UK Health
Security
Agency

Weekly national Influenza and COVID-19 surveillance report

Week 3 report (up to week 2 data)

19 January 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.

Corrections

Figure 57 in this report was updated on 20 January 2023 to replace an old version which was originally included in error.

Executive summary

This report summarises the information from the surveillance systems which are used to monitor coronavirus (COVID-19), influenza, and other 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 2 (between 9 January and 15 January 2023) and for some indicators daily data up to 17 January 2023.

Overall

In week 2, from activity seen across multiple disease surveillance systems, influenza activity and COVID-19 activity **decreased** compared to week 1.

COVID-19

COVID-19 case rates through Pillar 1 **decreased**. Case rates decreased across all age groups, ethnic groups, and regions. BQ.1 continues to be the most common circulating variant in England.

Through Respiratory Datamart, SARS-CoV-2 positivity **decreased** to 6.5% compared to 7.6% the previous week.

Through primary care surveillance, COVID-19 indicators **decreased** compared to week 1.

The overall number of reported COVID-19 confirmed outbreaks **decreased** compared to the previous week. The highest number of incidents continue to be in care homes, with 69 COVID-19 confirmed outbreaks occurring in England in week 2 compared to 133 in week 1.

Overall, COVID-19 hospitalisations and ICU admissions **decreased** in week 2 compared to week 1. Hospitalisations were highest in the 85 years and over age group. Through syndromic surveillance indicators, emergency department attendances for covid-like illness **decreased** nationally, across all age groups and regions.

Deaths with COVID-19 **decreased** in week 2.

The COVID-19 Autumn booster vaccination campaign commenced in early September. By the end of week 1, 64.5% of all people aged over 50 years old had been vaccinated with an Autumn booster dose.

Influenza

In week 2, influenza positivity **decreased** to 6.0% compared to 12.2% in week 1, with the highest positivity seen in children aged 0 to 4 years at 8.9%.

Through primary care surveillance, the influenza-like-illness consultations indicator **decreased** in week 2 and dropped back to **low activity levels.**

The overall number of reported influenza confirmed outbreaks continued to decrease in week 2. The highest number of incidents continue to be in care homes, with 23 influenza confirmed outbreaks occurring in England in week 2 compared to 47 in week 1.

Influenza hospital admissions **decreased** in week 2 compared to the previous week**.** The week 52 2022 and 1 2023 admissions rates were revised up retrospectively with the receipt of new data. The rate remained in the **medium activity range**. Admissions data is provisional. Influenza admissions were highest in the 85 years and over age group. Influenza ICU admissions **decreased** in week 2 and returned to the **low intensity range of activity**.

Emergency department attendances for influenza-like illness **decreased** nationally, for all age groups and regions.

Influenza vaccine uptake for the 2022 to 2023 influenza season has been reported weekly since week 41. The trend in vaccine uptake compared to the previous 2021 to 2022 season is broadly comparable for 65 year olds and over and for those under 65 years in clinical risk groups, although the difference between this season and last has increased throughout December in these groups. Pregnant women and 2 and 3 year olds are lower than last season.

RSV

The overall positivity for RSV continued to **decrease** to 4.0%, with the highest positivity seen in the under 5 year olds at 15.5%. The RSV hospitalisation rate **decreased** overall to 1.44 per 100,000, including in the under 5 years age groups. Emergency department attendances for acute bronchiolitis continued to decrease nationally, with a slight increase in children aged between 1 and 4 years.

Other viruses

Adenovirus positivity remained low and **stable** at 2.6%. Rhinovirus positivity **decreased** to 6.9% overall. Parainfluenza positivity remained low and **stable** at 1.2%. Human metapneumovirus (hMPV) positivity **decreased** to 3.9%.

Other indicators

Through NHS 111, calls for cold or flu decreased nationally across all age groups. Calls for cough decreased, except for children aged between 1 and 4 years old.

The primary care lower respiratory tract infection rate **decreased**.

Emergency department attendances for acute respiratory infection **decreased** nationally, for all age groups and regions.

Excess deaths (from all causes) were observed in week 1.

Laboratory surveillance

Confirmed COVID-19 cases (England)

From 1 April 2022, the government ended provision of widespread community testing in England, as outlined in the plan for living with COVID-19. From week 15 2022, confirmed COVID-19 episodes and positivity through Pillar 1 are presented in this report, with Pillar 2 data available in the accompanying graph pack. Routine asymptomatic testing through NHS settings has been paused from 31 August, this will have an effect on Pillar 1 case rates and positivity rates.

As of 9am on 15 January 2023, a total of 1979,555 episodes have been confirmed for COVID-19 in England under Pillar 1, and 20,499,291 episodes have been confirmed under Pillar 2, since the beginning of the pandemic. COVID-19 case rates through Pillar 1 decreased in week 2 compared to week 1, across all regions, ethnic groups, and age groups.

Data notes:

Changes to testing policies over time may affect positivity rates and incidence rates and should be interpreted accordingly. From 31 January 2022, UK Health Security Agency (UKHSA) moved all COVID-19 case reporting in England to use a new episode-based definition which includes possible reinfections. Each infection episode is counted separately if there are at least 91 days between positive test results (polymerase chain reaction (PCR) or rapid lateral flow device). Each infection episode begins with the earliest positive specimen date. Further information can be found on the UK COVID-19 dashboard.

From the week 32 2021 report onwards, case rates have been updated to use the latest Office for National Statistics (ONS) population estimates for mid-2020. Previously case rates were calculated using the mid-2019 population estimates. Rates by ethnicity and Indices of Multiple Deprivation (IMD) quantile will continue to be presented using the mid-2019 estimates, until the mid-2020 estimates become available.

Please note that positivity is presented as positivity by PCR testing only. Positivity is calculated as the number of individuals testing positive during the week divided by the number of individuals tested during the week through PCR testing.

Data is shown by the week the specimen was taken from the person being tested. This gives the most accurate analysis of this time progression, however, for the most recent week results for more samples are expected therefore this should be interpreted with caution.

Data from the most recent week is subject to reporting lags and may change in future iterations.

Pillar 1 positivity metrics for the most recent week have been omitted due to a possible data processing issue which is being investigated. Please refer to the DataMart data on SARS-CoV2 positivity in figure 11.

Data source: Second Generation Surveillance System (SGSS)

Figure 1: Confirmed COVID-19 episodes tested under Pillar 1, based on sample week with overall weekly PCR positivity for Pillar 1 (%)
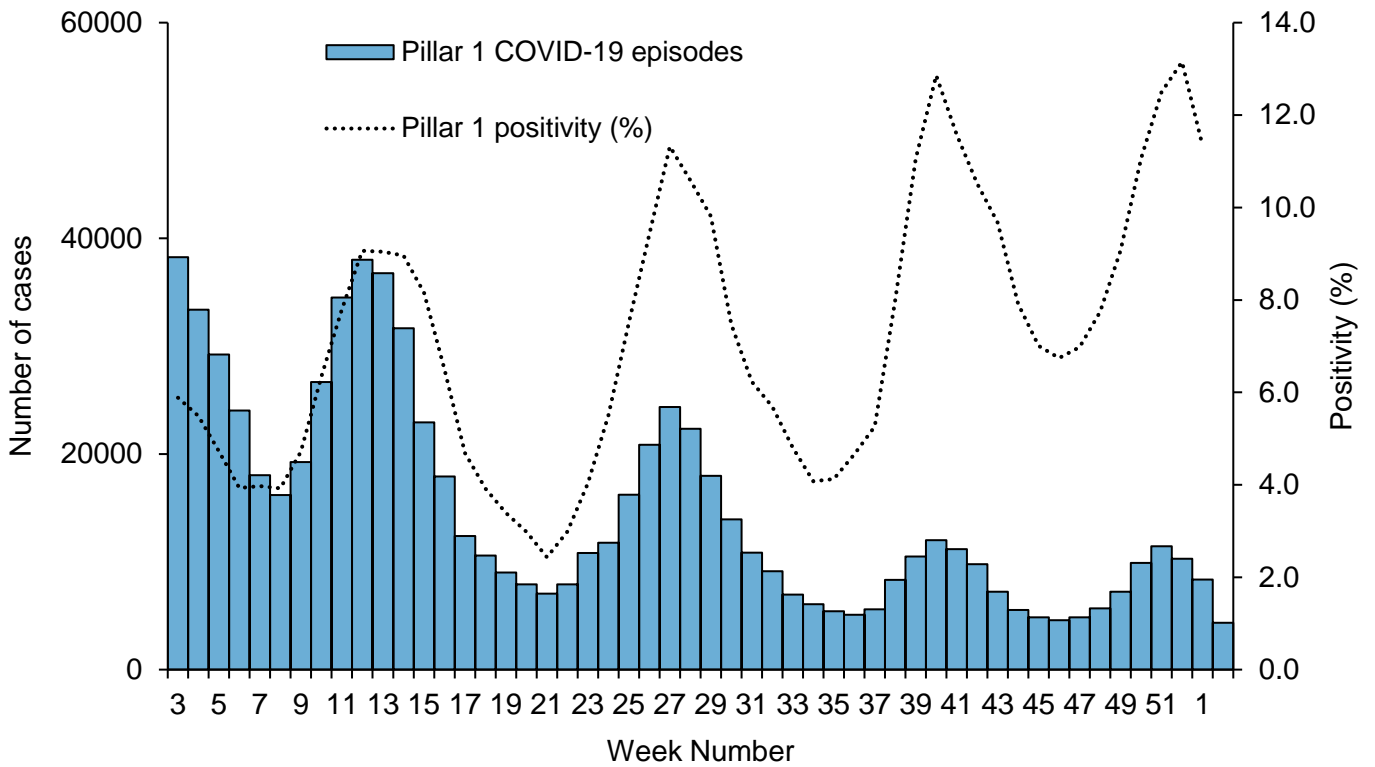
Age and sex

