946	09-11-2023
V-23APR-01	Omicron XBB.1.16	3,314	09-11-2023
V-23JUL-01	Omicron EG.5.1	4,360	10-11-2023
V-23AUG-01	Omicron BA.2.86	541	10-11-2023

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.

*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 46 2023, the UKHSA Respiratory Virus Unit (RVU) has genetically characterised 22 influenza A(H3N2) viruses, which were detected since week 34. Sequencing of the haemagglutinin (HA) gene shows that these A(H3N2) viruses belong in genetic subclade 3C.2a1b.2a.2 in the 2a.3a.1 subgroup. 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.

Twenty influenza A(H1N1)pdm09 viruses have been characterised to date this season, with 14 belonging in genetic subgroup 6B.1A.5a.2a and 6 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.

One influenza B/Victoria lineage virus has 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 3 influenza A positive samples and in 3 influenza B positive samples collected since week 40, from children aged between 2 and 16 years old.

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)	22	3C.2a1b.2a.2a.3a.1	22
A(H1N1)pdm09	20	6B.1A.5a.2a	14
A(H1N1)pdm09	20	6B.1A.5a.2a.1	6
B/Victoria-lineage	1	V1A3a.2	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 46 of 2023 have been analysed. Analysis of 22 A(H3N2) viruses found no viruses with known markers of resistance to neuraminidase inhibitors. Analysis of 16 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 one influenza B NA sequence found no evidence of known markers of resistance to neuraminidase inhibitors.

No viruses with known markers of resistance to baloxavir marboxil were detected in 20 A(H3N2), 13 A(H1N1)pdm09 and one 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)	22	0	20	0
A(H1N1)pdm09	16	1	13	0
B/Victoria-lineage	1	0	1	0

Community surveillance

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 44 new ARI incidents reported in week 46 in England, including:

- 32 incidents reported from care homes, where 5 had at least one linked case that tested positive for SARS-CoV-2, 2 tested positive for rhinovirus and one for hMPV
- 7 incidents reported from hospitals, where one tested positive for influenza A(not subtyped)
- 5 incidents reported from educational settings, where one had at least one linked case that tested positive for SARS-CoV-2, one for influenza A(not subtyped) and one for RSV

Figure 14: Number of ARI incidents by setting, England

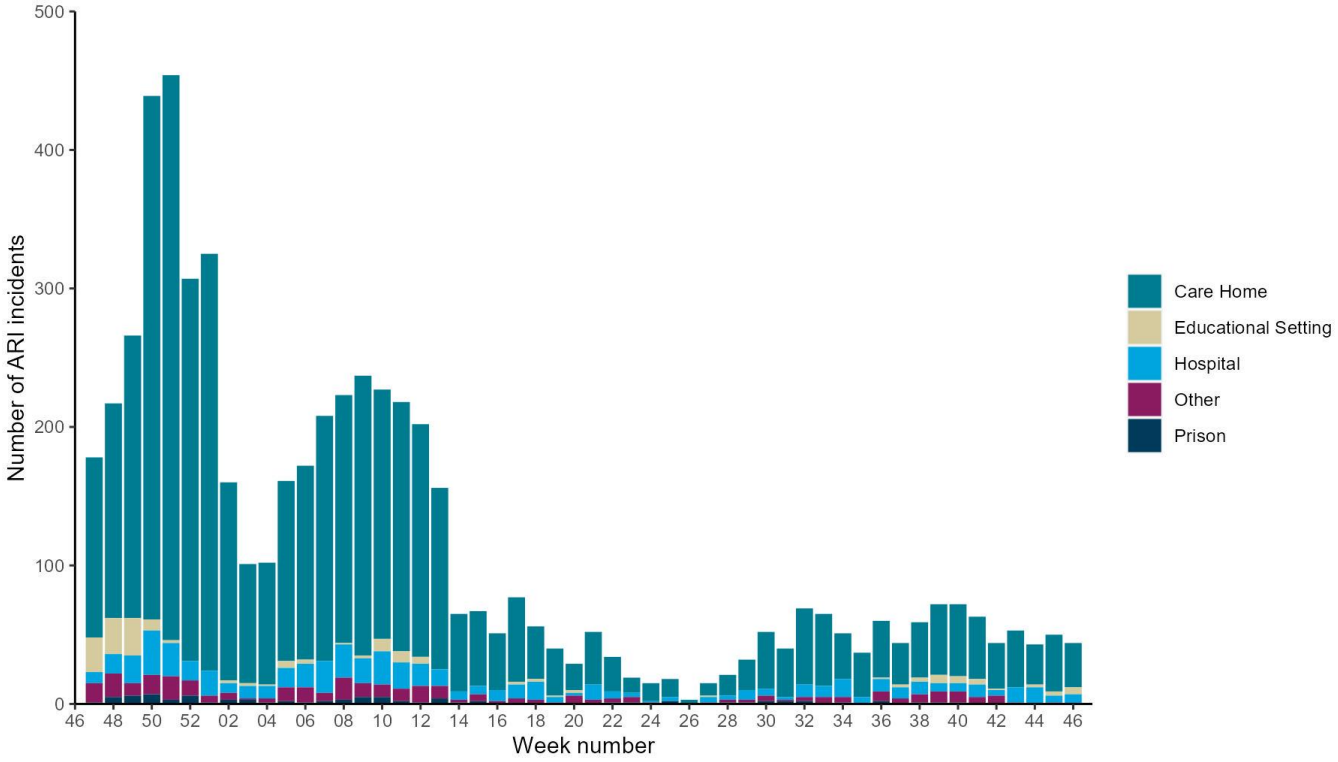


Figure 15: Number of ARI incidents in all settings by virus type, England

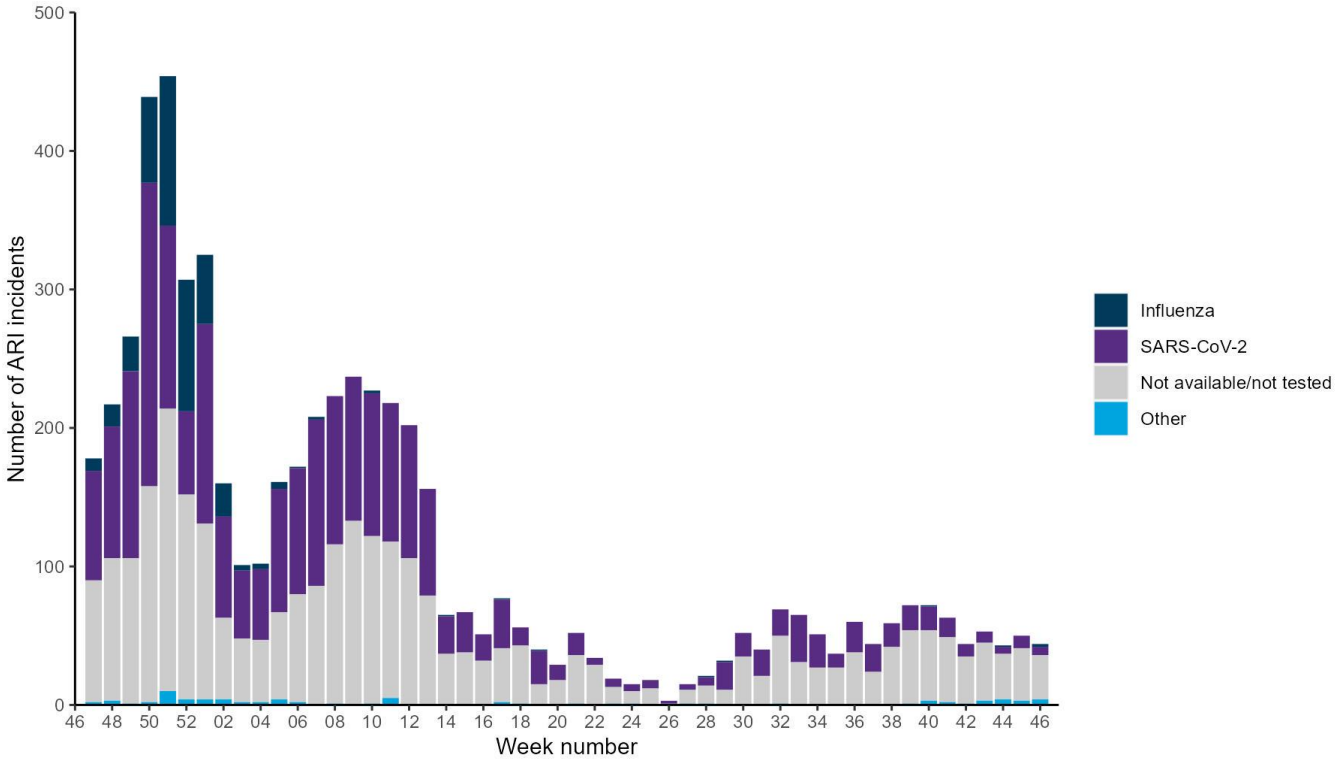


Figure 16: Number of ARI incidents in care homes by virus type, England

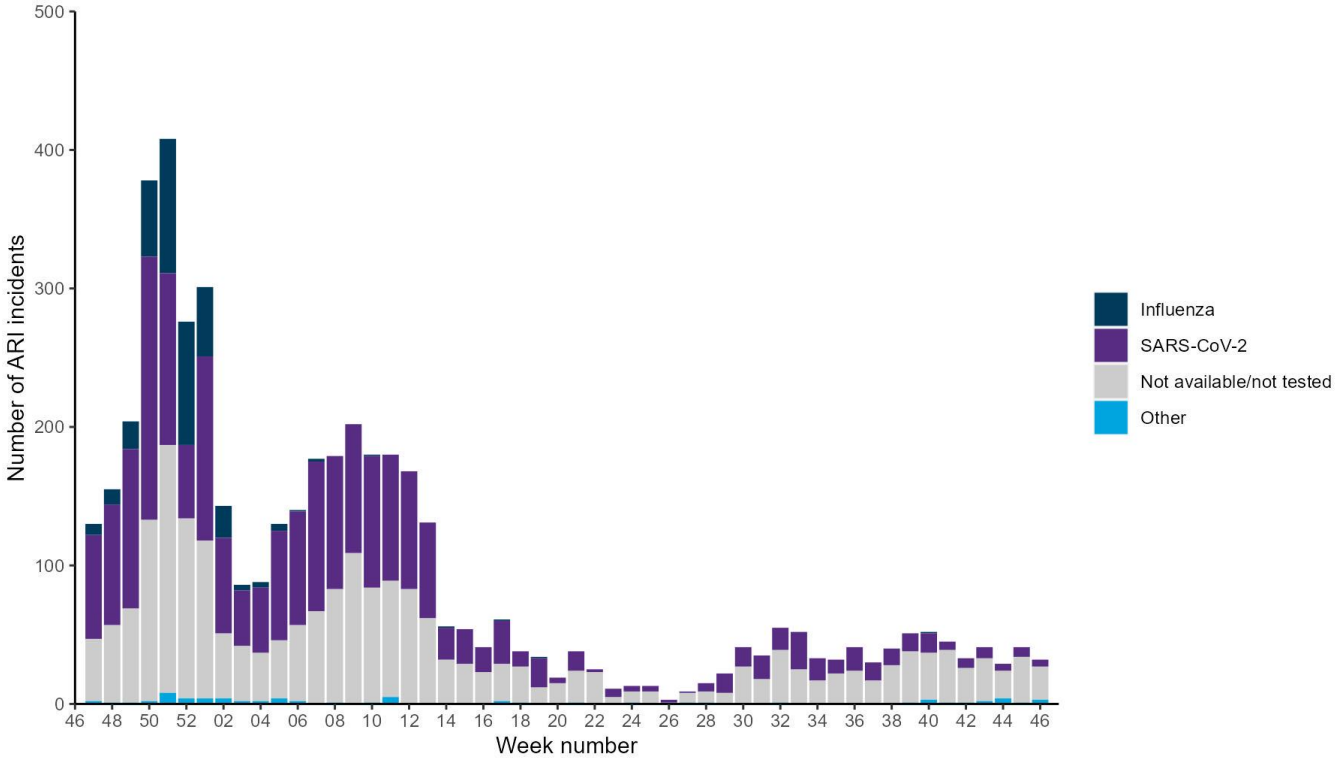
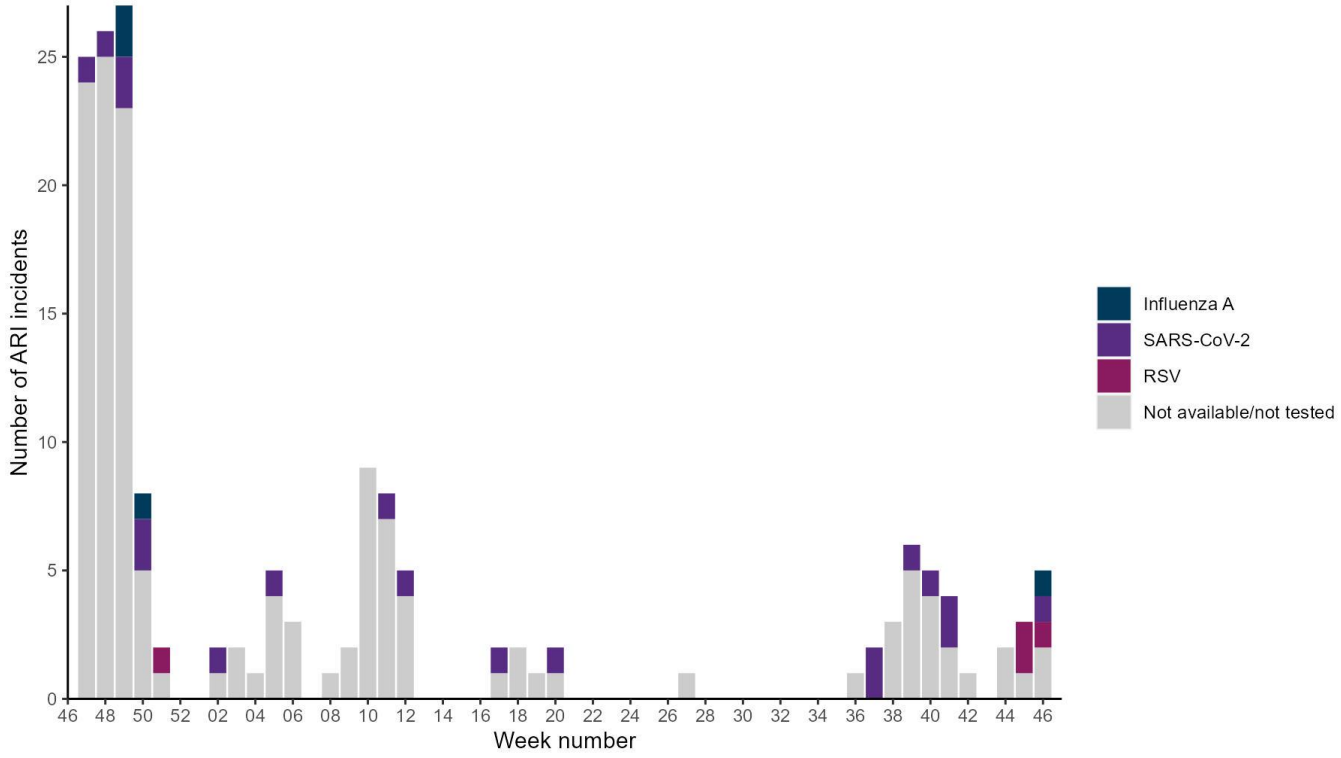


Figure 17: Number of ARI incidents in educational settings by virus type, England



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.

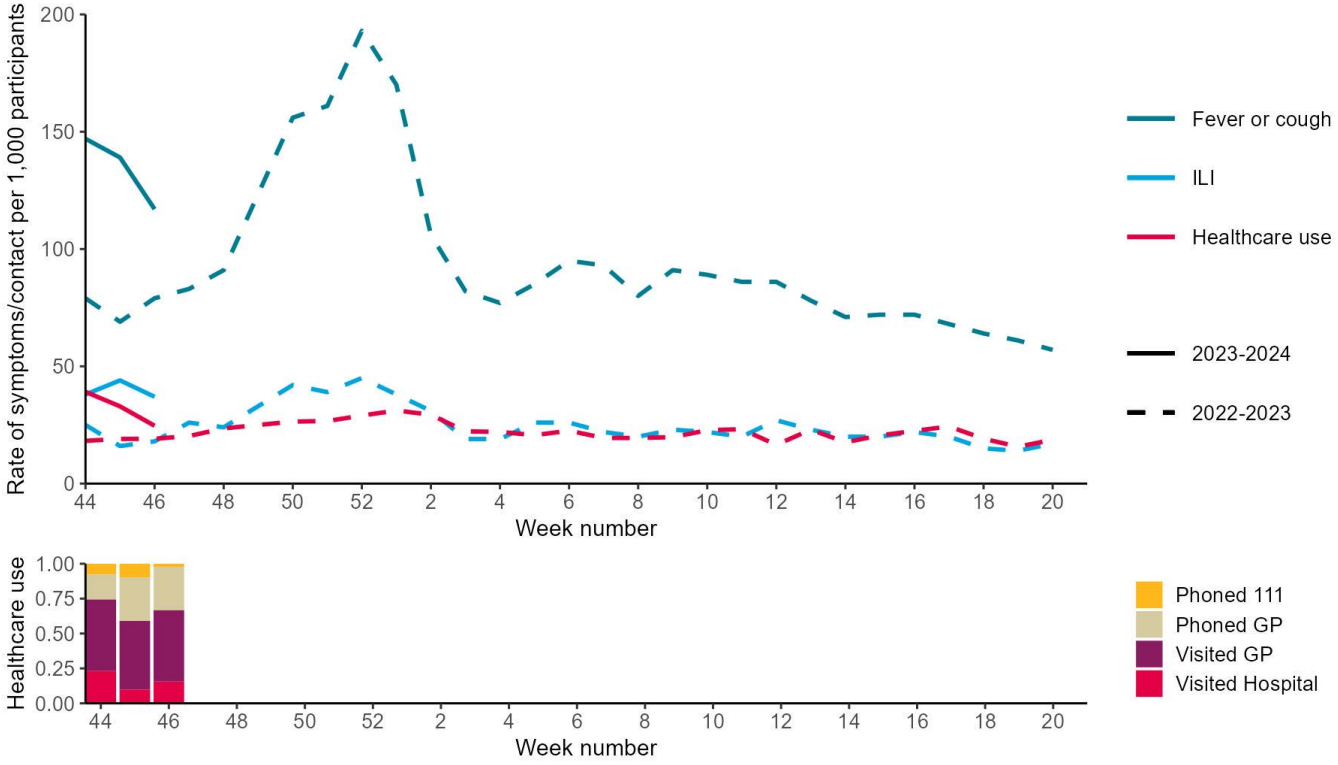
Note that ILI is defined as sudden onset of symptoms with at least one of fever (chills), malaise, headache, muscle pain and at least one of cough, sore throat, shortness of breath.

During week 46, there were 1,826 participants completing the weekly symptoms questionnaire of which 213 (11.7%) reported fever or cough and 68 (3.7%) reported ILI.

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 18).