Figure 2: Weekly confirmed COVID-19 case rates per 100,000, by episode, tested under Pillar 1, by sex
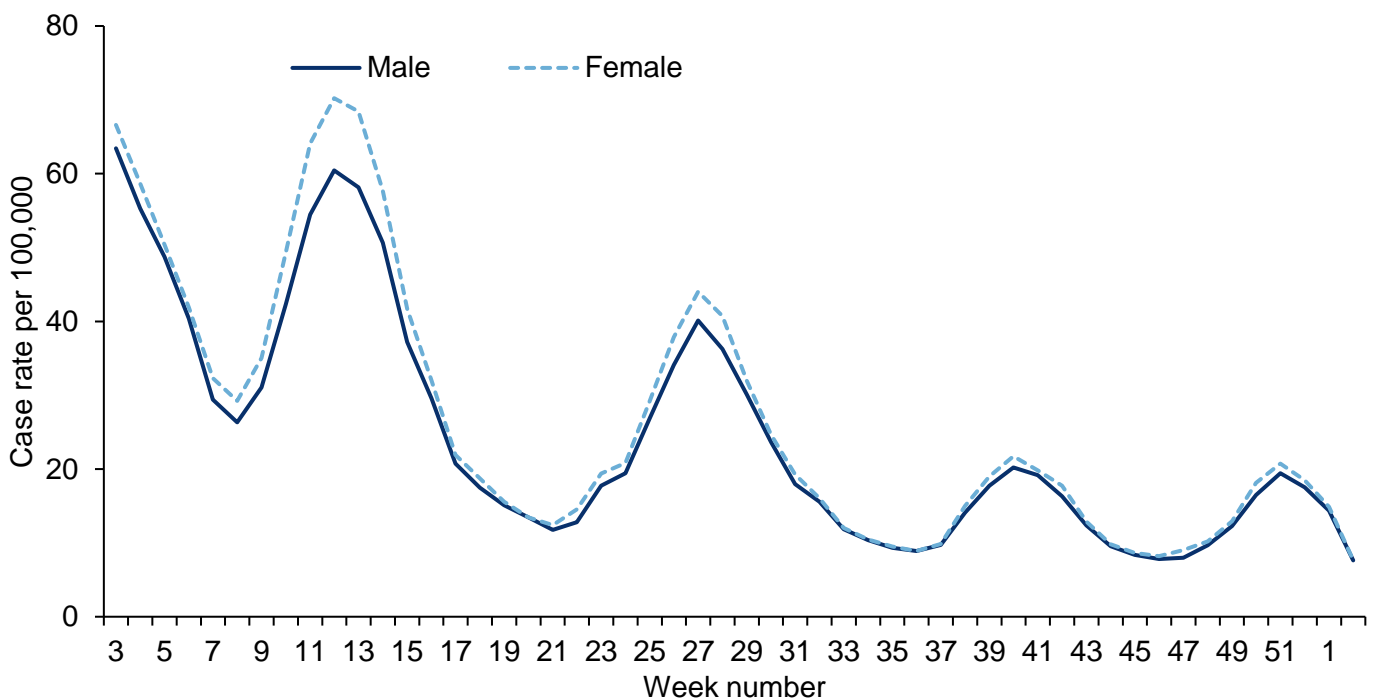
Figure 3: Weekly confirmed COVID-19 case rates per 100,000, by episode, tested under Pillar 1, by age group
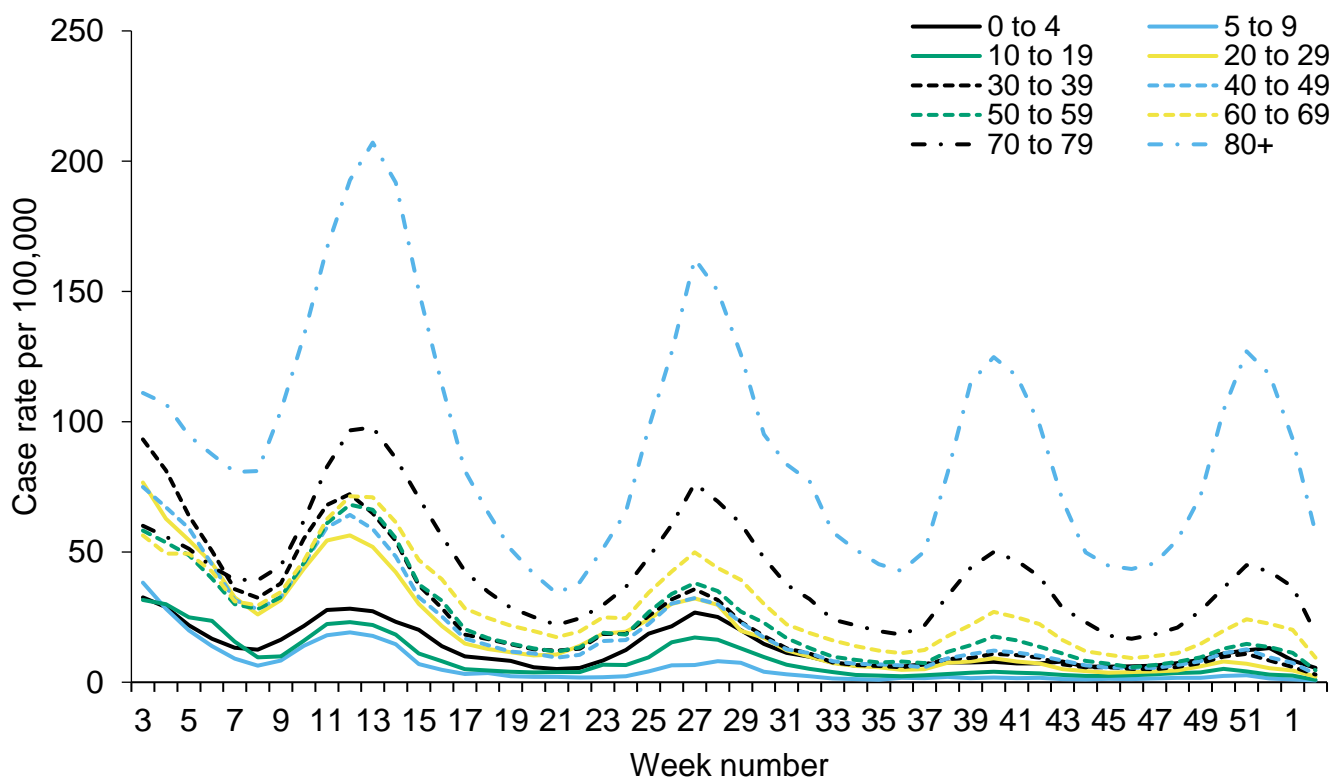

Figure 4: Weekly PCR positivity (%) of confirmed COVID-19 cases tested overall and by sex under Pillar 1
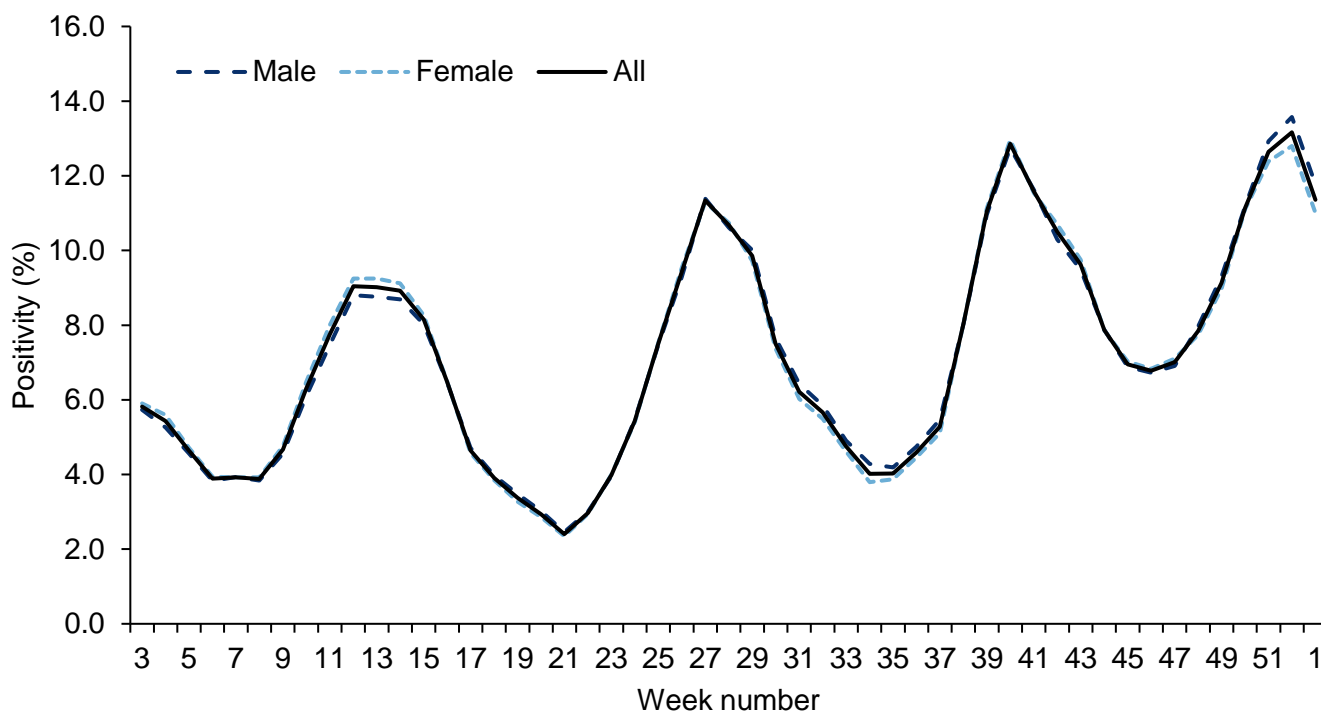
Figure 5: Weekly PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1, (a) by male and age group and (b) by female and age group

(a) Pillar 1 - Male
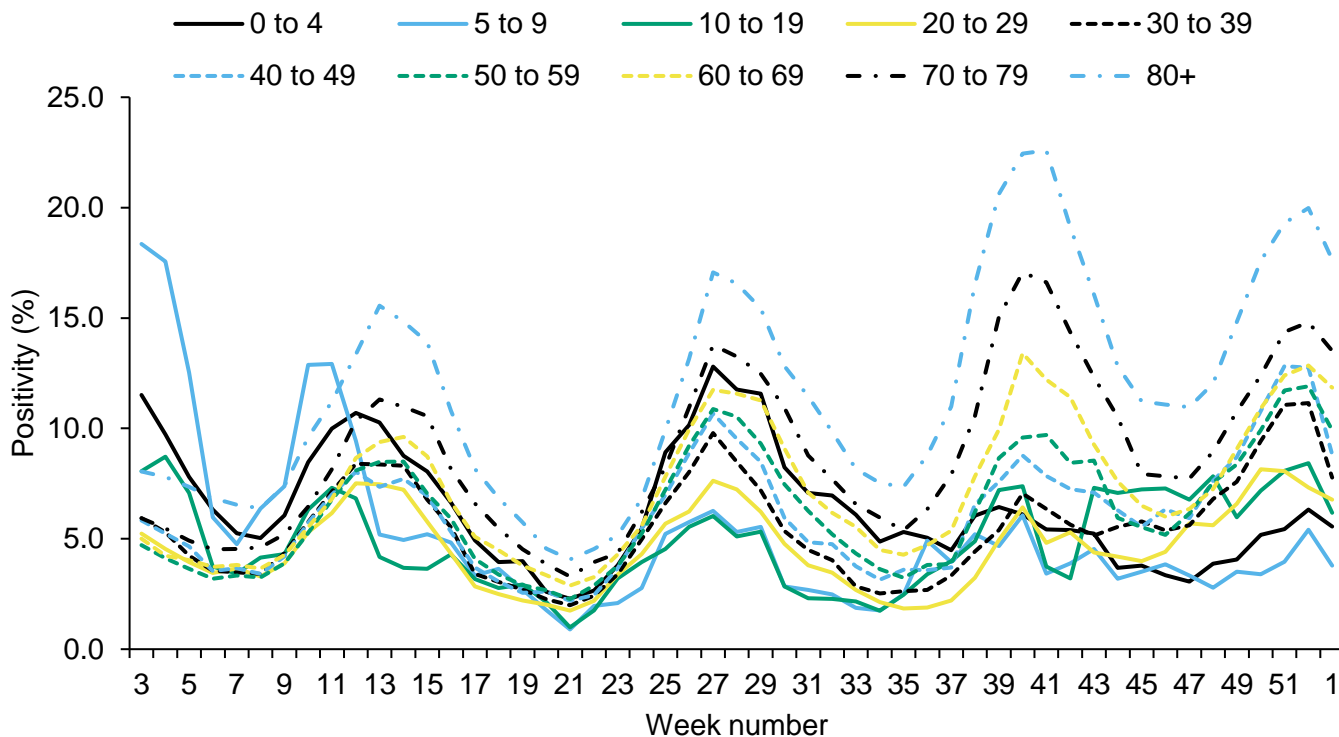
(b) Pillar 1 - Female
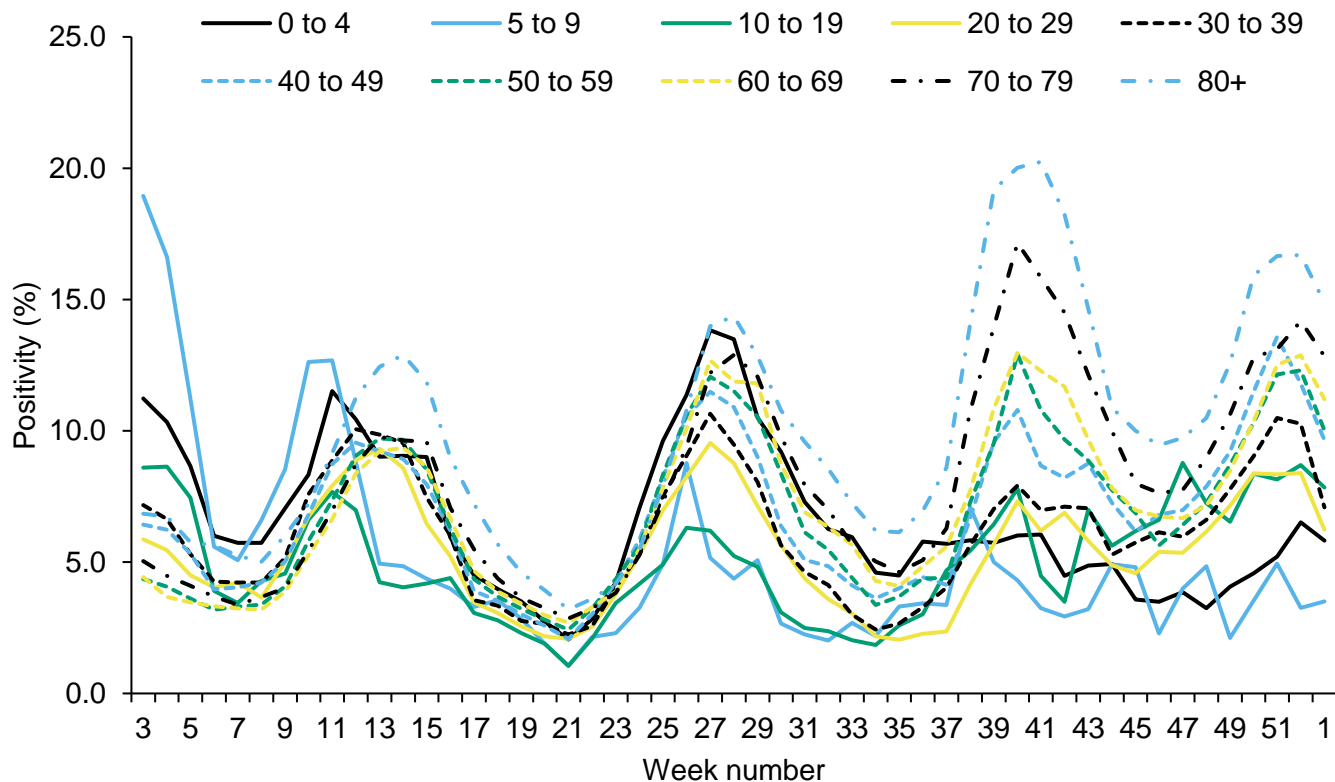
Geography