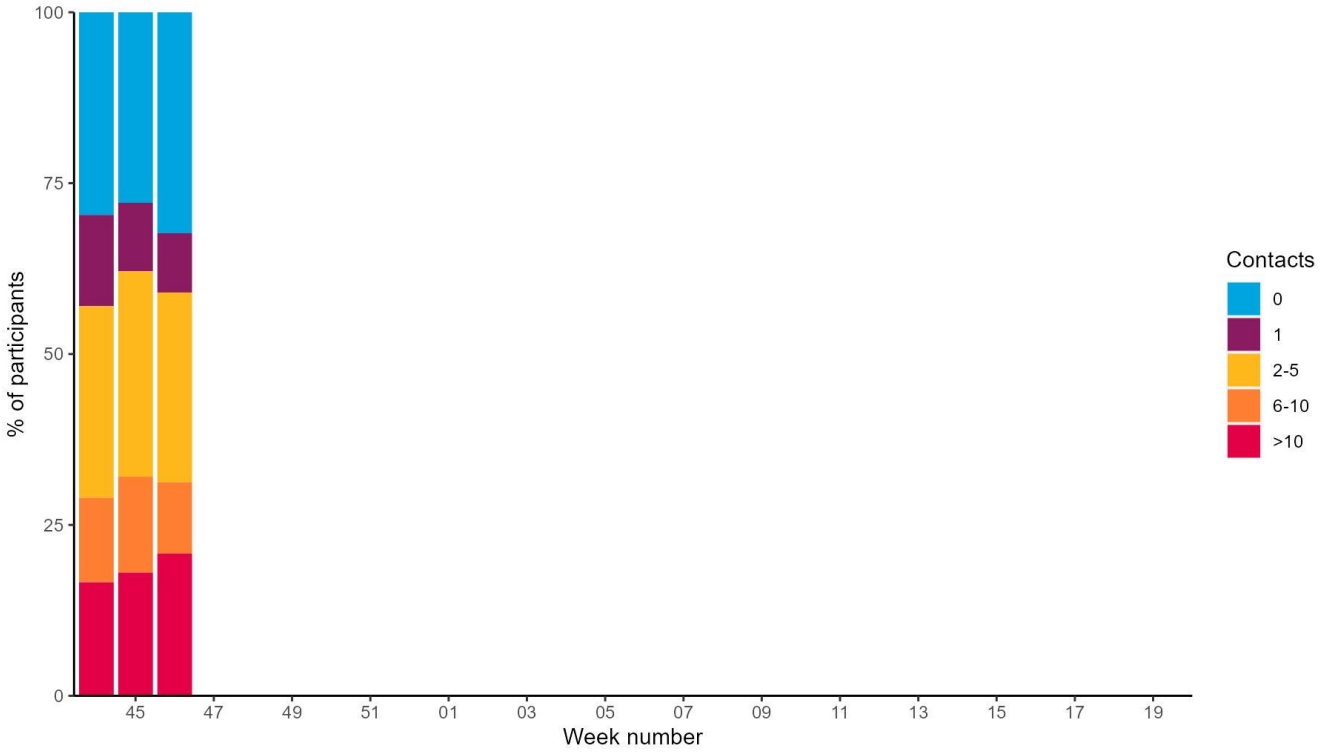
Self-reported daily social contact patterns are also reported. A contact is defined as a person outside the household who is approached at a distance of less than one metre, on the day prior to survey completion (Figure 19).

Figure 18: FluSurvey participants self-reporting fever or cough and ILI symptoms, and trends in healthcare seeking behaviour among these participants, England



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

Figure 19: FluSurvey participants' self-reported number of social contacts outside the household

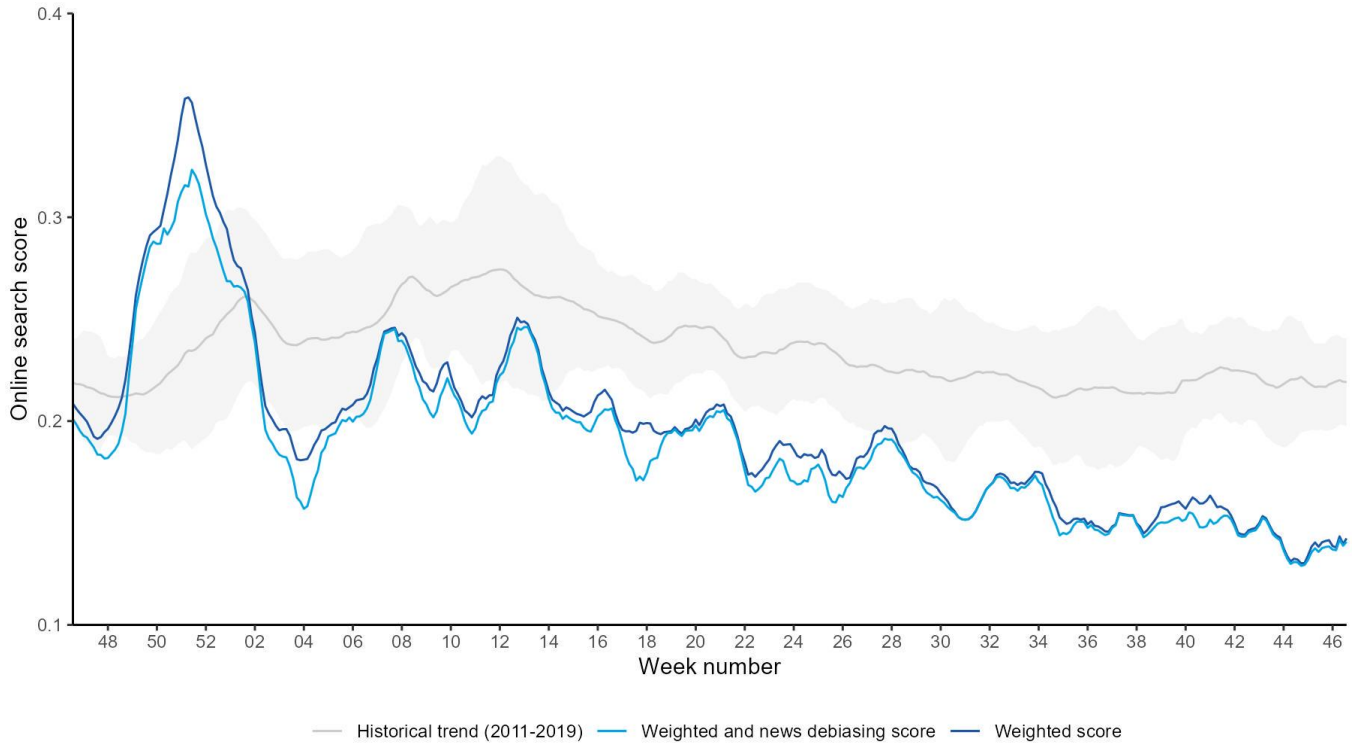


Google search queries

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 46, the overall and media-debiasing weighted Google search scores remained stable compared to the previous week (Figure 20).

Figure 20: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England



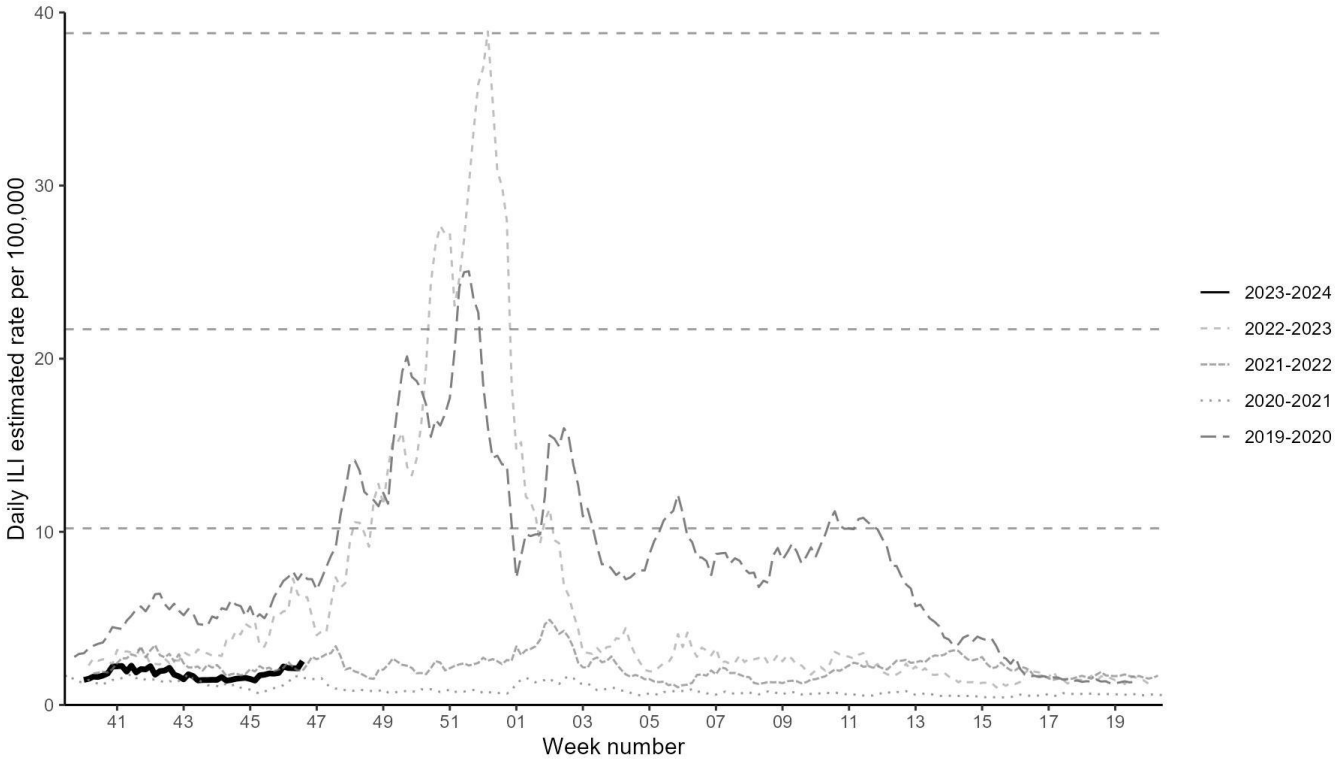
Flu Detector

FluDetector is a web-based model which assesses internet-based search queries for 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 46, the daily ILI rate was low and below the baseline threshold of 10.25 per 100,000 for the 2023 to 2024 season (Figure 21).

Figure 21: Daily estimated ILI Google search query rates per 100,000 population, England



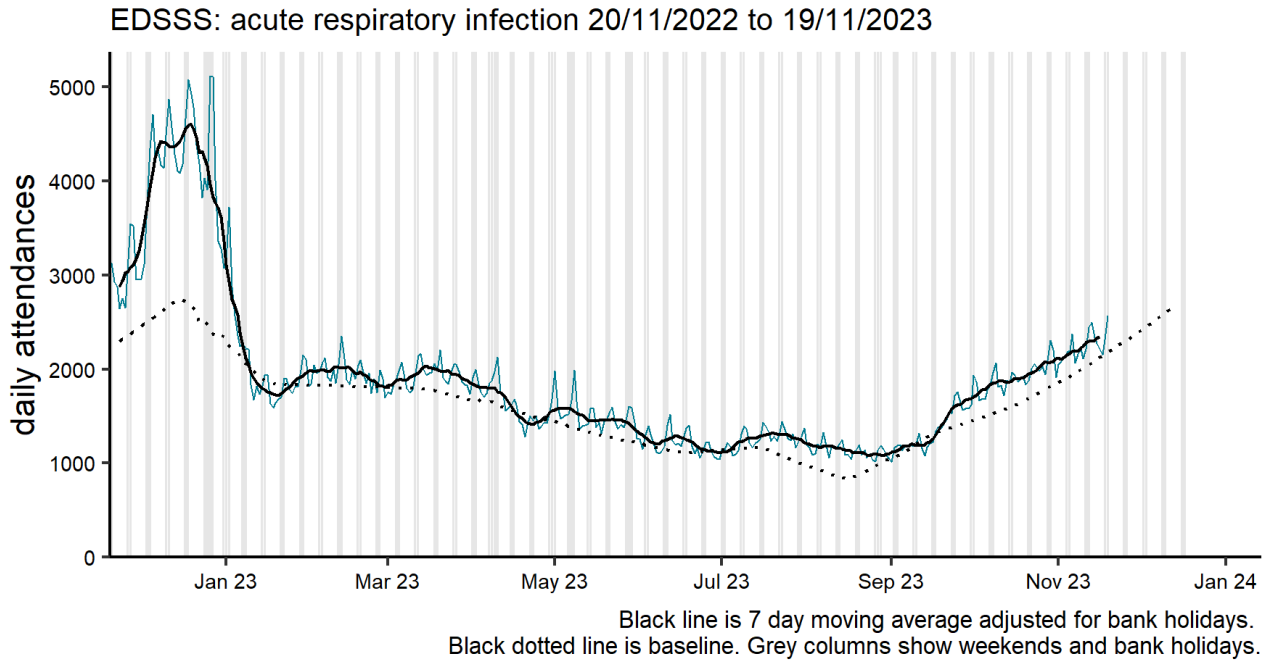
Syndromic surveillance

During week 46, NHS 111 calls for cold or flu increased in children aged between 1 and 4 years old, and calls for cough increased in children aged under 15 years old. GP in hours consultation rates for ILI remained stable and similiar to seasonally expected levels. ED attendances for ARI continued to increase nationally and particularly in children under 5 years old (Figure 22). ED attendances for ILI remained stable nationally (Figure 23). ED attendances for acute bronchiolitis continued to increase nationally, particularly in children aged under 1 year old (Figure 24). ED for COVID-19-like illness continued to decrease nationally.

For further information on syndromic surveillance please see the Syndromic Surveillance: weekly summaries.

Figure 22: Daily ED attendances for acute respiratory infection, England (a) nationally, (b) by age group

(a)



(b)

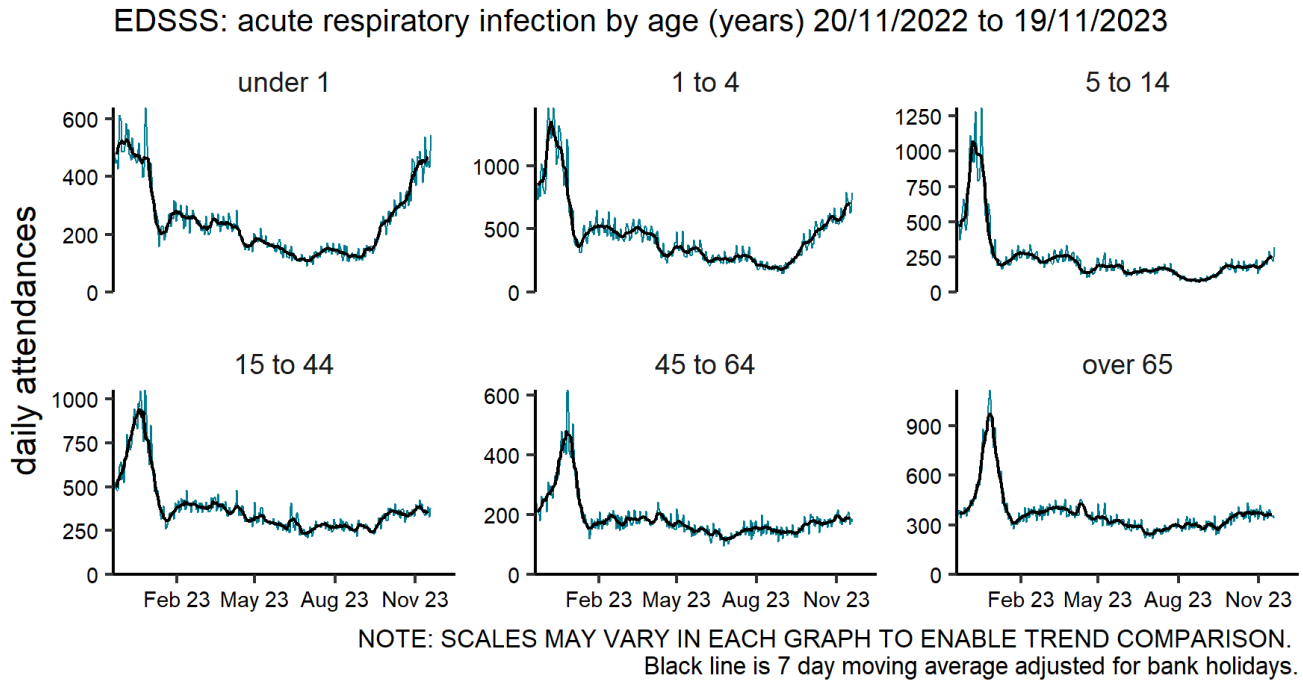
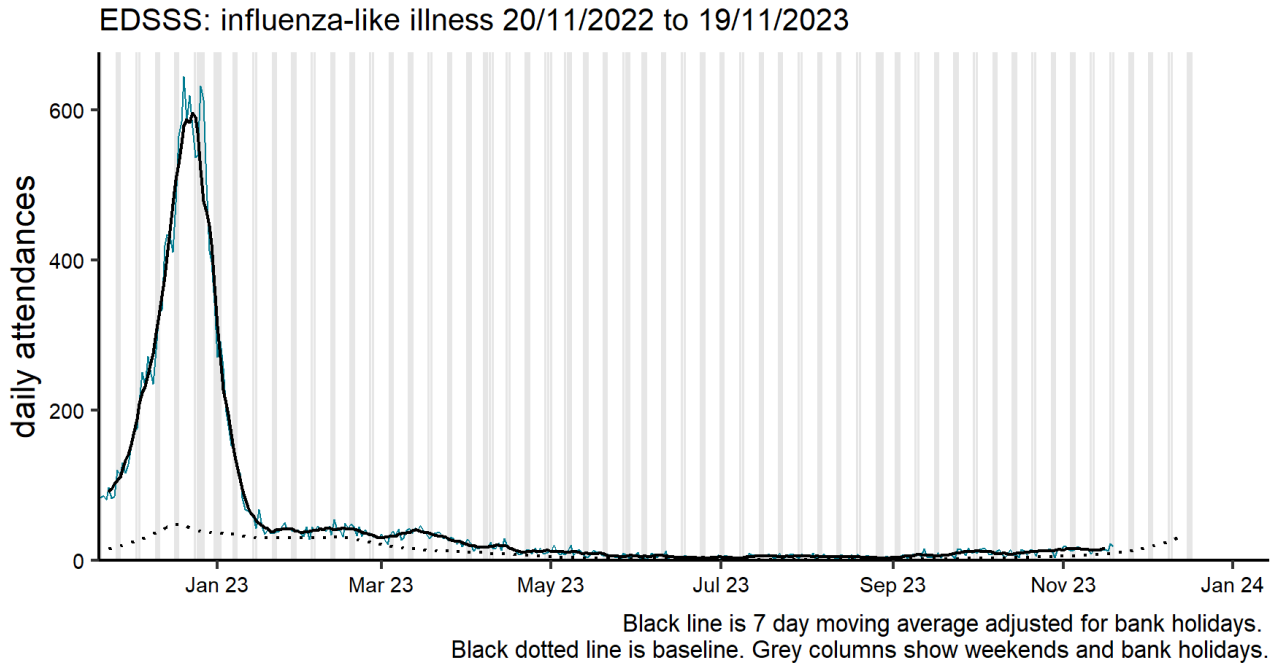


Figure 23: Daily ED attendances for influenza-like illness, England (a) nationally, (b) by age group

(a)



(b)