Figure 6: Weekly confirmed COVID-19 case rates by episode, per 100,000 population (Pillar 1), by UKHSA centres and sample week
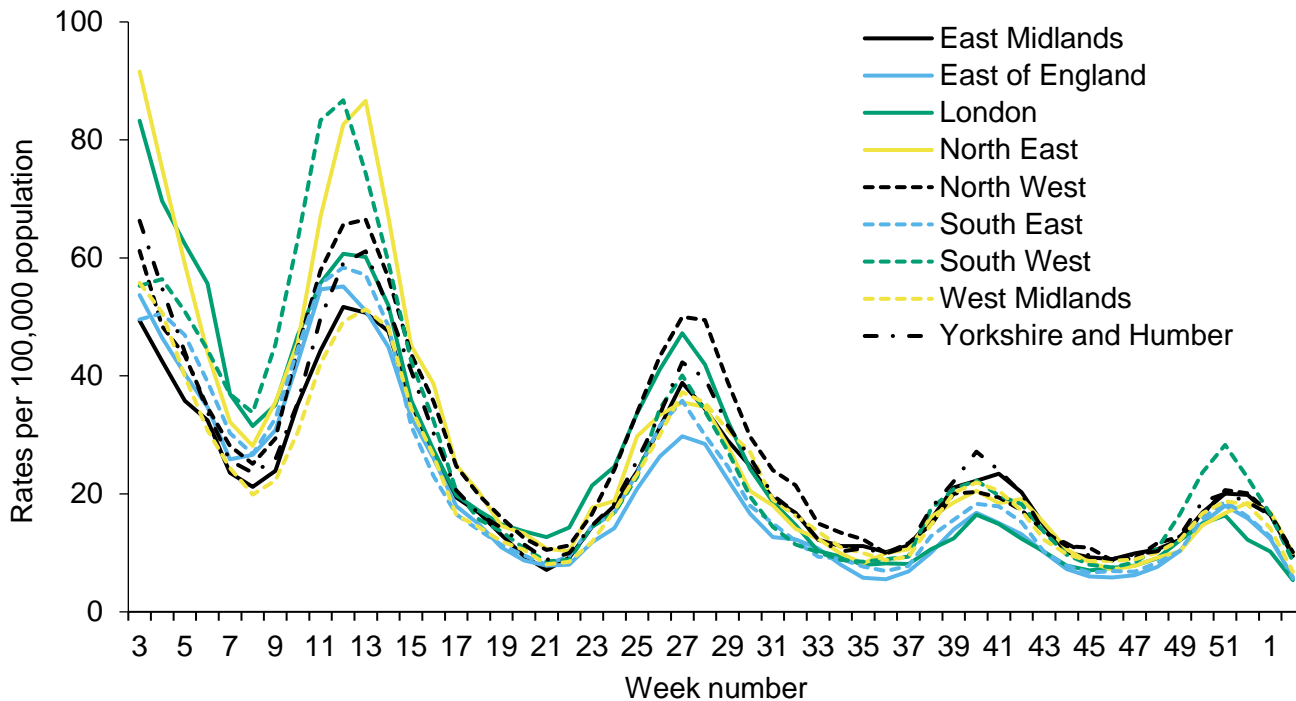
Figure 7: Weekly PCR positivity of confirmed COVID-19 cases tested under Pillar 1 (%) by UKHSA centres and sample week
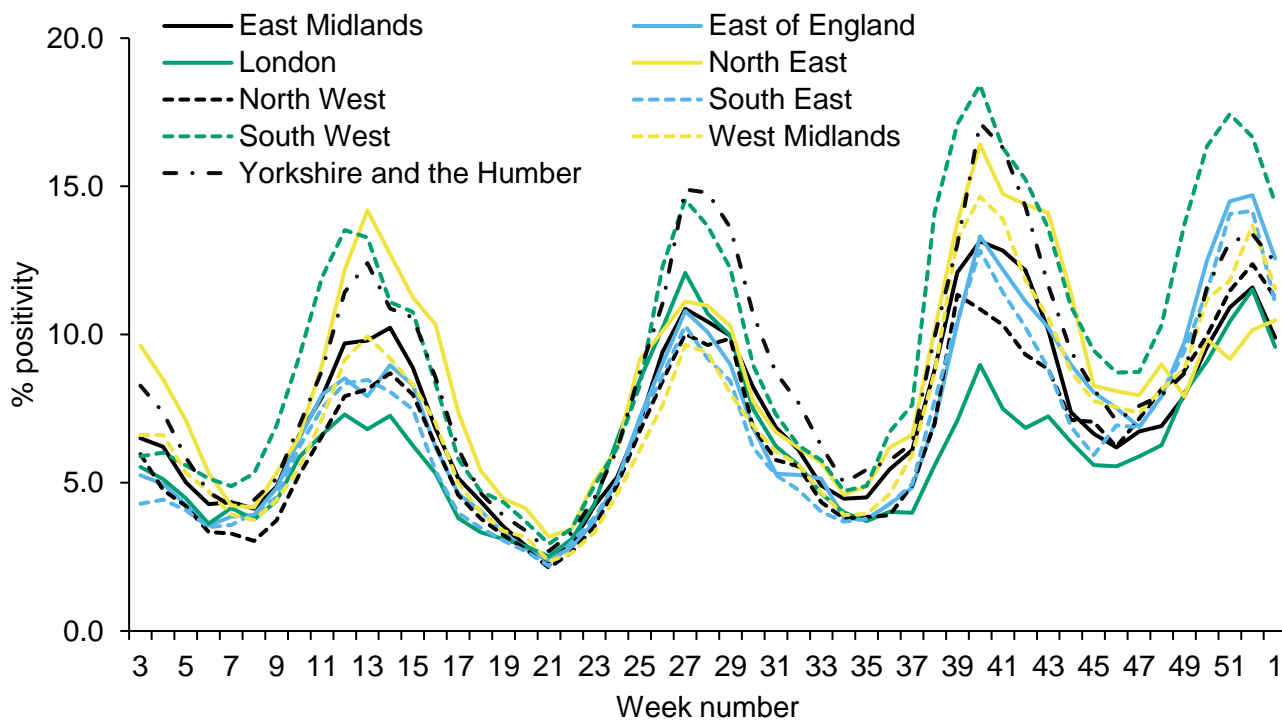
Figure 8: Weekly rate of COVID-19 episodes per 100,000 population (Pillar 1), by upper-tier local authority (UTLA), England (box shows enlarged map of London area)
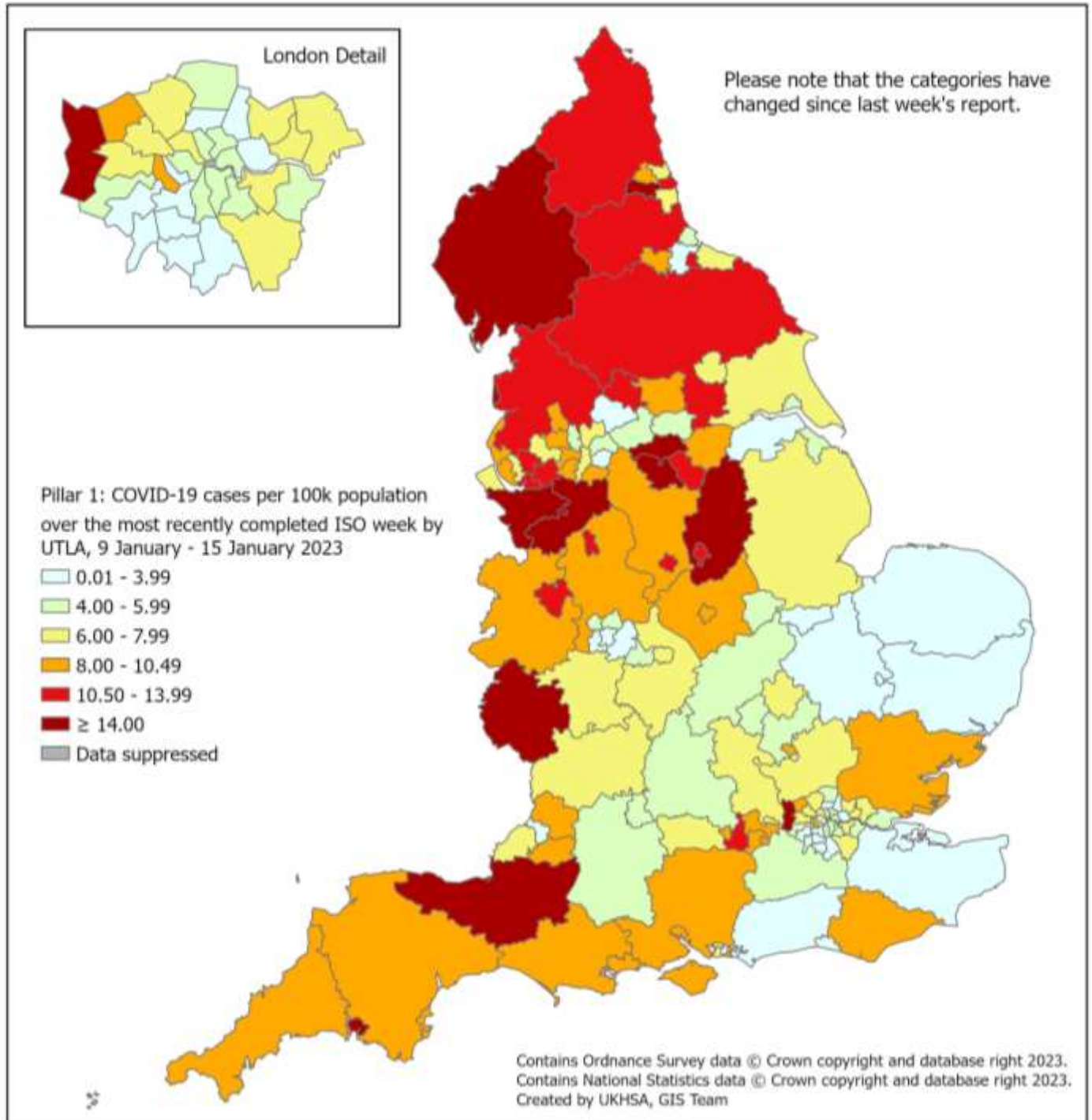
Ethnicity