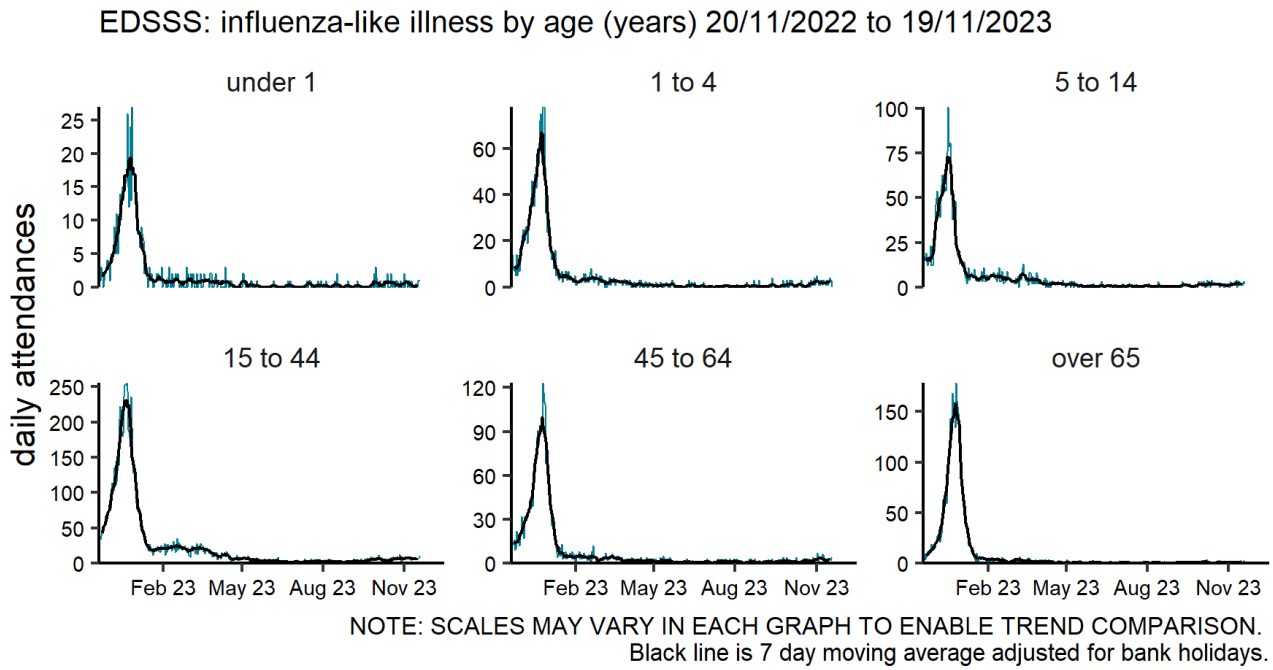
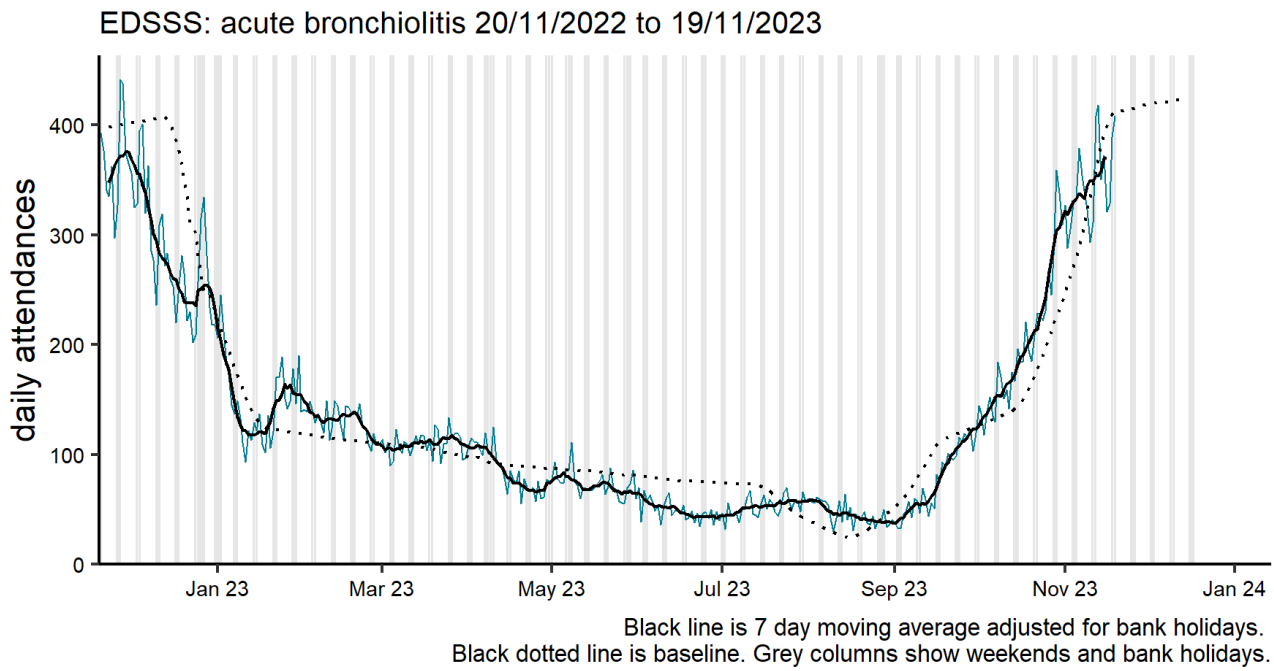
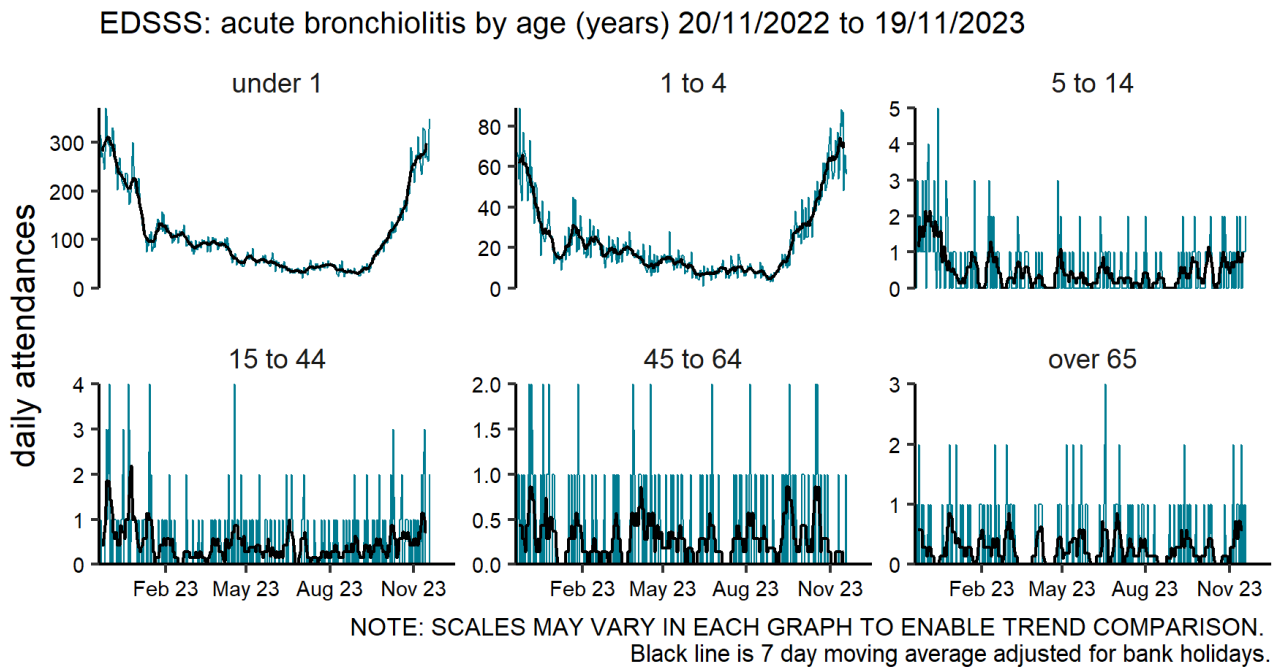


Figure 24: Daily ED attendances for acute bronchiolitis, England (a) nationally, (b) by age group*

(a)



(b)



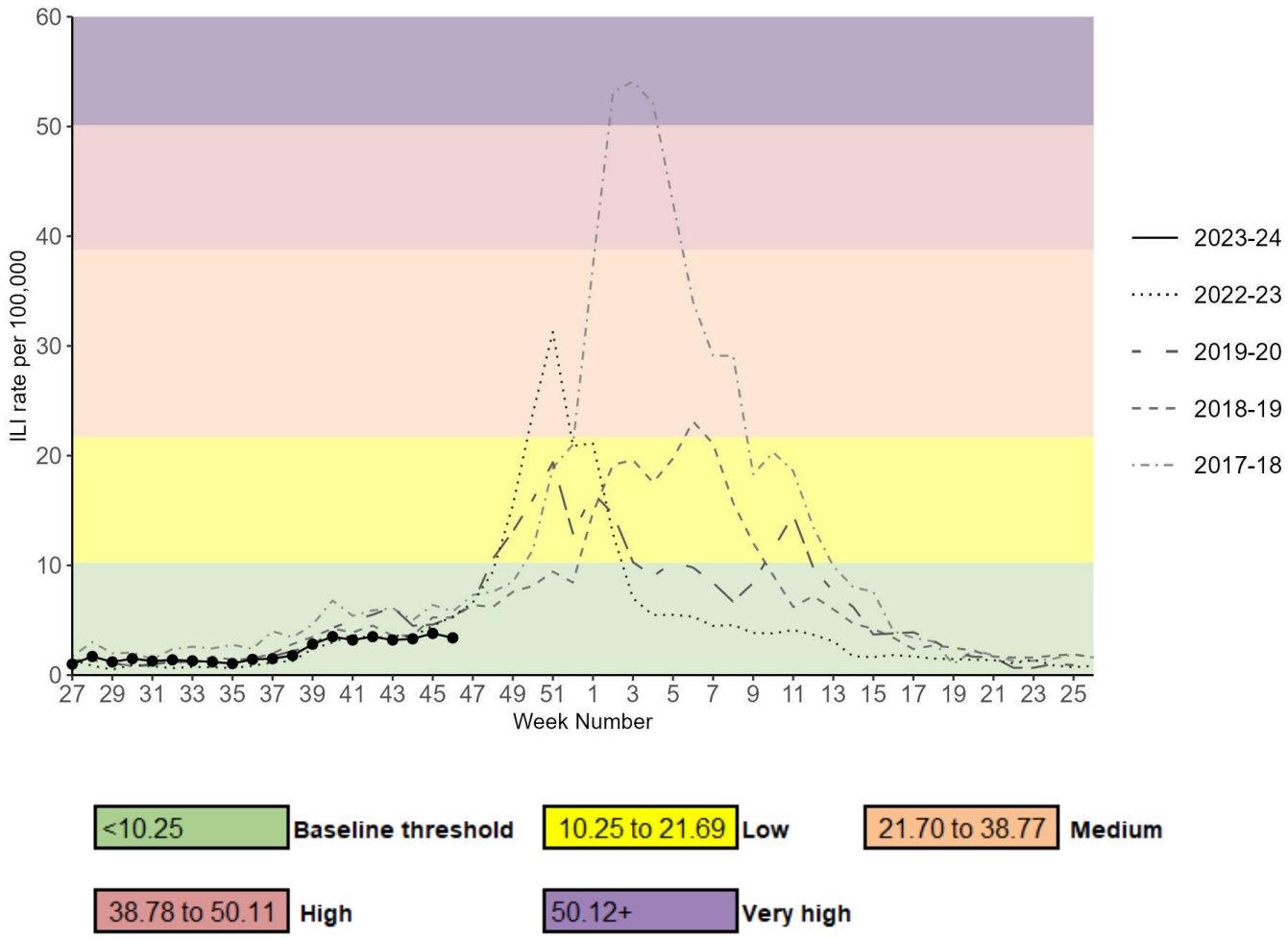
*Please note, there was no update in week 14 for acute bronchiolitis syndromic surveillance.

Primary care surveillance

RCGP Clinical Indicators (England)

The weekly ILI consultation rate through the Royal College of General Practioners (RCGP) surveillance decreased to 3.4 per 100,000 registered population in participating GP practices in week 46 compared to 3.8 per 100,000 in the previous week. This is within baseline activity levels (less than 10.25 per 100,000) (Figure 25). By age group, the highest rates were seen those aged between 1 and 4 years old (5.0 per 100,000) followed by those aged under 1 years old (4.0 per 100,000). The lower respiratory tract infections (LRTI) consultation rate increased slightly to 91.0 per 100,000 in week 46 compared to 89.1 per 100,000 in the previous week.

Figure 25: RCGP ILI consultation rates, all ages, England



Moving Epedemic Method (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.

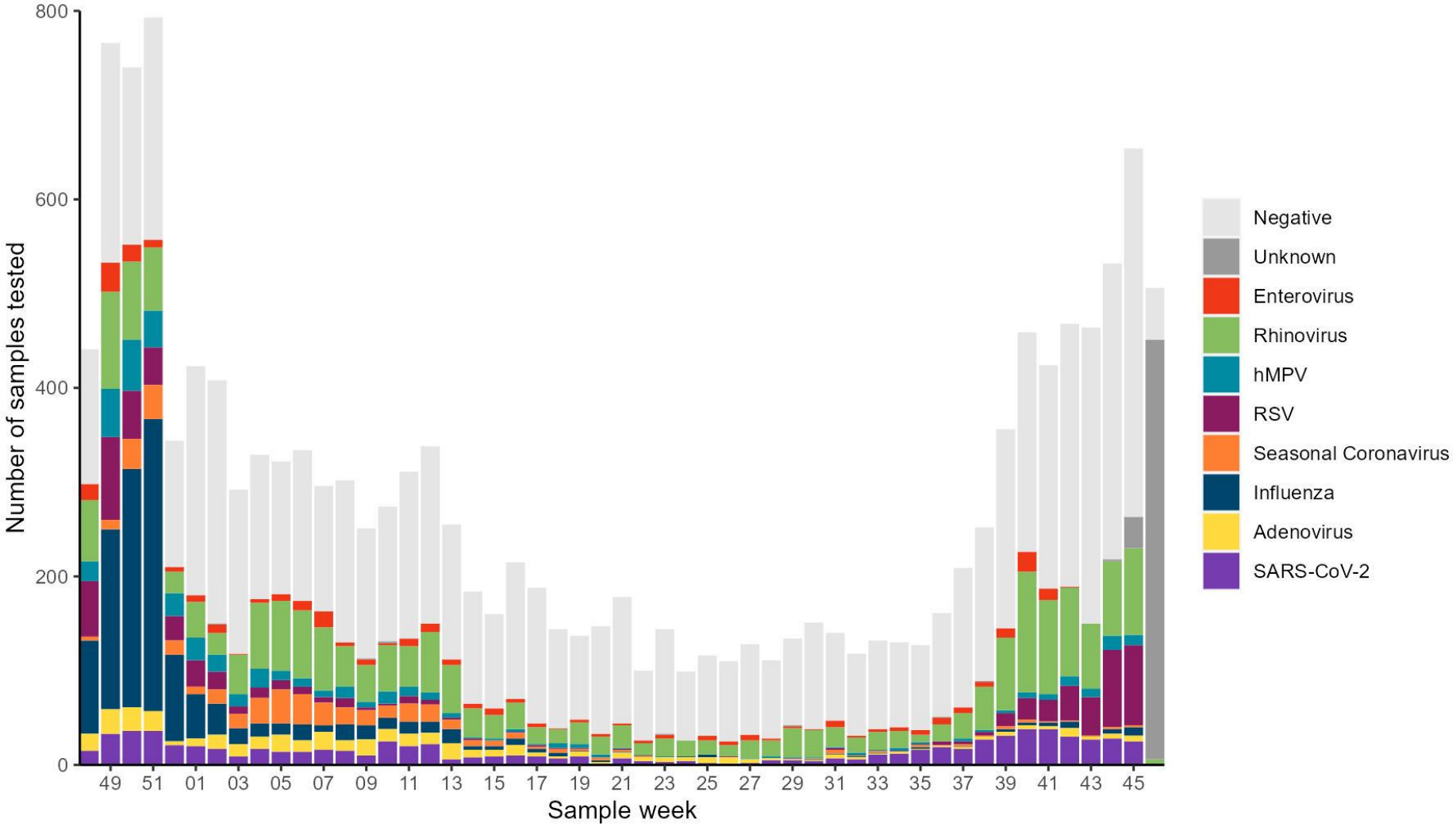
RCGP sentinel swabbing scheme in England

Based on the date samples were taken, in week 46 2023 (week commencing 13 November 2023) 506 samples were tested through the GP sentinel swabbing scheme in England, of which 6 samples tested positive (Figure 26). Among all positive samples, 83.3% were positive for rhinovirus and 16.7% for RSV (Figure 27).

Data from the most recent week was based on a low amount of tests and will be updated retrospectively. In week 45, positivity for RSV was 14.3%, positivity for influenza was 1.5% and positivity for SARS-CoV-2 was 4.2% in week 46 (Figure 28).

In previous reports, figure 26 and figure 27 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.

Figure 26: Number of samples tested for SARS-CoV-2, influenza, and other respiratory viruses in England by week, GP sentinel swabbing



Unknown category corresponds to samples with no result yet.

Figure 27: 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

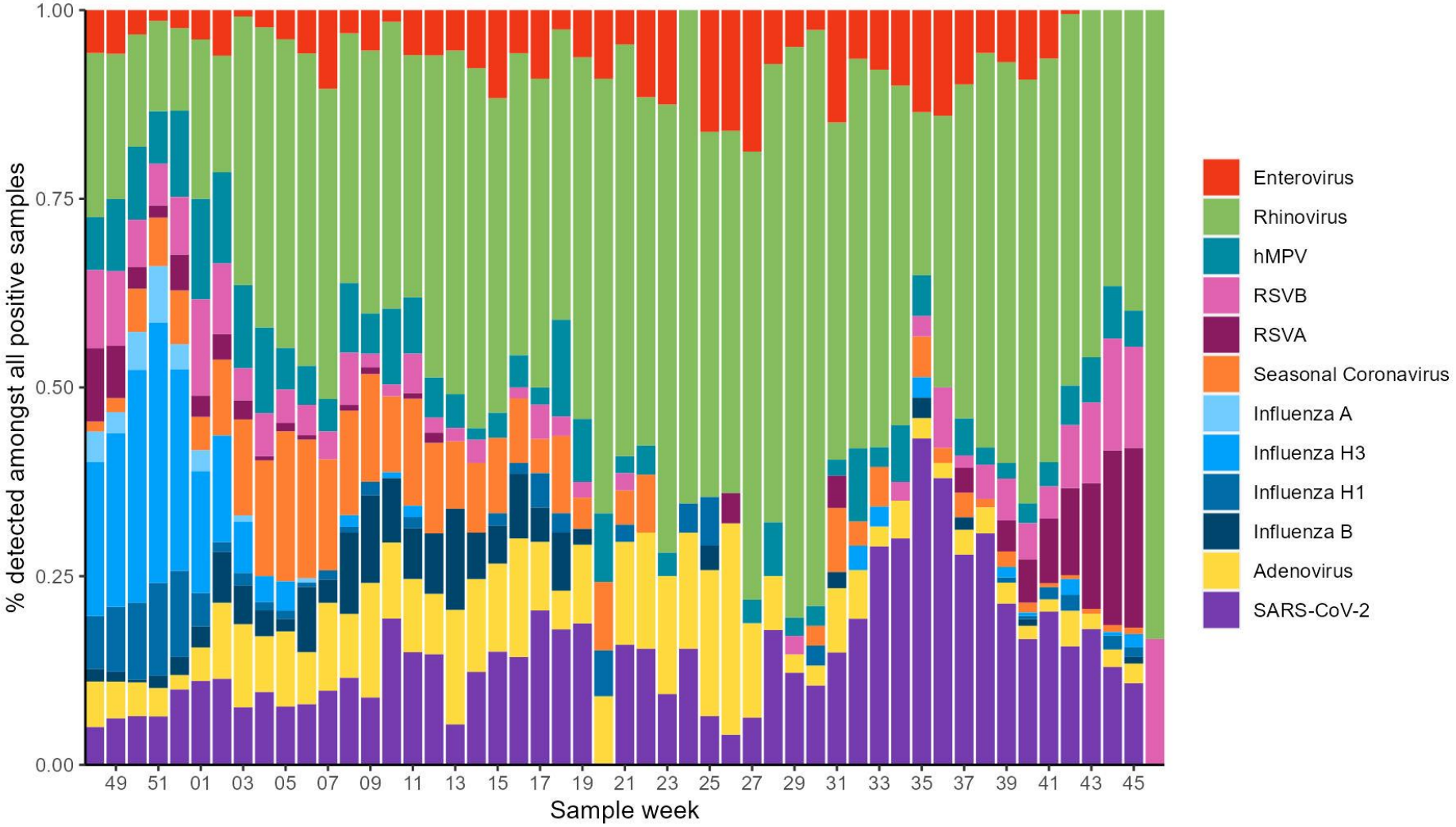
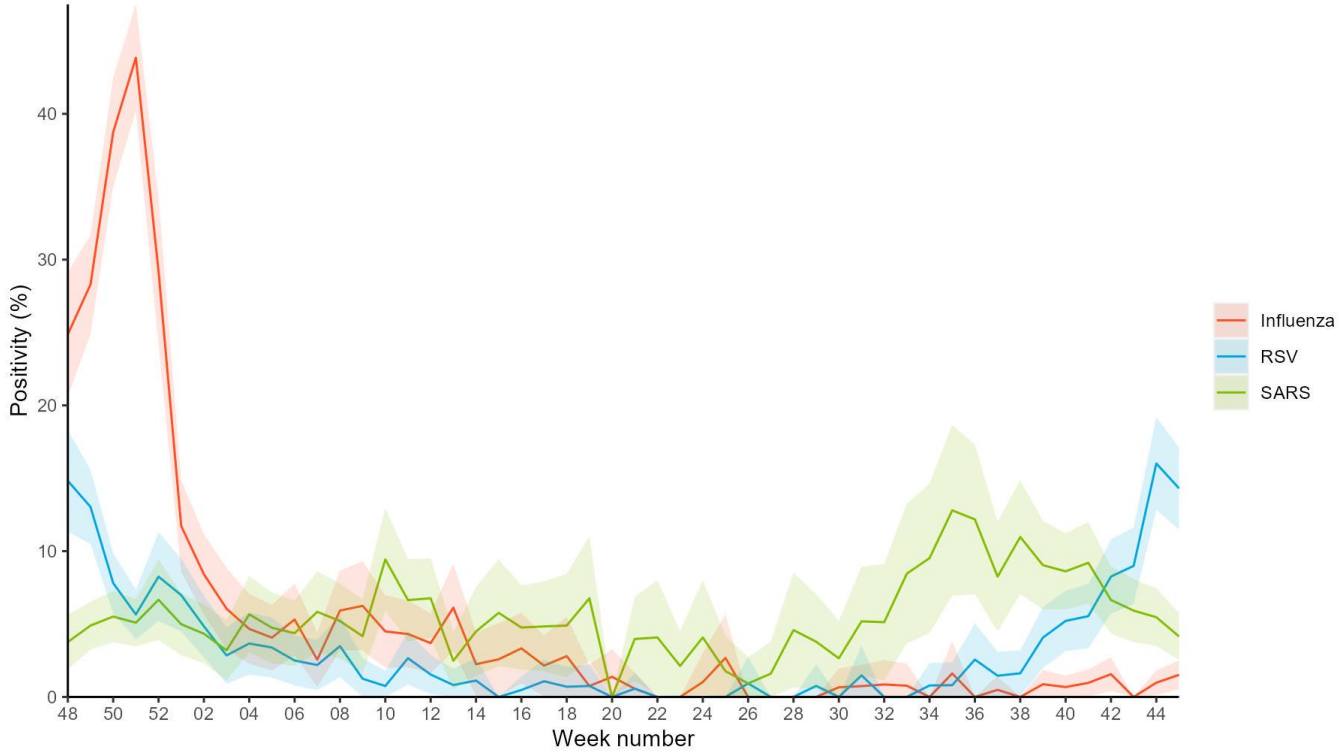