Figure 9: Weekly incidence per 100,000 population by ethnicity (Pillar 1), England*
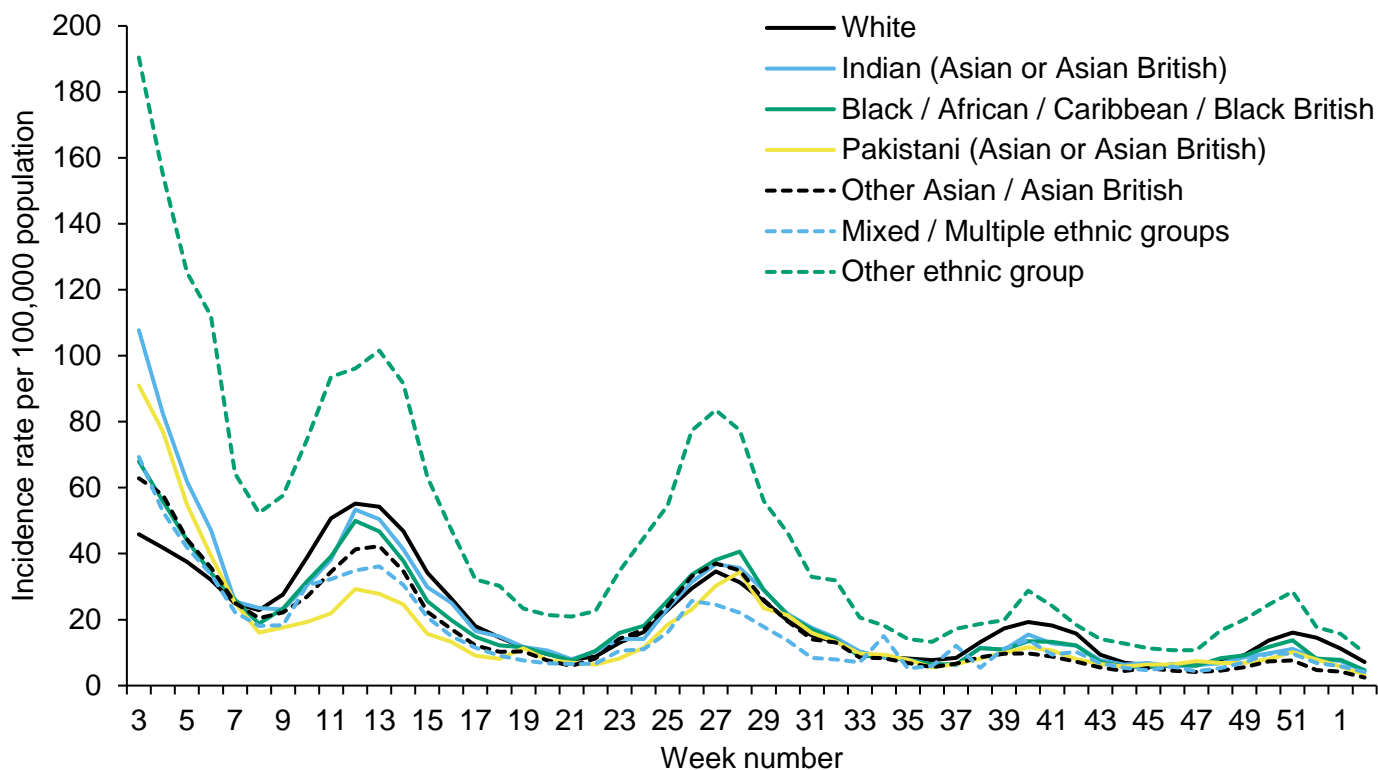
* The incidence rates on Figure 9 have been calculated using the mid-2019 ONS population estimates. Data from one reporting laboratory has been removed from week 43 onwards due to data quality issues

Possible SARS-CoV-2 reinfection in England

SARS-CoV-2 reinfections data is not currently being published. For previous updates please see previous editions of this report.

Respiratory DataMart system (England)

The Respiratory Datamart system began during the 2009 influenza pandemic to collate all laboratory testing information in England. It is now used as a sentinel laboratory surveillance tool, monitoring all major respiratory viruses in England. Sixteen laboratories in England will be reporting data for this season. As this is based on a sample of labs, SARS-CoV-2 positivity figures quoted here will differ from those quoted in the Confirmed COVID-19 cases section, however, they are included to allow comparison with data on other respiratory viruses.

In week 2 of 2023, out of the 17,635 respiratory specimens reported through the Respiratory DataMart System (based on data received from 13 out of 16 laboratories), 1,140 samples were positive for SARS-CoV-2 with an overall positivity of 6.5% which decreased from 7.6% the previous week. The highest positivity was seen in the 65 year olds and over at 8.7%.

Influenza positivity decreased from 12.2% in week 1 to 6.0% in week 2, with highest positivity seen in children aged 0 to 4 years at 8.9%. 555 samples tested positive for influenza (87 flu A(H3), 13 flu A(H1N1)pdm09, 380 flu A(not subtyped) and 75 flu B) in week 2 (Figure 12).

The overall positivity for RSV decreased to 4.0%, with the highest positivity of 10.7% in the under 5 year olds.

Adenovirus positivity remained low and stable at 2.6%, with the highest positivity in the under 5 year olds at 10.2%.

Rhinovirus positivity decreased to 6.9% overall, with the highest positivity in the under 5 year olds at 15.5%.

Parainfluenza positivity remained low and stable at 1.2%.

Human metapneumovirus (hMPV) positivity decreased slightly to 3.9%.

Figure 10: Respiratory DataMart samples positive for influenza and weekly positivity (%) for influenza, England

Figure 11: Respiratory DataMart weekly positivity (%) for SARS-CoV-2, England

Figure 12: Respiratory DataMart weekly positivity (%) for other respiratory viruses, England

Figure 13: Respiratory DataMart weekly positivity (%) for influenza by age, England

Figure 14: Respiratory DataMart weekly positivity (%) for adenovirus by age, England

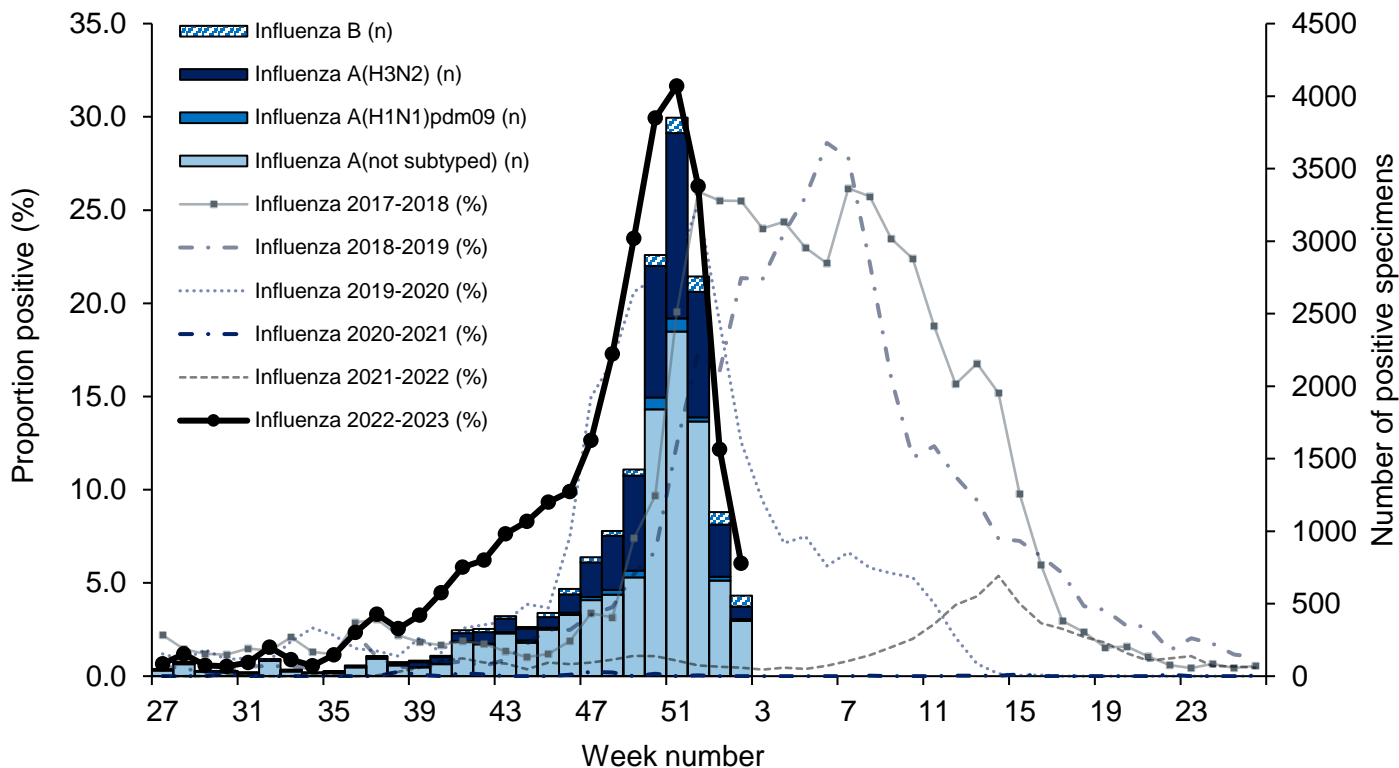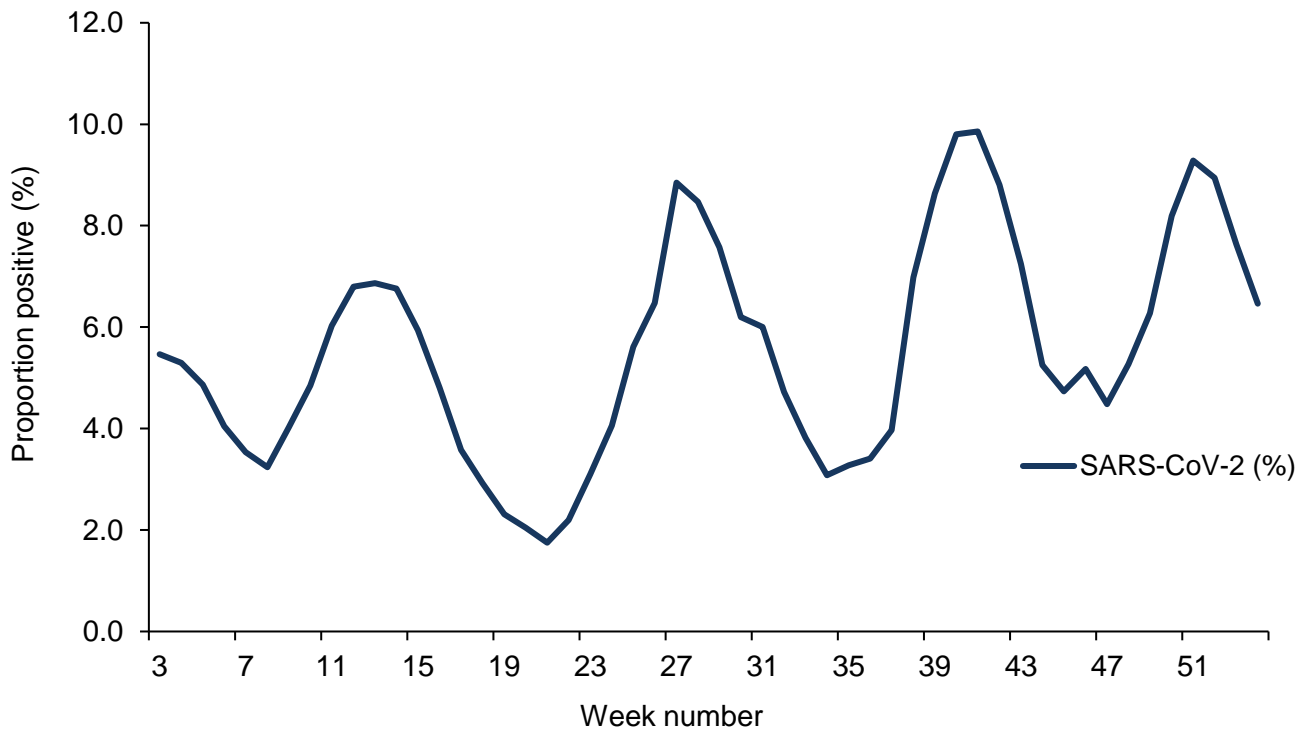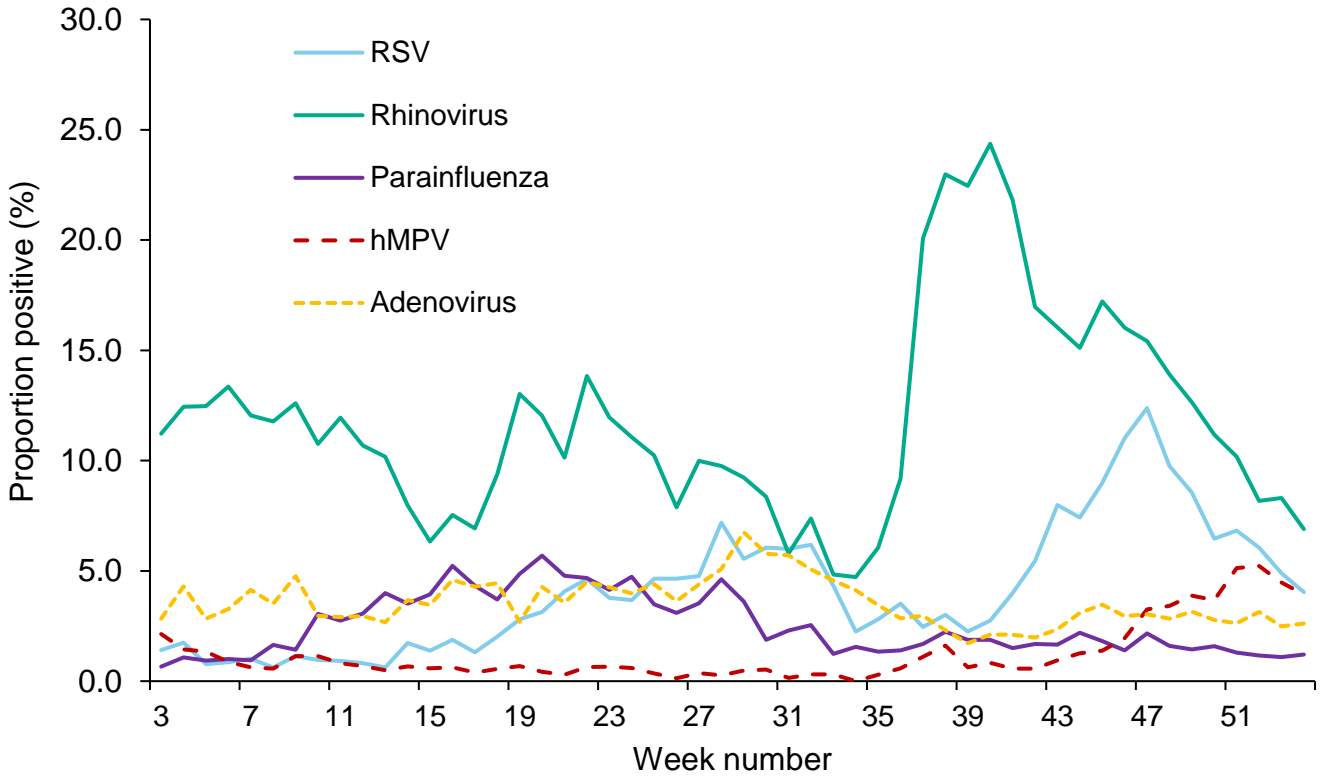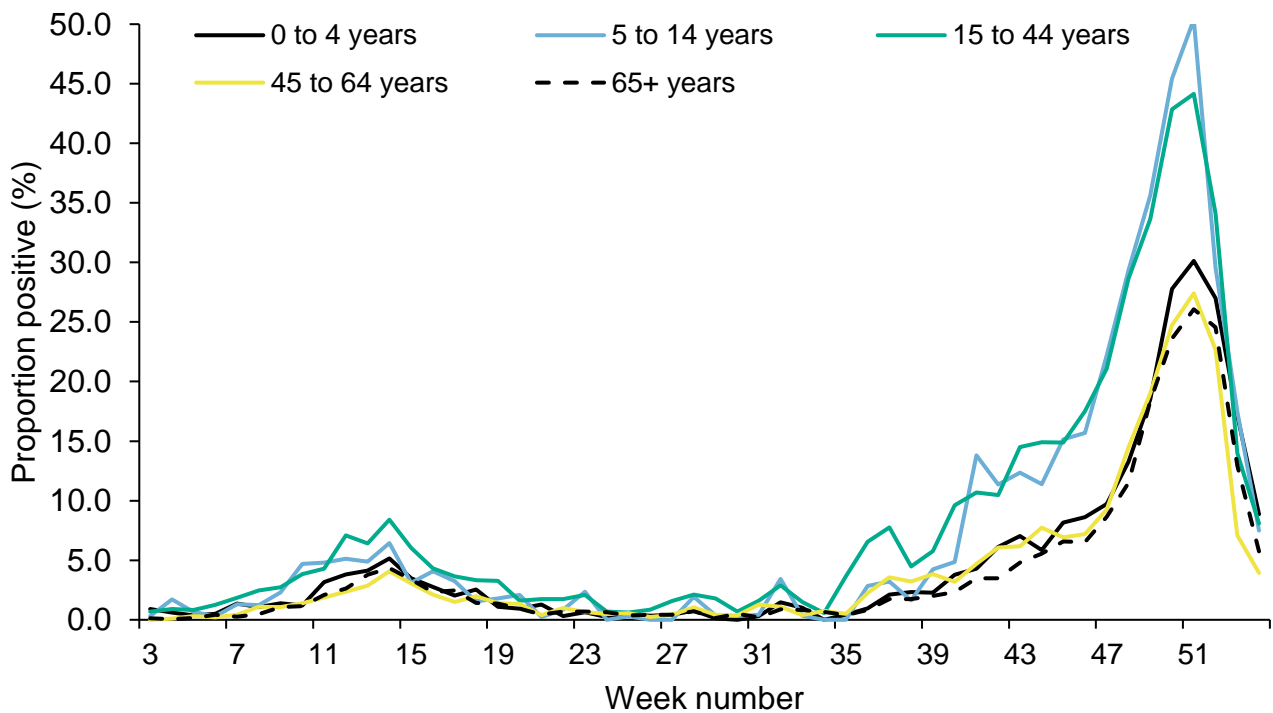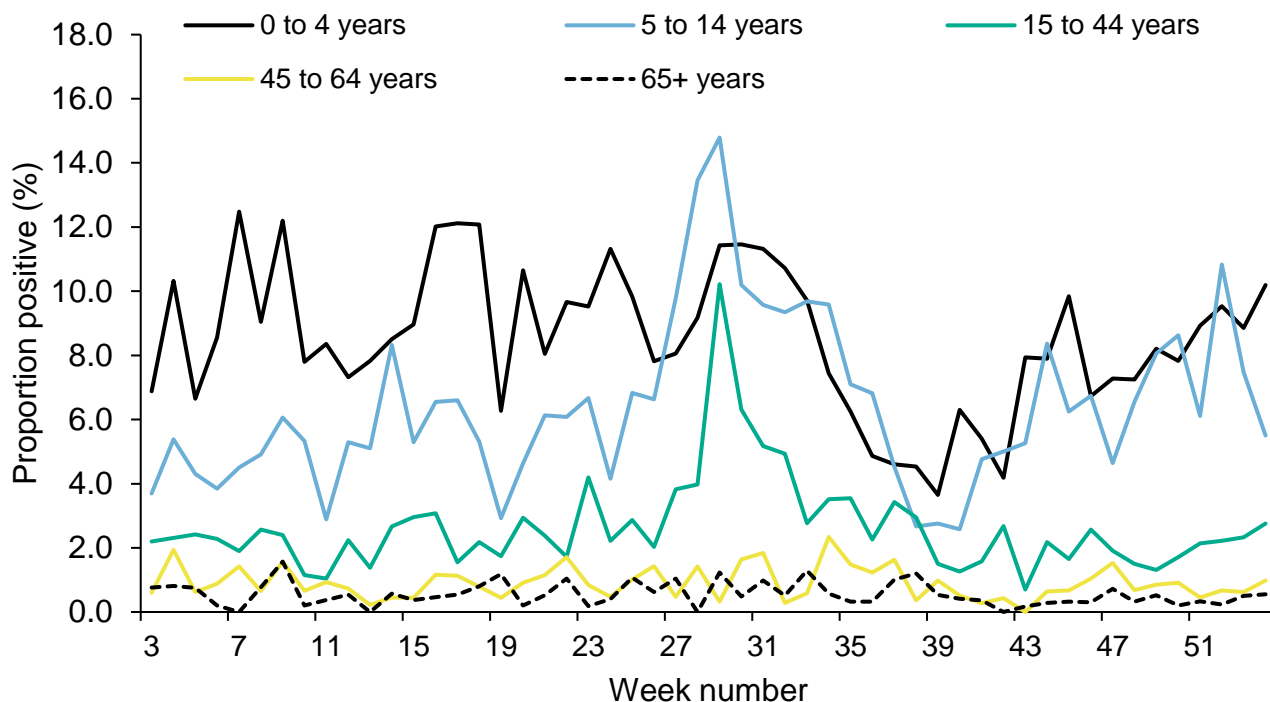**Figure 15: Respiratory DataMart weekly positivity (%) for rhinovirus by age, England**