Figure 28: Weekly positivity (%) for COVID-19, influenza and RSV in England, GP sentinel swabbing



Secondary care surveillance

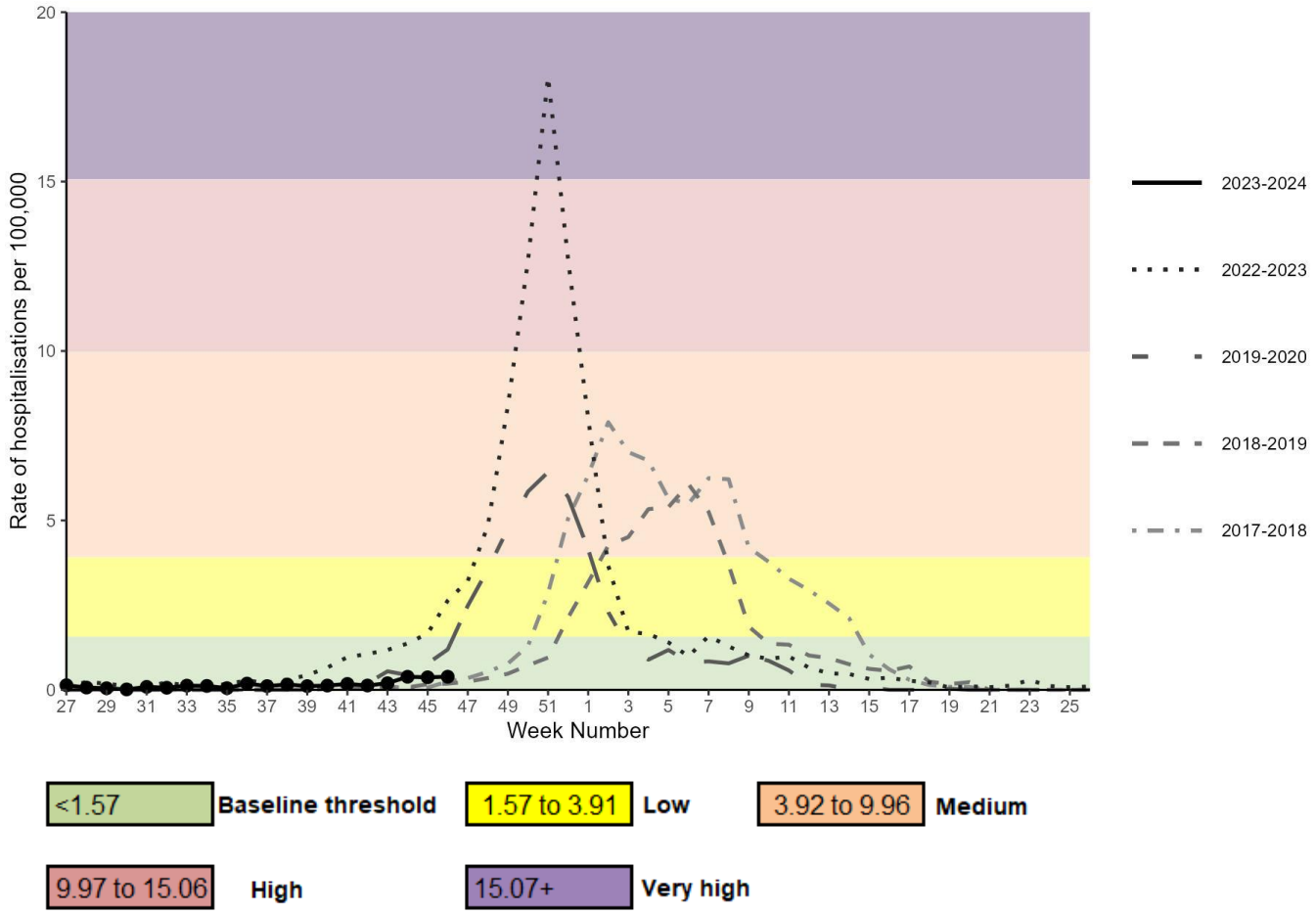
Influenza, SARI Watch

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 46 (ending 19 November 2023), the overall weekly hospital admission rate for influenza remained low at 0.39 per 100,000 compared to 0.37 per 100,000 in the previous week. The rate in the latest week remained within baseline activity levels. There were 34 new hospital admissions for influenza (21 influenza A(not subtyped), 6 influenza A(H3N2), 5 influenza A(H1N1)pdm09 and t2 influenza B).

In week 46, the overall ICU or HDU rate for influenza remained low at 0.01 per 100,000 compared to 0.01 per 100,000 in the previous week. The rate in the latest week remained within baseline activity levels. There were 6 new case reports of an ICU or HDU admission for influenza in week 46 (three influenza A(not subtyped), one influenza A(H1N1)pdm09, one influenza A(H3N2) and one influenza B).

Figure 29: Weekly overall influenza hospital admission rates per 100,000 trust catchment population with MEM thresholds, reported through SARI Watch, England

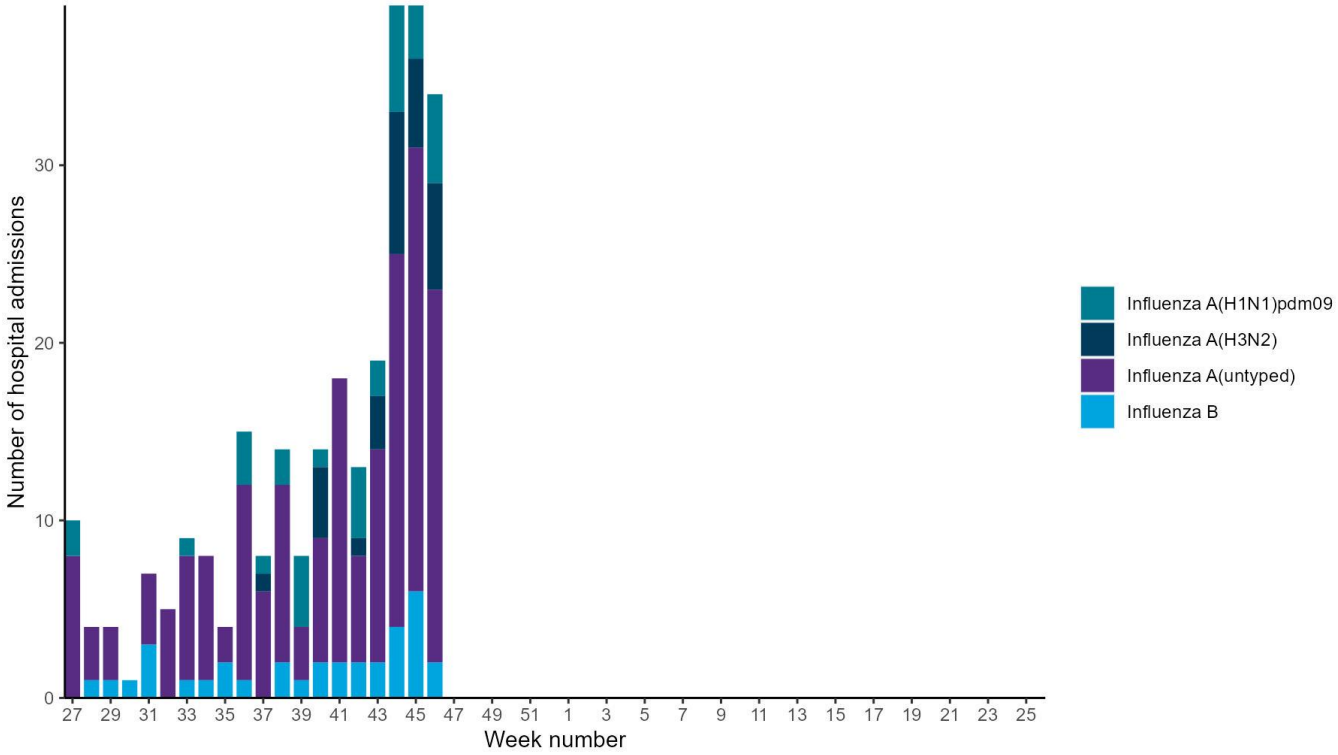


MEM thresholds are based on data from the 2015 to 2016 to the 2022 to 2023 seasons. Please note the 2020 to 2021 and 2021 to 2022 seasons have been removed due to low activity throughout these seasons.

Influenza hospital admission rate based on 20 sentinel NHS trusts for week 46.

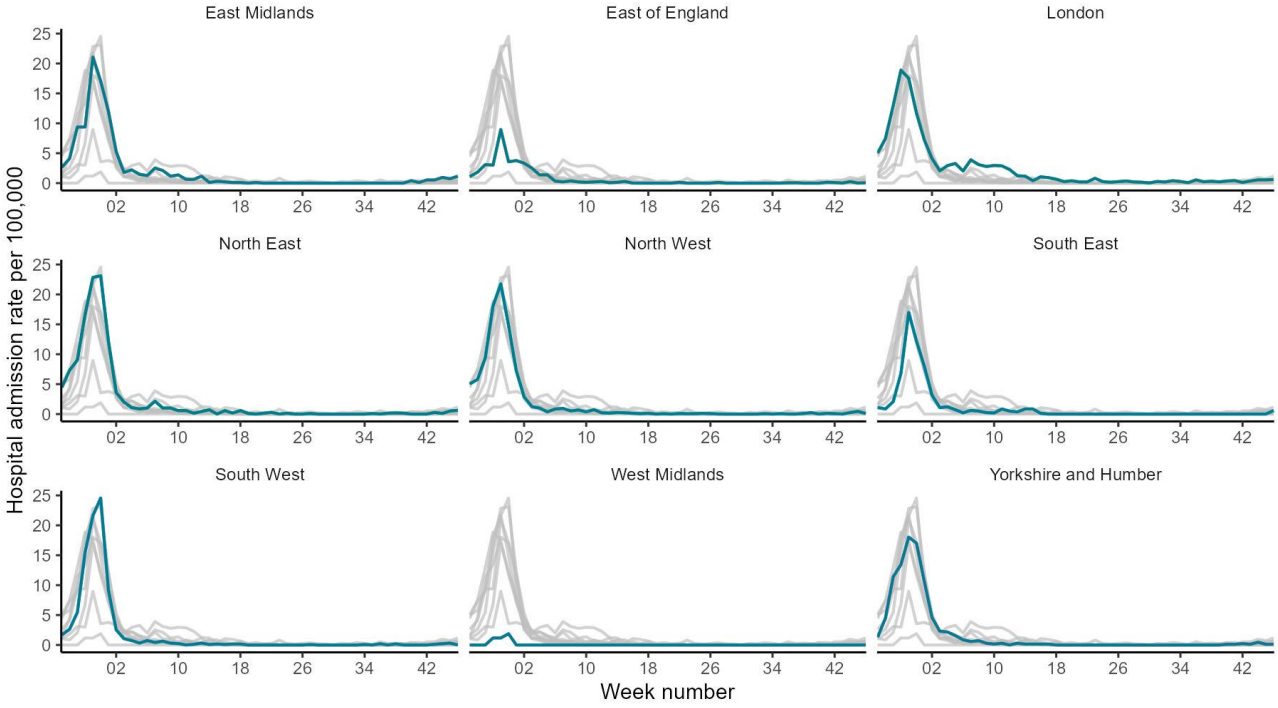
SARI Watch data is provisional and subject to retrospective updates.

Figure 30: Weekly influenza hospital admissions by influenza type, reported through SARI Watch, England



Number of influenza hospital admissions based on sentinel NHS trusts.

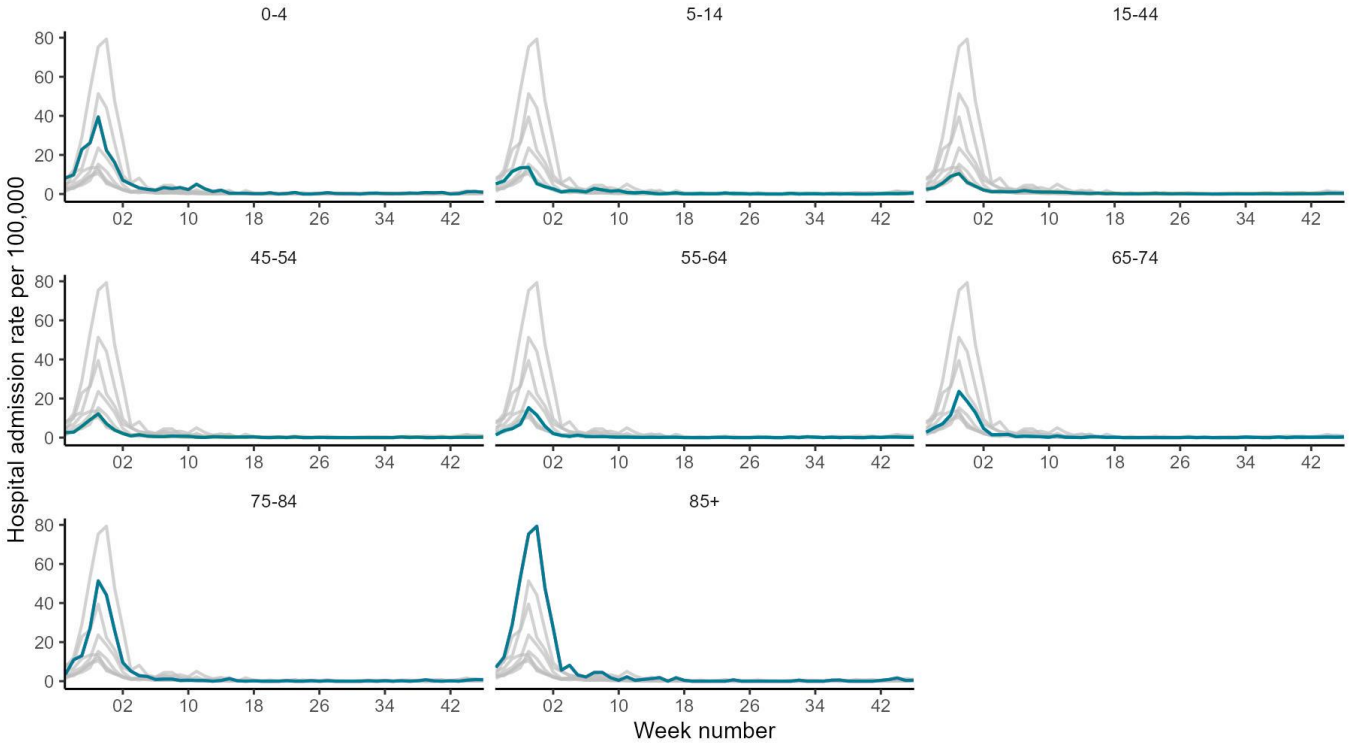
Figure 31: Weekly hospital admission rate by UKHSA region for new influenza reported through SARI Watch*



*Rates in some regions may not include all influenza surveillance sentinel sites from week to week.
*Please note the highlighted line corresponds to the UKHSA region in the subplot title, grey lines correspond to all other regions.