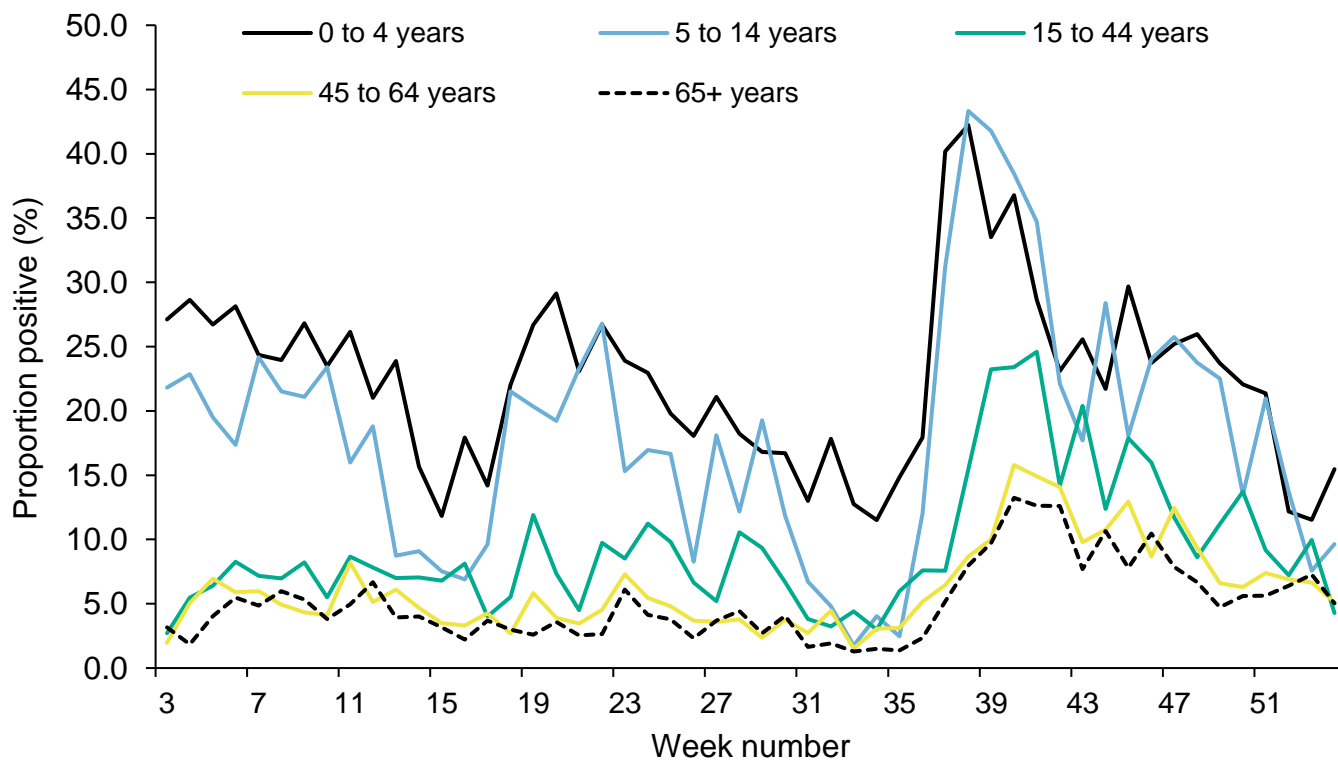
Figure 16: Respiratory DataMart weekly positivity (%) for RSV by age, England
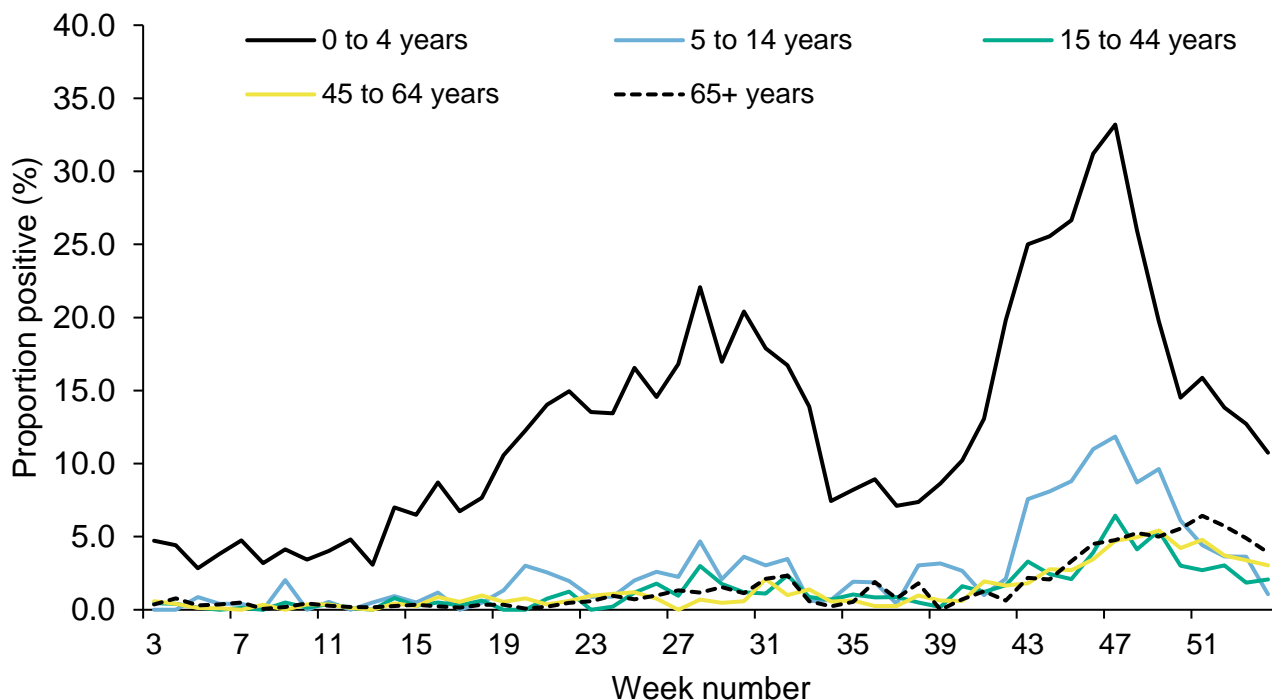
Figure 17: Respiratory DataMart weekly positivity (%) for hMPV by age, England
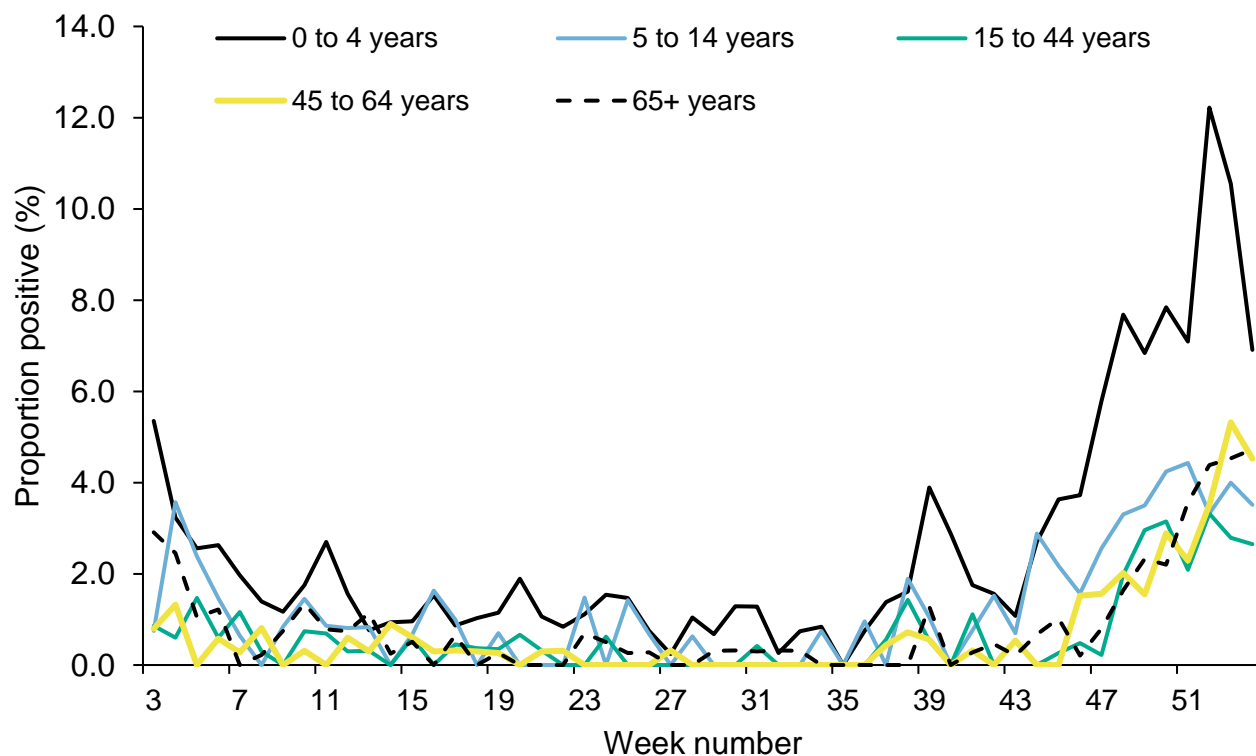
Community surveillance