Figure 32: Weekly hospital admission rate by age group for new influenza reported through SARI Watch - a) fixed y-axis, b) adjusted y-axis

a)



Please note the highlighted line corresponds to the age group in the subplot title, grey lines correspond to all other age groups.

b)

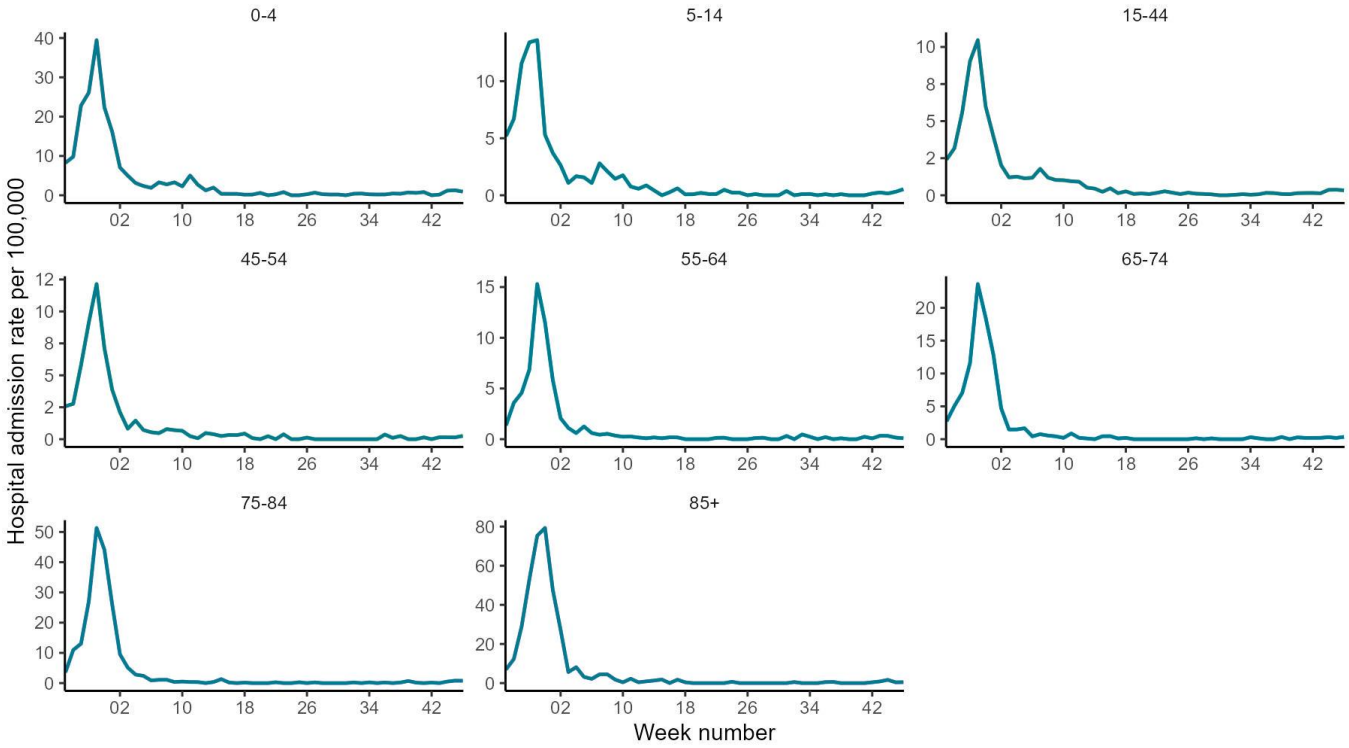
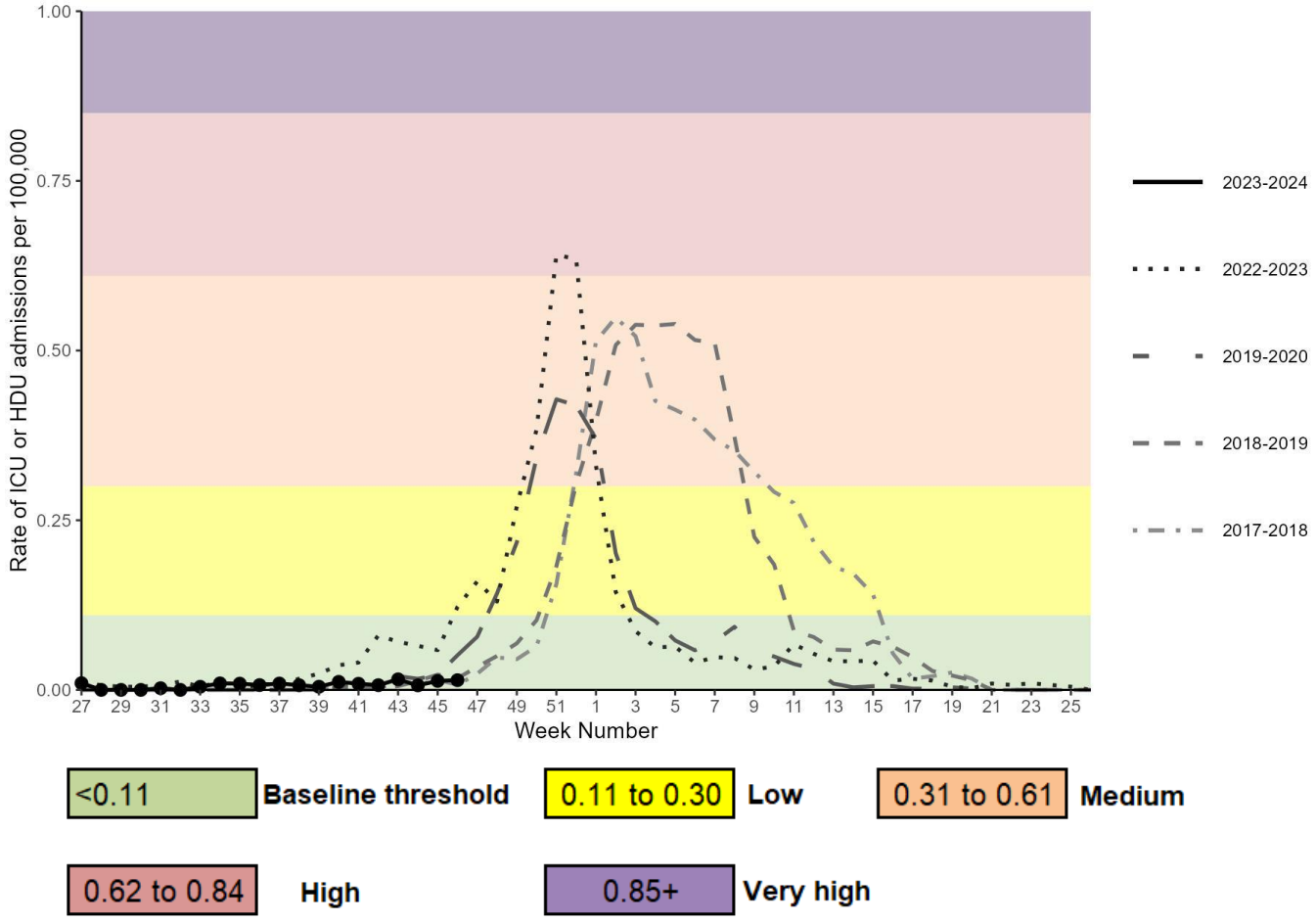


Figure 33: Weekly overall influenza ICU or HDU admission rates per 100,000 trust catchment population with MEM thresholds, reported through SARI Watch, England



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 95 NHS trusts for week 46.

SARI Watch data is provisional and subject to retrospective updates.

Figure 34: Weekly influenza ICU or HDU admissions by influenza type, reported through SARI Watch, England

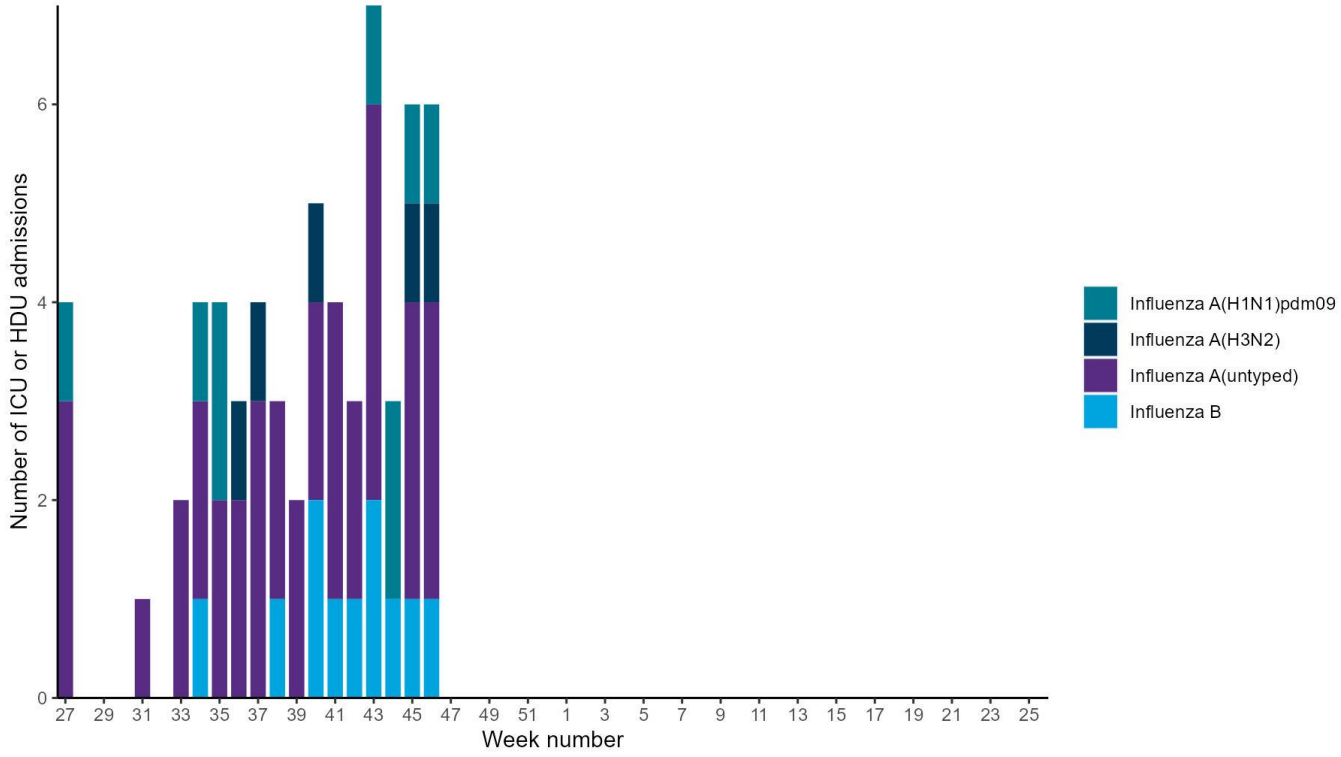
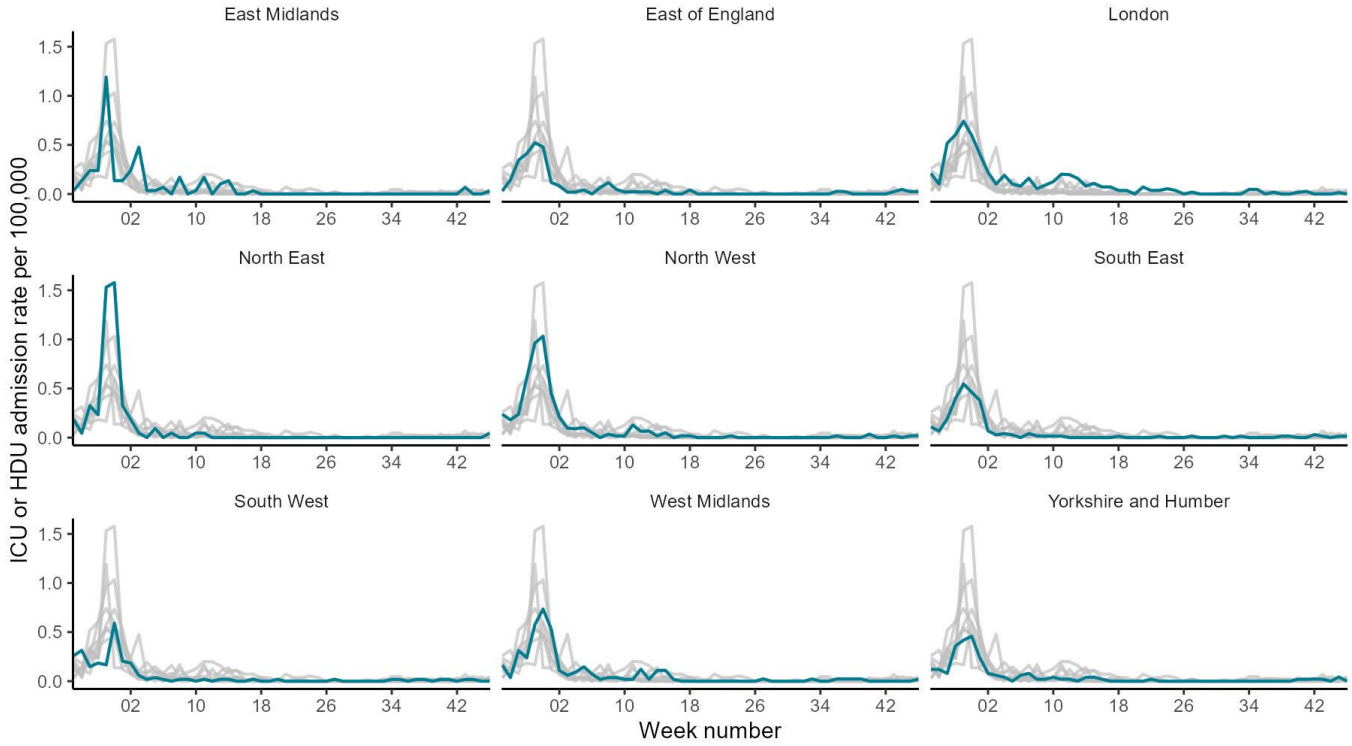


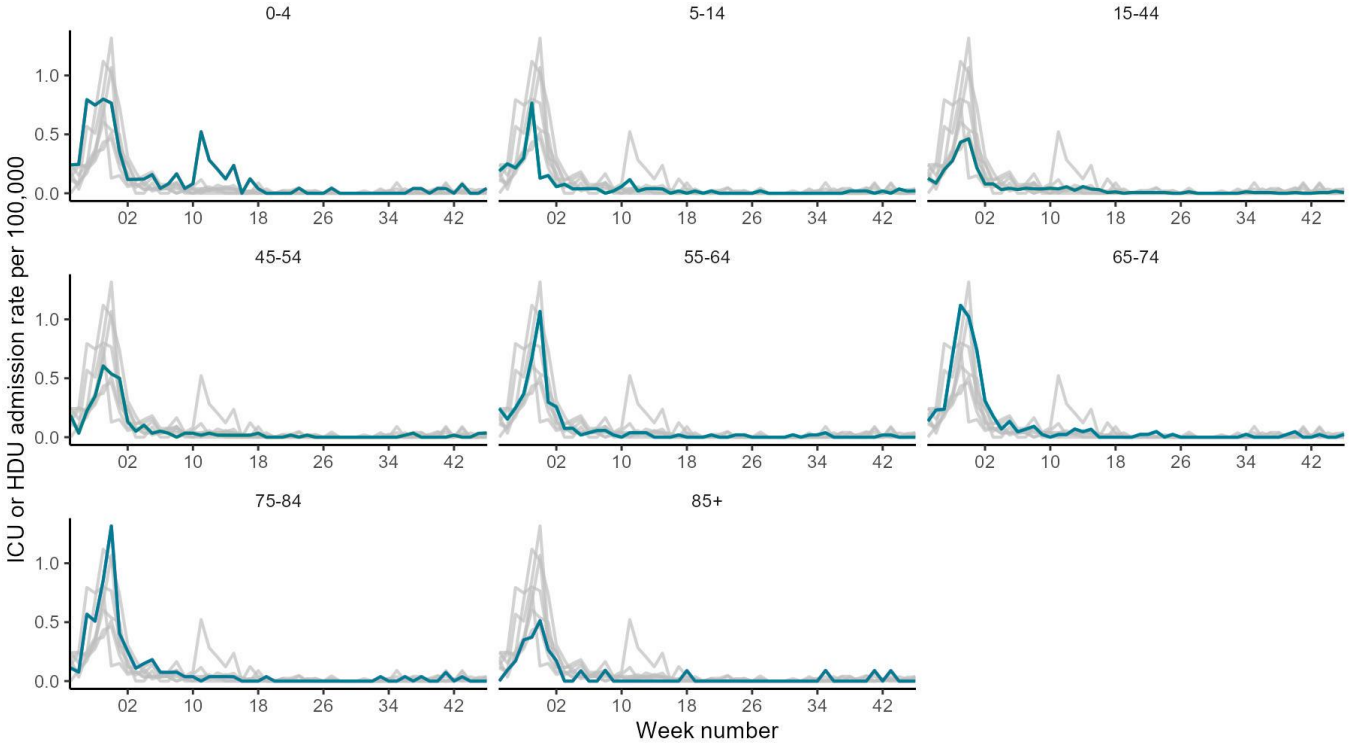
Figure 35: Weekly ICU or HDU admission rate by UKHSA region for new influenza, reported through SARI Watch



Please note the highlighted line corresponds to the UKHSA region in the subplot title, grey lines correspond to all other regions.

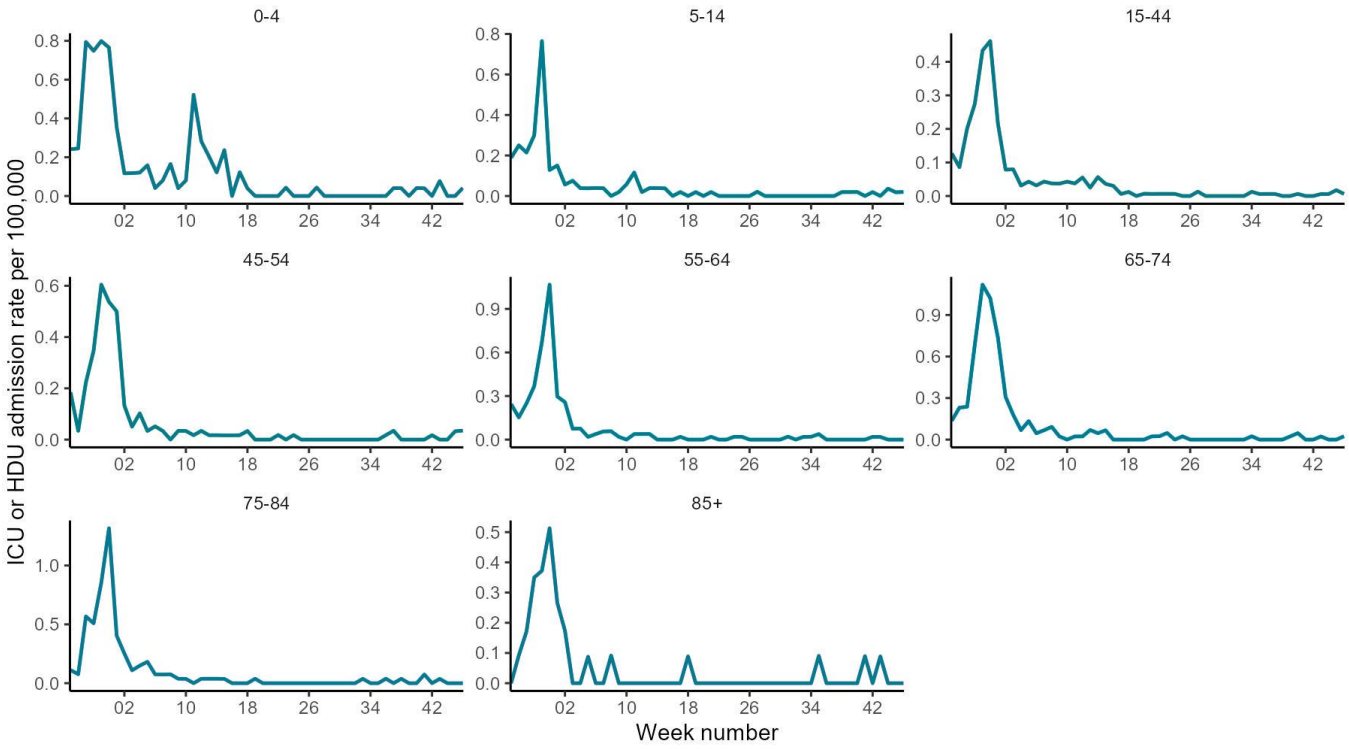
Figure 36: Weekly ICU or HDU admission rate by age group for new influenza cases, reported through SARI Watch - a) fixed y-axis, b) adjusted y-axis

a)



Please note the highlighted line corresponds to the age group in the subplot title, grey lines correspond to all other age groups.

b)



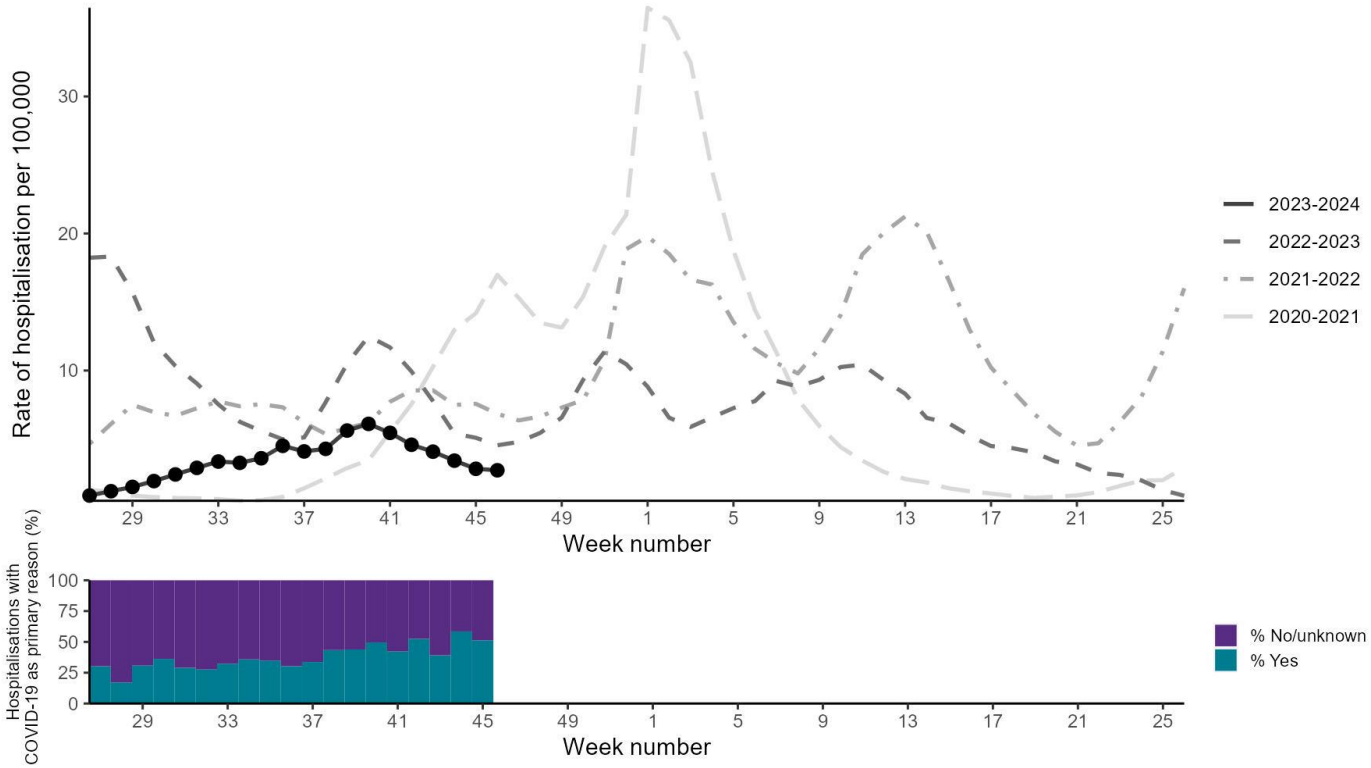
COVID-19, SARI Watch

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. The population denominator reflects changes in trust reconfiguration, hospital admission activity and population estimates.

In week 46 (ending 19 November 2023), the overall weekly hospital admission rate for COVID-19 decreased to 2.72 per 100,000 compared to 2.83 per 100,000 in the previous week. By UKHSA region, the highest hospital admission rate for COVID-19 was observed in the North West. By age group, the highest hospital admission rate for COVID-19 continues to be in those aged 85 years and over.

In week 46 (ending 19 November 2023), the overall weekly ICU or HDU admission rate for COVID-19 decreased to 0.07 per 100,000, compared to 0.13 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 46 due to low underlying numbers.

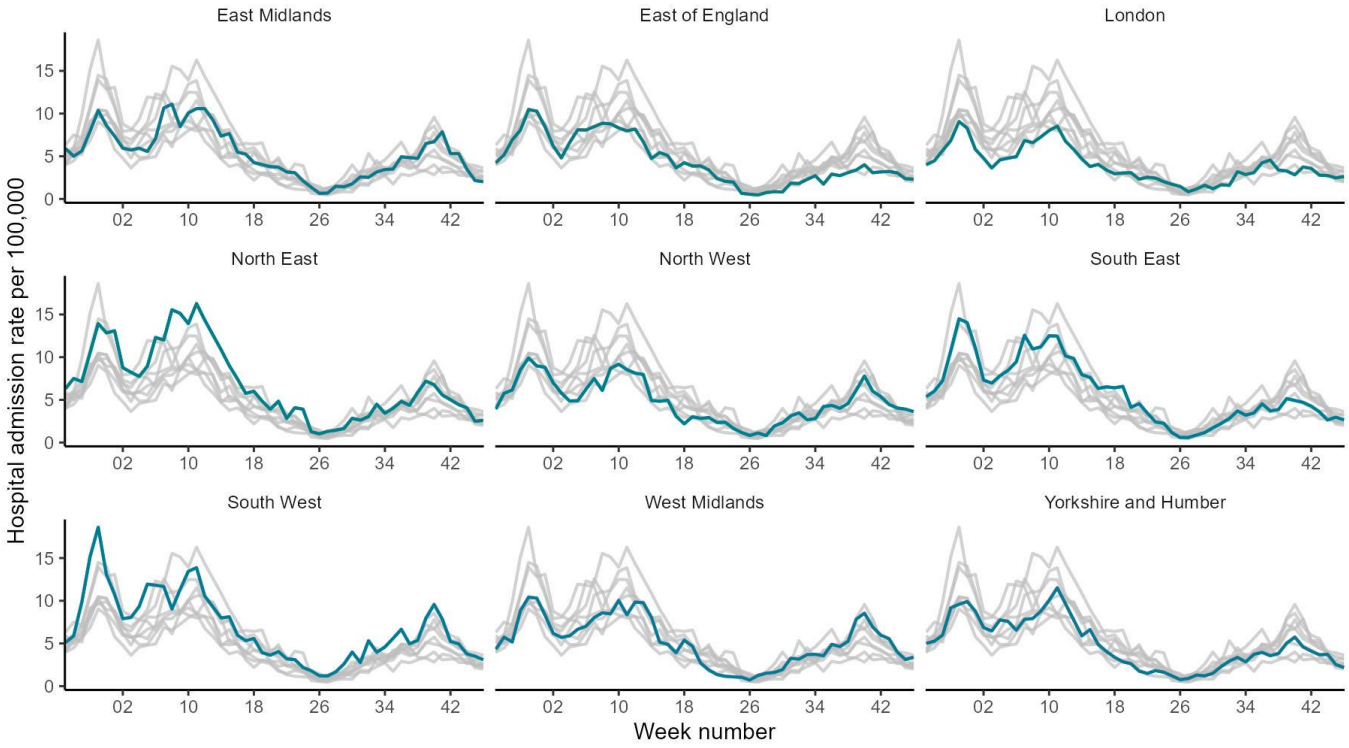
Figure 37: Weekly overall COVID-19 hospital admission rates per 100,000 trust catchment population, reported through SARI Watch, England



COVID-19 hospital admission rate based on 83 NHS trusts for week 46.

SARI Watch data is provisional and subject to retrospective updates.

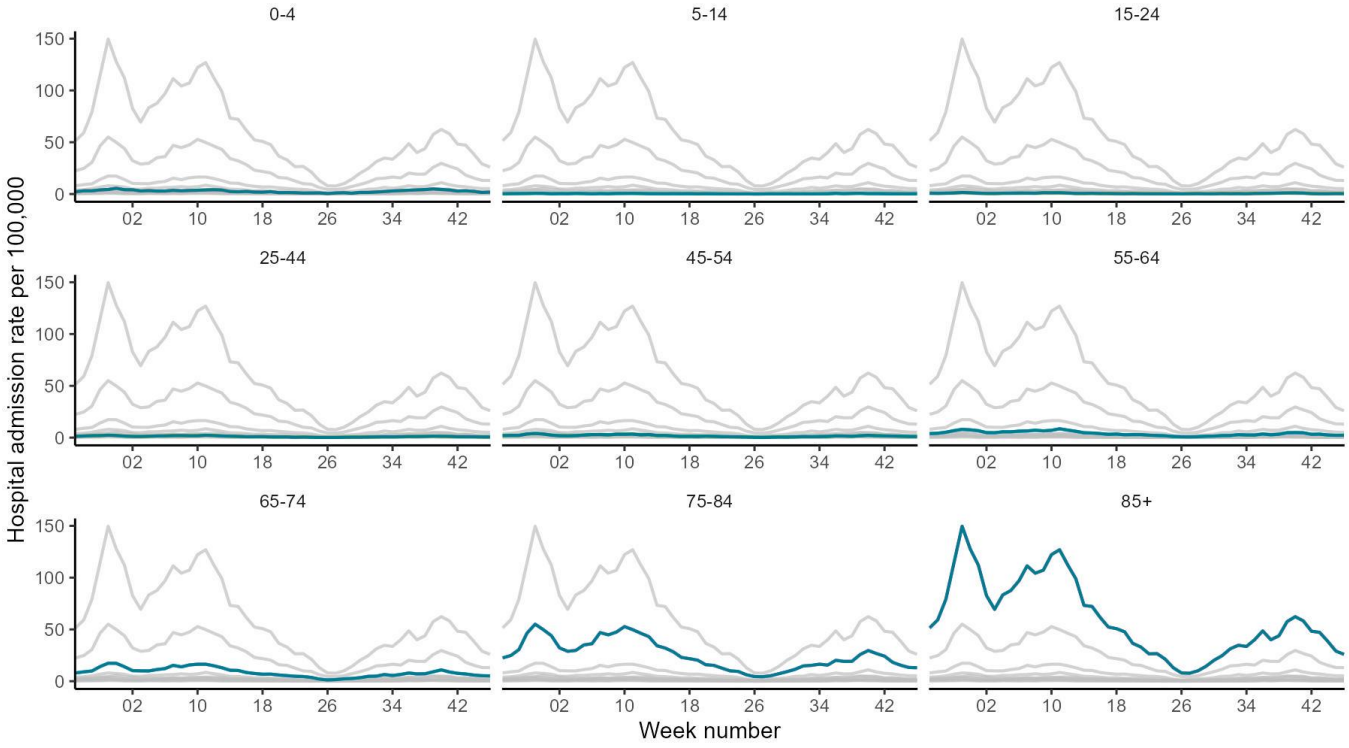
Figure 38: Weekly hospital admission rate by UKHSA region for new COVID-19 positive cases, reported through SARI Watch*



*Please note the highlighted line corresponds to the UKHSA region in the subplot title, grey lines correspond to all other regions.

Figure 39: Weekly hospital admission rate by age group for new COVID-19 positive cases reported through SARI Watch - a) fixed y-axis, b) adjusted y-axis

a)



Please note the highlighted line corresponds to the age group in the subplot title, grey lines correspond to all other age groups.

b)

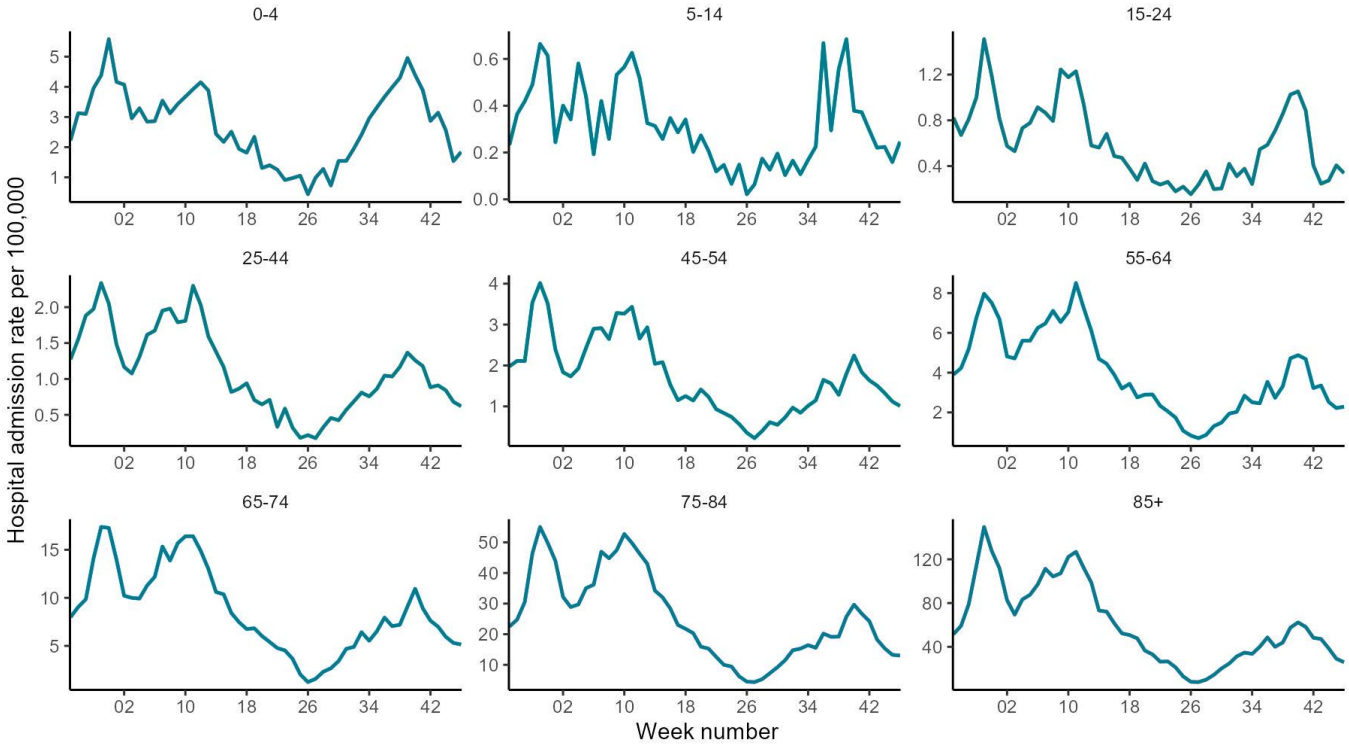
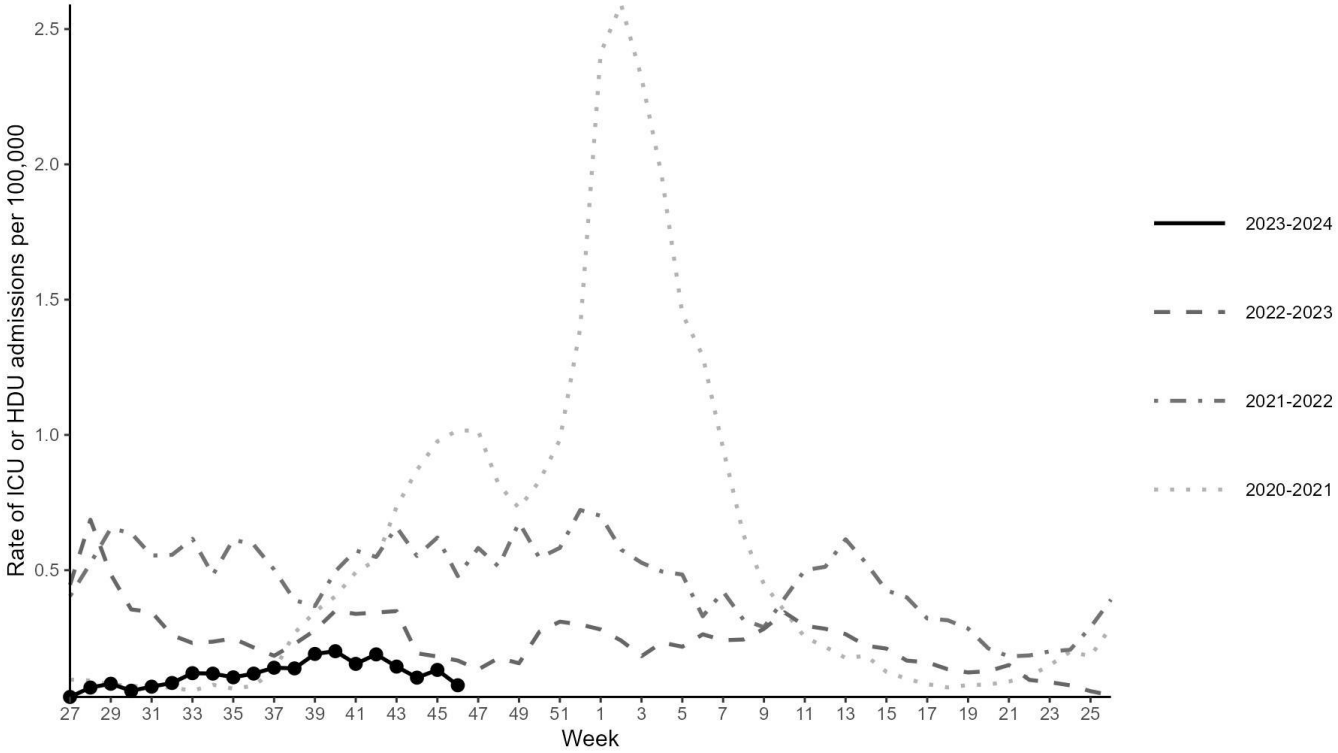


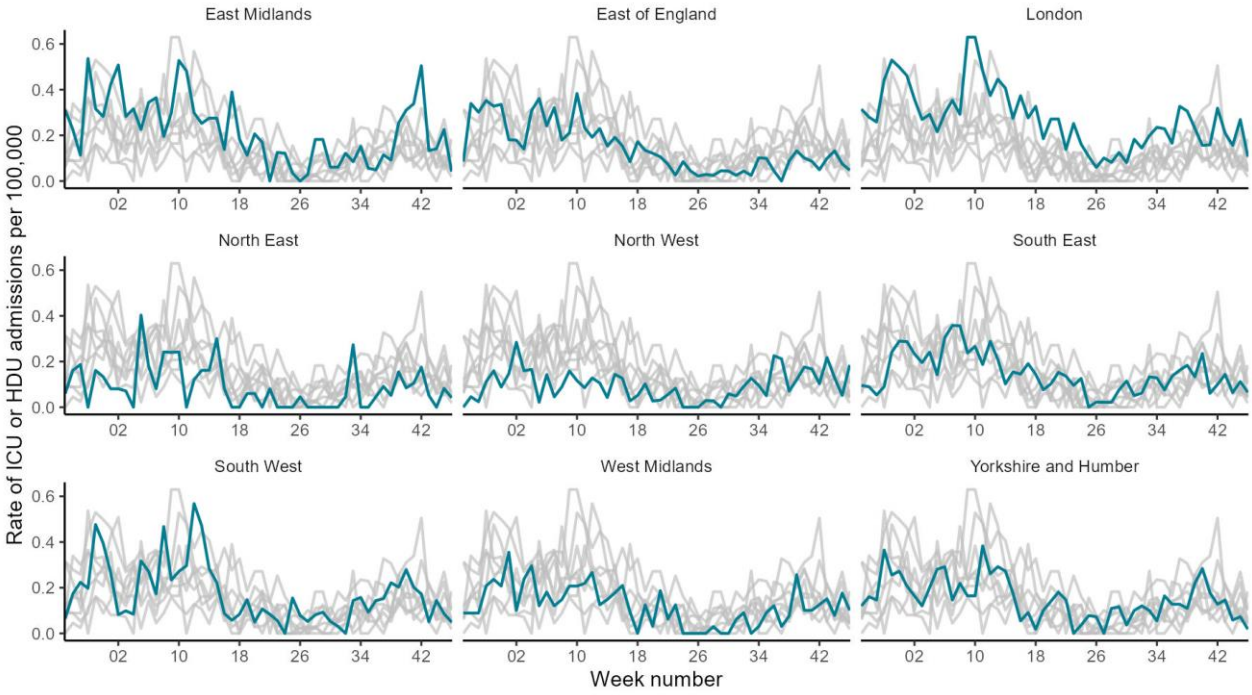
Figure 40: Weekly overall COVID-19 ICU or HDU admission rates per 100,000 trust catchment population, reported through SARI Watch, England



COVID-19 ICU or HDU admission rate based on 83 NHS trusts for week 46.

SARI Watch data is provisional and subject to retrospective updates.

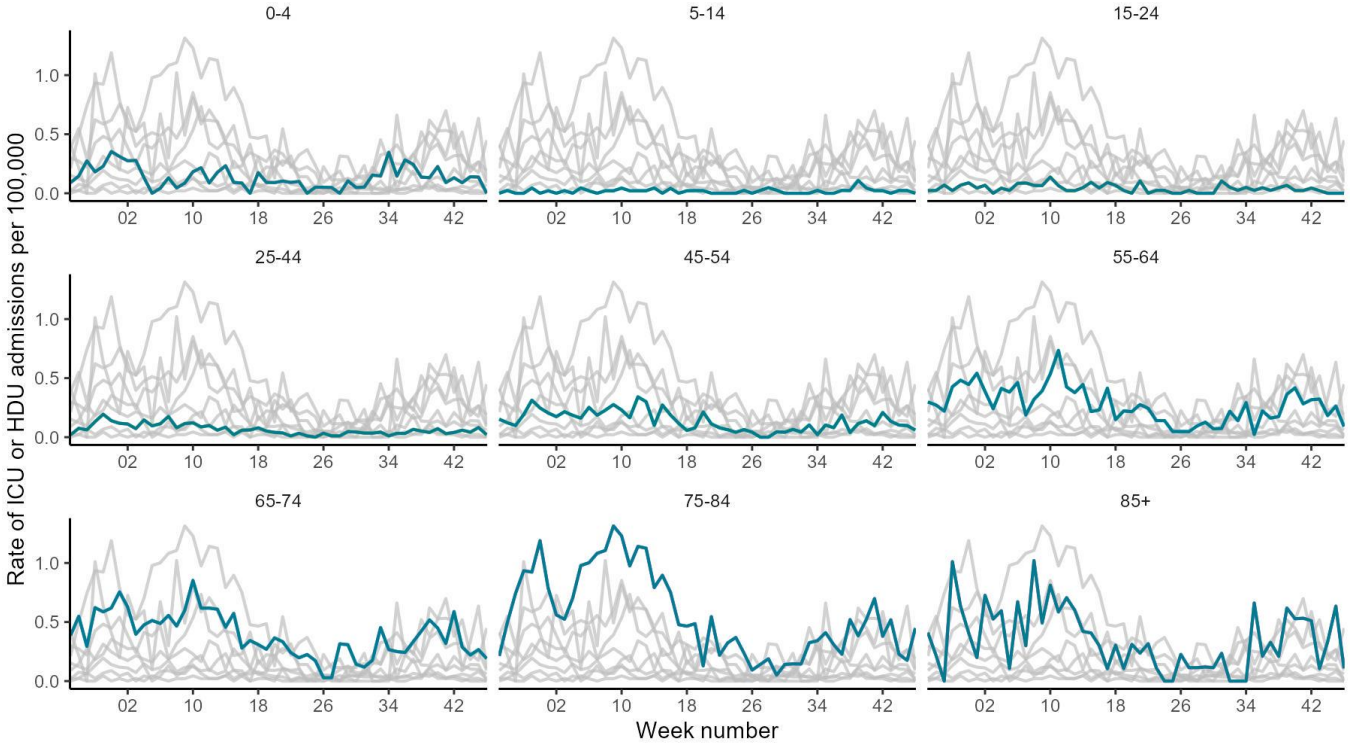
Figure 41: Weekly ICU or HDU admission rate by UKHSA region for new COVID-19 positive cases reported through SARI Watch



Please note the highlighted line corresponds to the UKHSA region in the subplot title, grey lines correspond to all other regions.

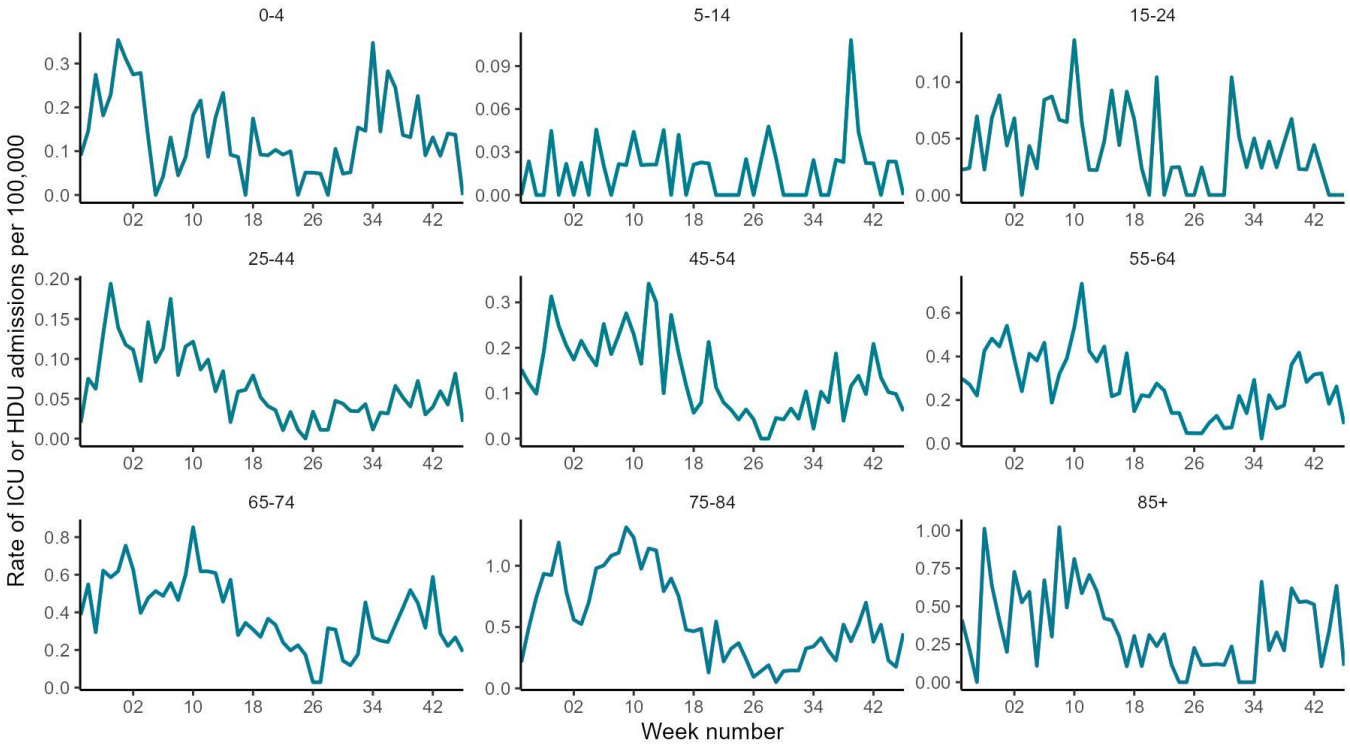
Figure 42: Weekly ICU or HDU admission rate by age group for new COVID-19 positive cases reported through SARI Watch - a) fixed y-axis, b) adjusted y-axis

a)



Please note the highlighted line corresponds to the age group in the subplot title, grey lines correspond to all other age groups.

b)

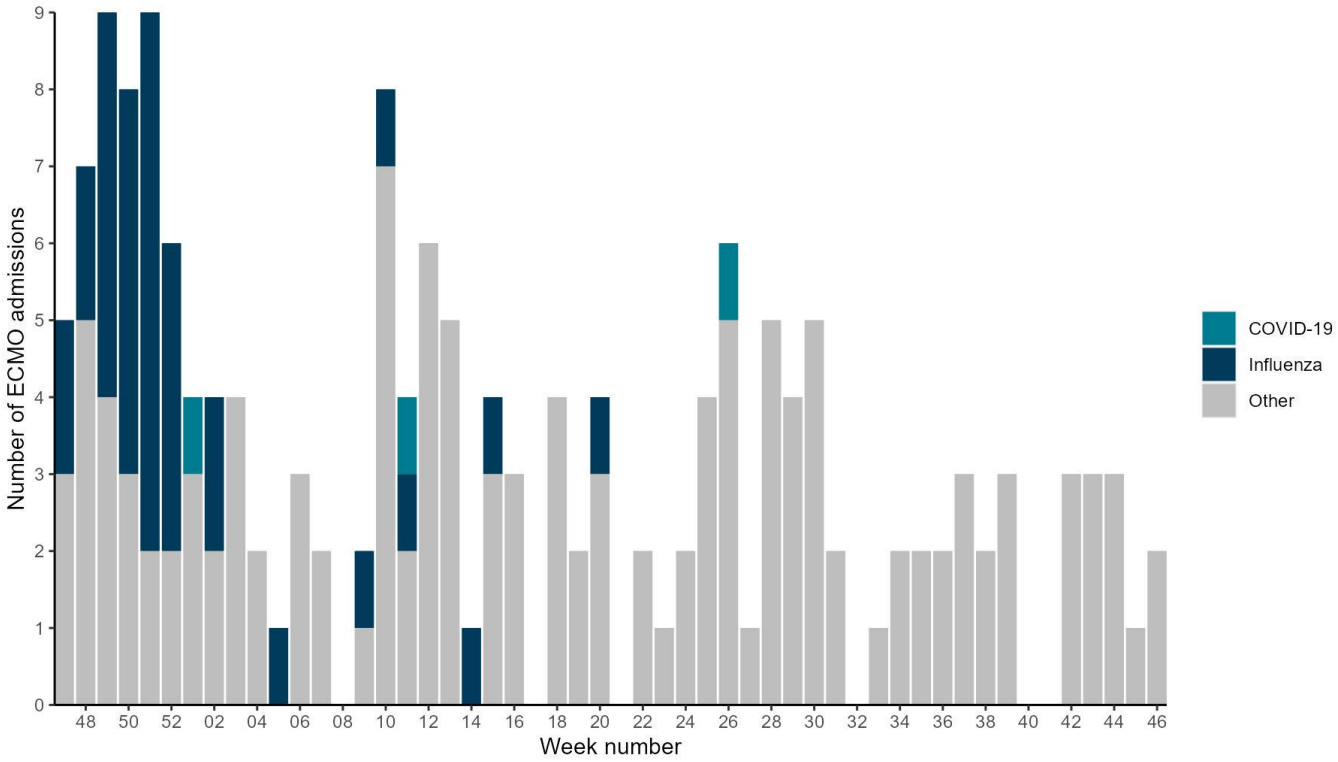


ECMO, SARI Watch

There were 2 new extra corporeal membrane oxygenation (ECMO) admissions reported in week 46 from the 7 Severe Respiratory Failure (SRF) centres in the UK. One admission was related to an ARI and the other admission was not related to an ARI.

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

Figure 43: Laboratory confirmed ECMO admissions in adults (COVID-19, influenza and non-COVID-19 confirmed) to Severe Respiratory Failure centres in the UK



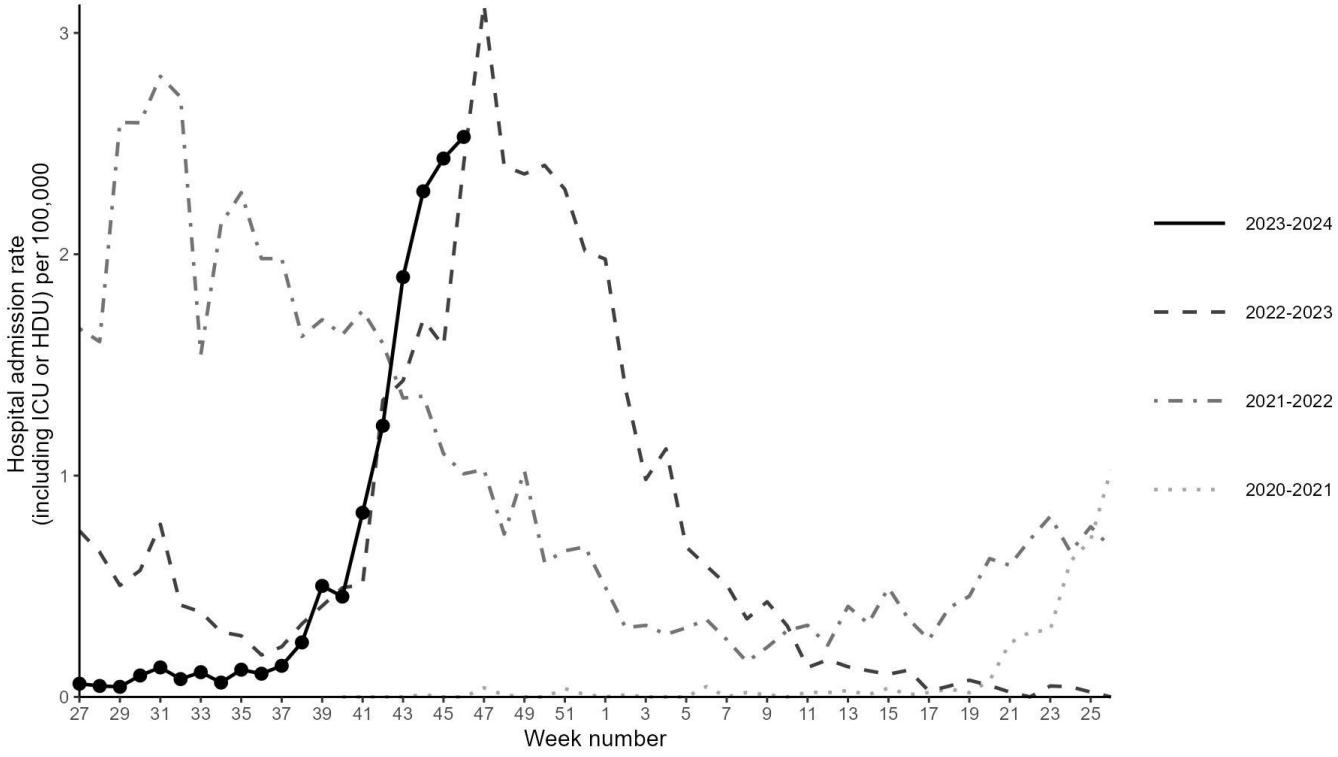
SARI Watch data is provisional and subject to retrospective updates.

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 46, the overall hospital admission rate for RSV increased slightly to 2.53 per 100,000 compared to 2.43 per 100,000 in the previous week. The highest rate was seen in the under 5 year olds at 25.2 per 100,000, which decreased from 32.8 per 100,000 in the previous week.

Figure 44: Weekly overall hospital admission rates (including ICU or HDU) of RSV positive cases per 100,000 population reported through SARI Watch, England



Please note that rates are based on the number of hospitalised cases divided by the Trust catchment population, multiplied by 100,000.

Figure 45: Weekly count hospital admissions of RSV positive cases reported through SARI Watch sentinel surveillance by level of care, England

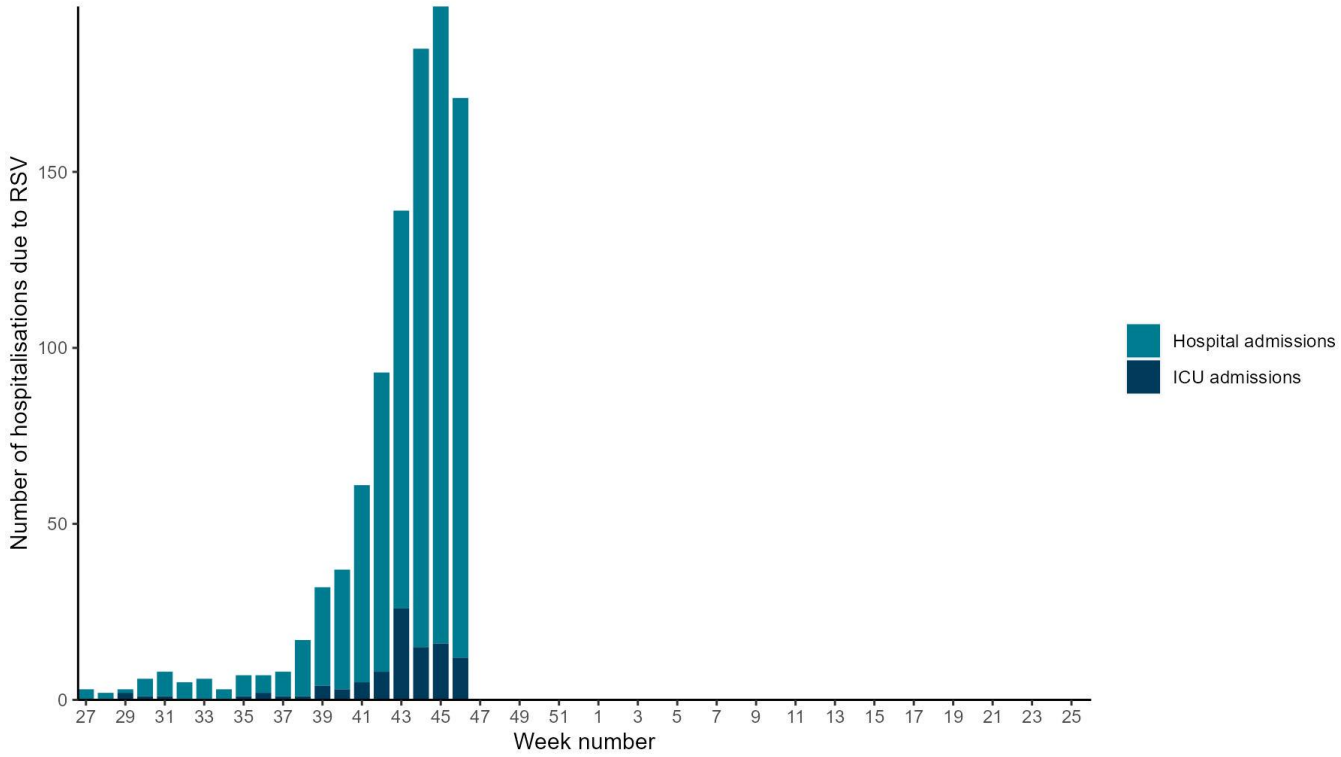
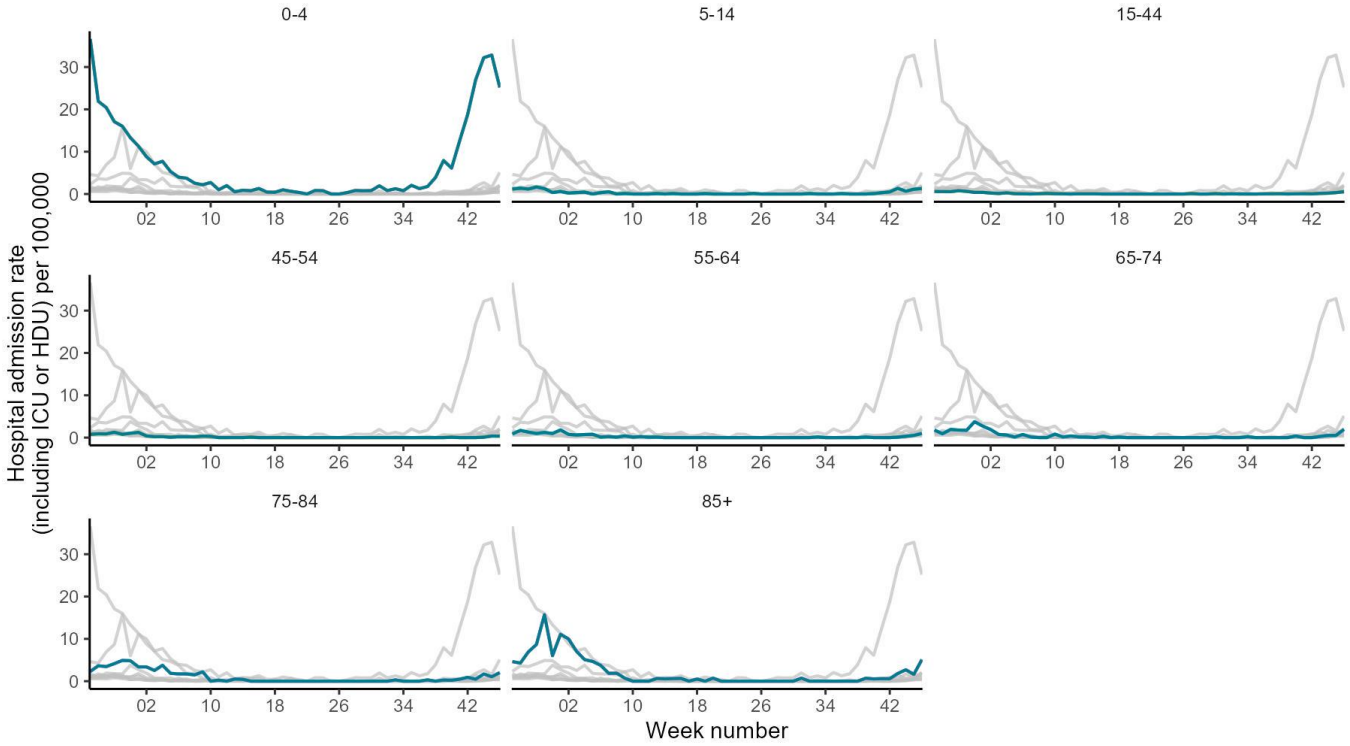


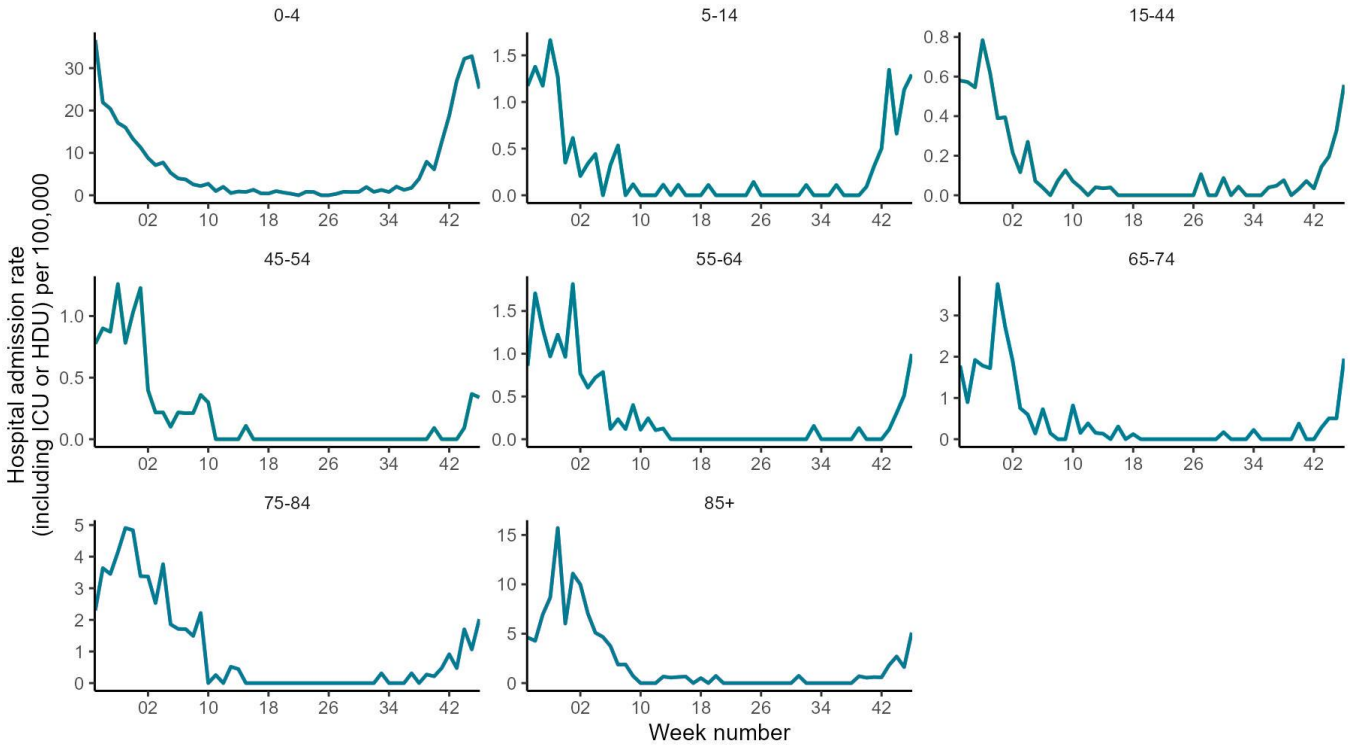
Figure 46: Weekly hospitalisation (including ICU or HDU) admission rates by age group for RSV cases reported through SARI Watch, England - a) fixed y-axis, b) adjusted y-axis

a)



Please note the highlighted line corresponds to the age group in the subplot title, grey lines correspond to all other age groups.

b)



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 EuroMOMO model to identify weeks with higher than expected mortality.

Influenza vaccination

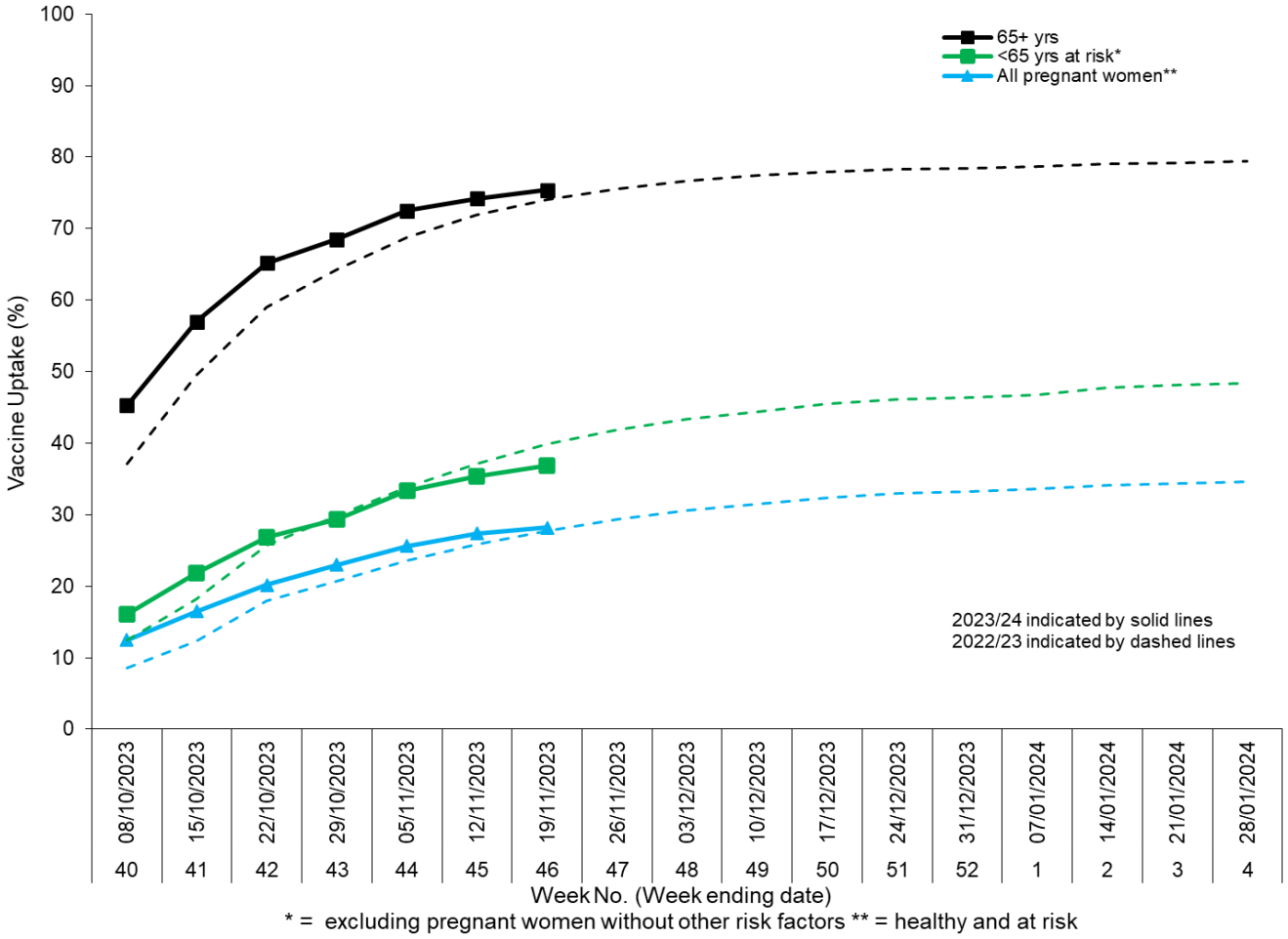
Influenza vaccine uptake in GP patients

Weekly vaccine coverage data is provisional.

Up to week 46 of 2023, in 39.3% 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:

- 36.8% in under 65 years in a clinical risk group
- 28.2% in all pregnant women
- 75.4% in all those aged 65 year and over

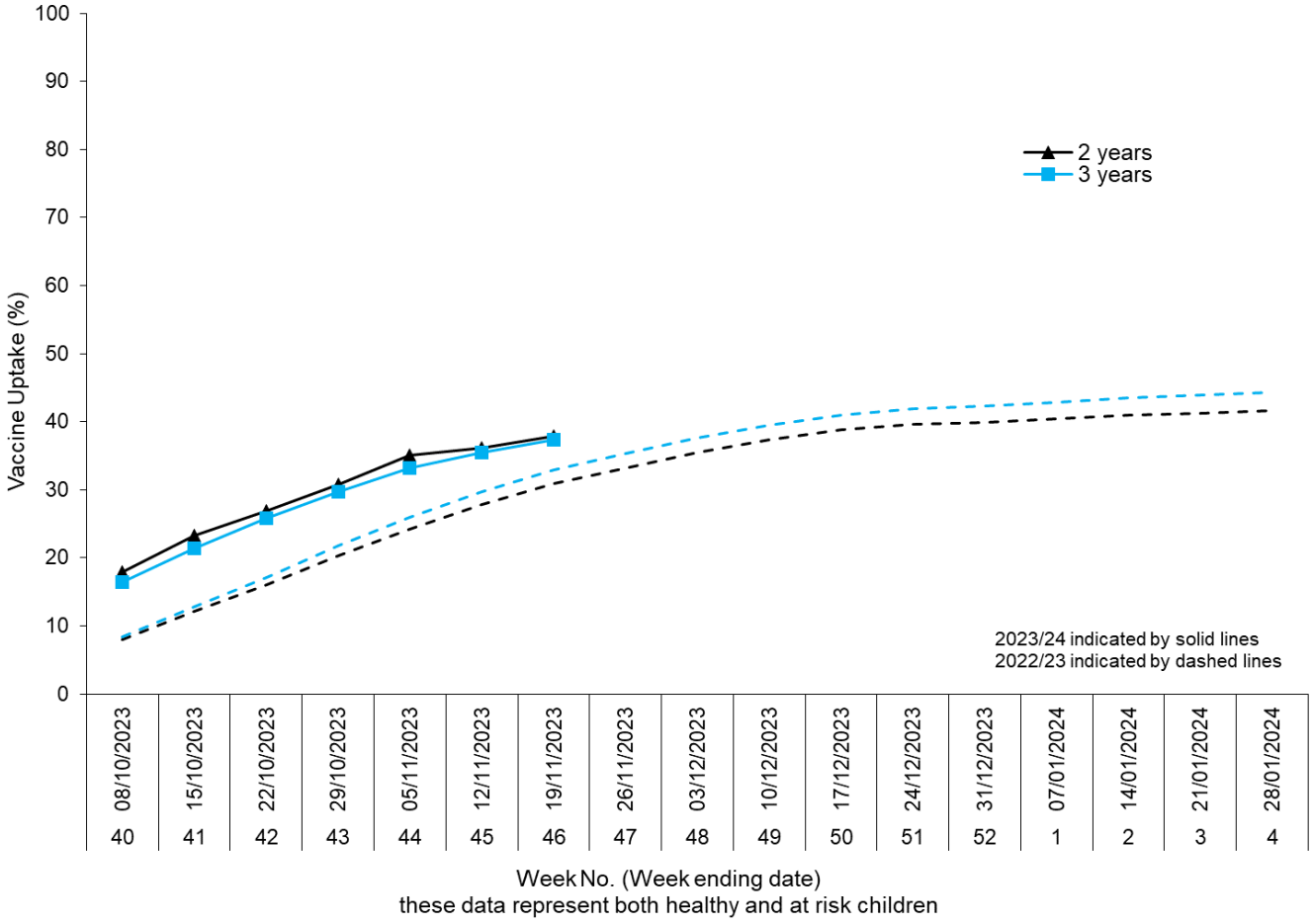
Figure 47: Cumulative weekly influenza vaccine uptake by target group in England



In 2023 to 2024, all 2 and 3 year olds continue to be eligible for influenza vaccination through their GPs. Up to week 46 of 2023, in 93.4% 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:

- 37.9% in all 2 year olds
- 37.4% in all 3 year olds

Figure 48: Cumulative weekly influenza vaccine uptake in 2 and 3 year olds, in England



This week, provisional 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 has been published for the first time this season.

Ethnicity data is included in the monthly GP patients. Note ethnicity data was available from 39.5% of GP practices. Some of the commissioning regions (and integrated care boards) that are underrepresented in the available data have significant percentages of people from ethnic minority backgrounds. Therefore ethnicity data should be interpreted with caution, especially in any comparisons to uptake by ethnicity from the same timepoint last season which covered 94.6% of all GP practices in England (Main GP Flu survey).

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 the end of week 46 of 2023 (week ending 19 November 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 were 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, 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 the 1 September 2024 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 the 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 46 2023 (week ending 19 November 2023), 67.0% (7,482,634 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 49.

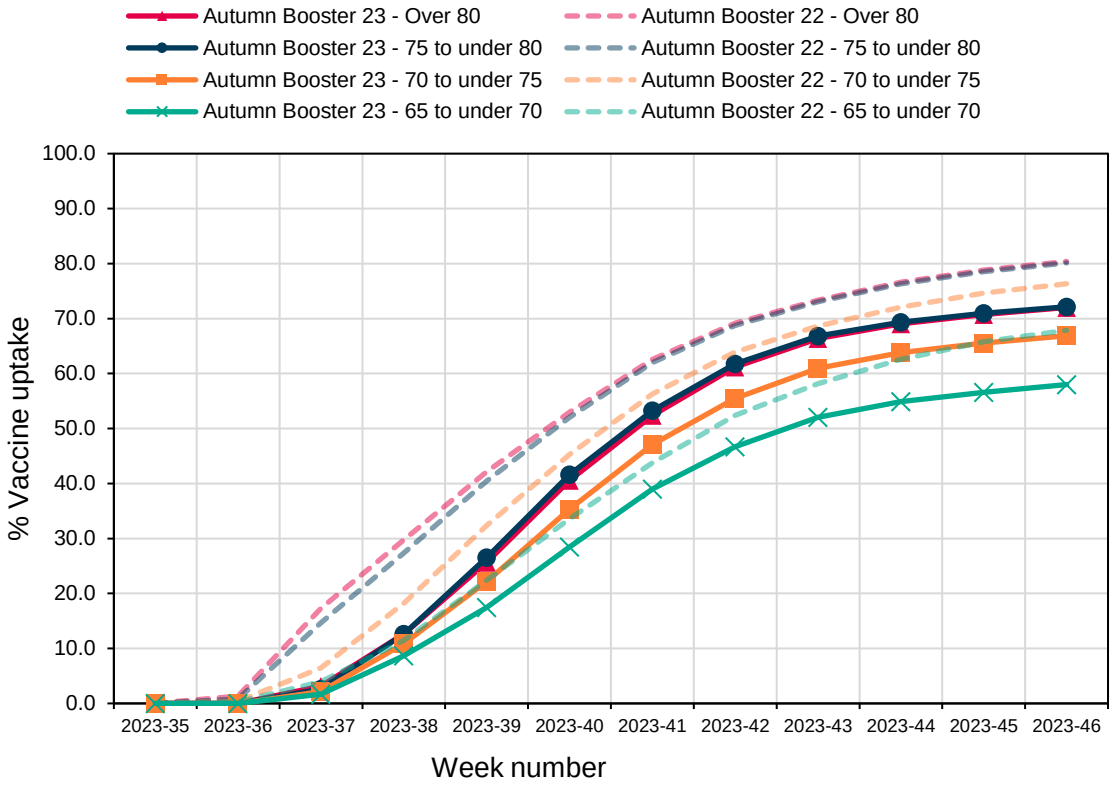
Table 4: Provisional cumulative people vaccinated by age with a dose of COVID-19 vaccine from the 1 September 2023 as part of the Autumn 2023 campaign in England

National	People in NIMS cohort who are living and resident in England	Vaccinated since 1 September 2023*	Percentage vaccine uptake
Over 80	3,010,182	2,168,111	72.0
75 to under 80	2,458,682	1,773,884	72.1
70 to under 74	2,672,292	1,787,203	66.9
65 to under 70	3,023,170	1,753,436	58.0
Aged 65 years and over	11,164,326	7,482,634	67.0

*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.

This week, 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 49. 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



Please note that 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	2,171,460	72.1	68,983	2.3	667,085	22.2
75 to under 80	2,458,682	1,776,871	72.3	58,139	2.4	534,086	21.7
70 to under 75	2,672,292	1,791,423	67.0	8,007	0.3	733,981	27.5
65 to under 70	3,023,170	1,758,139	58.2	6,918	0.2	1,048,621	34.7
60 to under 65	3,691,023	1,015,754	27.5	7,182	0.2	2,350,463	63.7
55 to under 60	4,133,235	732,470	17.7	6,401	0.2	2,956,748	71.5
50 to under 55	4,127,778	524,402	12.7	4,863	0.1	3,041,991	73.7
45 to under 50	3,873,067	324,964	8.4	3,150	0.1	2,820,712	72.8
40 to under 45	4,410,433	258,466	5.9	2,728	0.1	3,111,658	70.6
35 to under 40	4,711,499	208,949	4.4	2,152	0.0	3,180,285	67.5
30 to under 35	4,788,980	169,967	3.5	1,777	0.0	3,131,815	65.4
25 to under 30	4,416,848	118,571	2.7	1,493	0.0	2,892,400	65.5
20 to under 25	3,787,791	75,094	2.0	1,147	0.0	2,606,859	68.8
18 to under 20	1,402,413	17,970	1.3	780	0.1	936,187	66.8
16 to under 18	1,430,176	10,652	0.7	766	0.1	862,106	60.3
12 to under 16	2,994,199	19,310	0.6	1,828	0.1	1,237,935	41.3
5 to under 12	4,998,730	10,576	0.2	2,447	0.0	462,377	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.

For a regional breakdown of the ethnicity data, please see the data file that accompanies this report.

For COVID-19 data on the real-world effectiveness of the COVID-19 vaccines, and on COVID-19 vaccination in pregnancy, please see the COVID-19 vaccine surveillance reports.

For COVID-19 management information on the number of COVID-19 vaccinations provided by the NHS in England, please see the COVID-19 vaccinations webpage.

For UK COVID-19 daily vaccination figures and definitions, please see 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

About the UK Health Security Agency

UKHSA is responsible for protecting every member of every community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. We provide intellectual, scientific and operational leadership at national and local level, as well as on the global stage, to make the nation health secure.

The UK Health Security Agency is an executive agency, sponsored by the Department of Health and Social Care.

Prepared by: Immunisation and Vaccine Preventable Diseases Division
For queries relating to this document, please contact: Enquiries@ukhsa.gov.uk

Published: 23 November 2023
Publishing reference: GOV-15790