Acute respiratory infection incidents

Here we present data on acute respiratory infection (ARI) incidents in different settings that are reported to UKHSA Health Protection Teams (HPTs) and entered onto an online web-based platform called HPZone. Incidents are suspected outbreaks of acute respiratory infections linked to a particular setting. All suspected outbreaks are further investigated by the HPT in liaison with local partners.

The ARI definition includes presentations of both of influenza-like illness (ILI) and other acute viral respiratory infections (AVRI). Causal pathogens can include Influenza A and B, Respiratory Syncytial Virus (RSV), adenovirus, rhinovirus, parainfluenza, human metapneumovirus (hMPV) and SARS-CoV-2.

Data for England, Scotland and Northern Ireland are included in the UK figures.

Data caveats:
1. The incidents captured on HPZone represent a subset of all ongoing ARI clusters and outbreaks in England rather than an exhaustive listing.
2. In addition, SARS-CoV2 testing policies and public health guidance for different settings changed over time. This means that any interpretation of seasonal and temporal trends since March 2020 should take this into account.
3. It should be noted that the denominator for the different settings will vary significantly. For example, there are fewer hospitals than workplaces. In addition, the propensity to report incidents to UKHSA also varies significantly by setting. This needs to be considered when interpreting the weekly number of reported incidents by setting and caution should be used when making comparisons between settings.
4. Considering the above, comparisons between regions and settings are not advised as they may be misleading.

219 new ARI incidents have been reported in week 2 in the UK (Figure 18):

- 181 incidents were from care homes where 86 had at least one linked case that tested positive for SARS-CoV-2, 27 for influenza A(not subtyped), 5 for RSV and 1 mixed infection with SARS-CoV-2 and Flu (not typed)
- 24 incidents were from hospitals, where 15 had at least one linked case that tested positive for SARS-CoV-2, 2 for influenza A(not subtyped) and 1 mixed infection with SARS-CoV-2 and Flu (not typed)
- 3 incidents were from prisons, with 1 laboratory confirmed for SARS-CoV-2
- 9 incidents were from other settings, where 4 had at least one linked case that tested positive for SARS-CoV-2

Figure 18: Number of acute respiratory infection (ARI) incidents by setting, UK
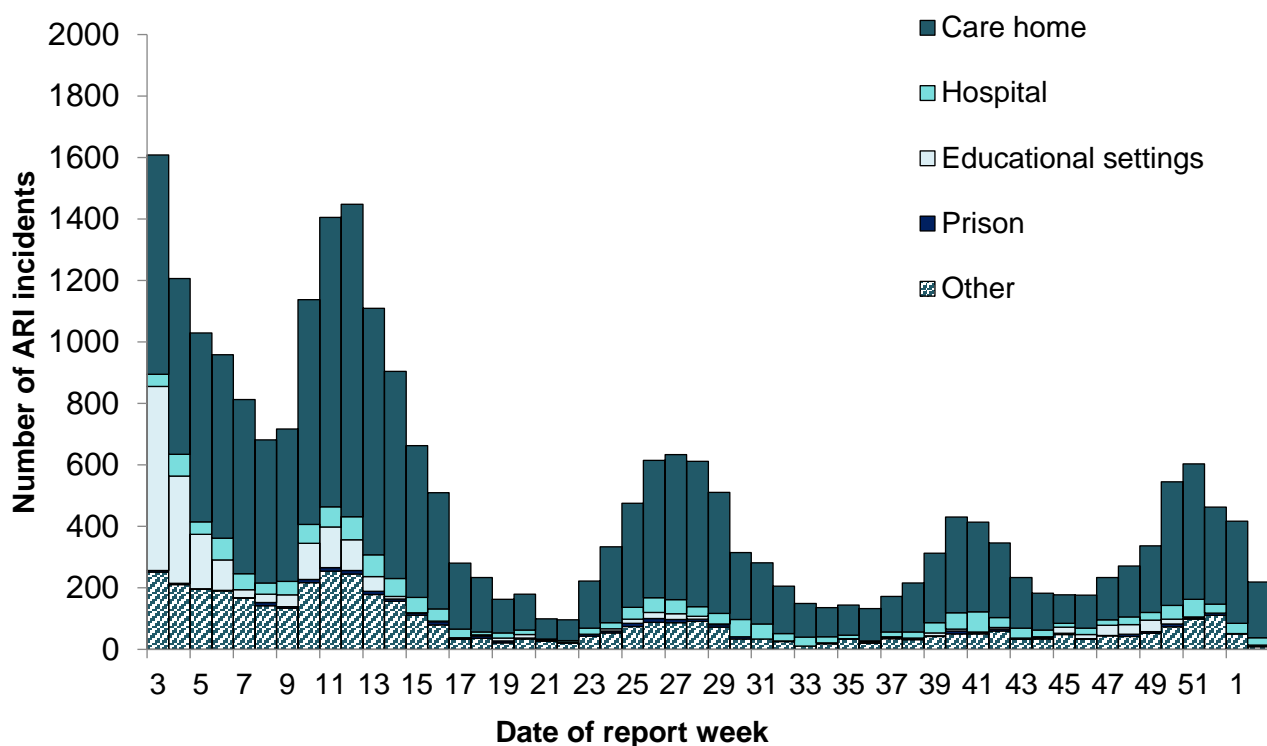
*Excludes data from Wales

Figure 19: Number of acute respiratory infection (ARI) incidents by setting, England
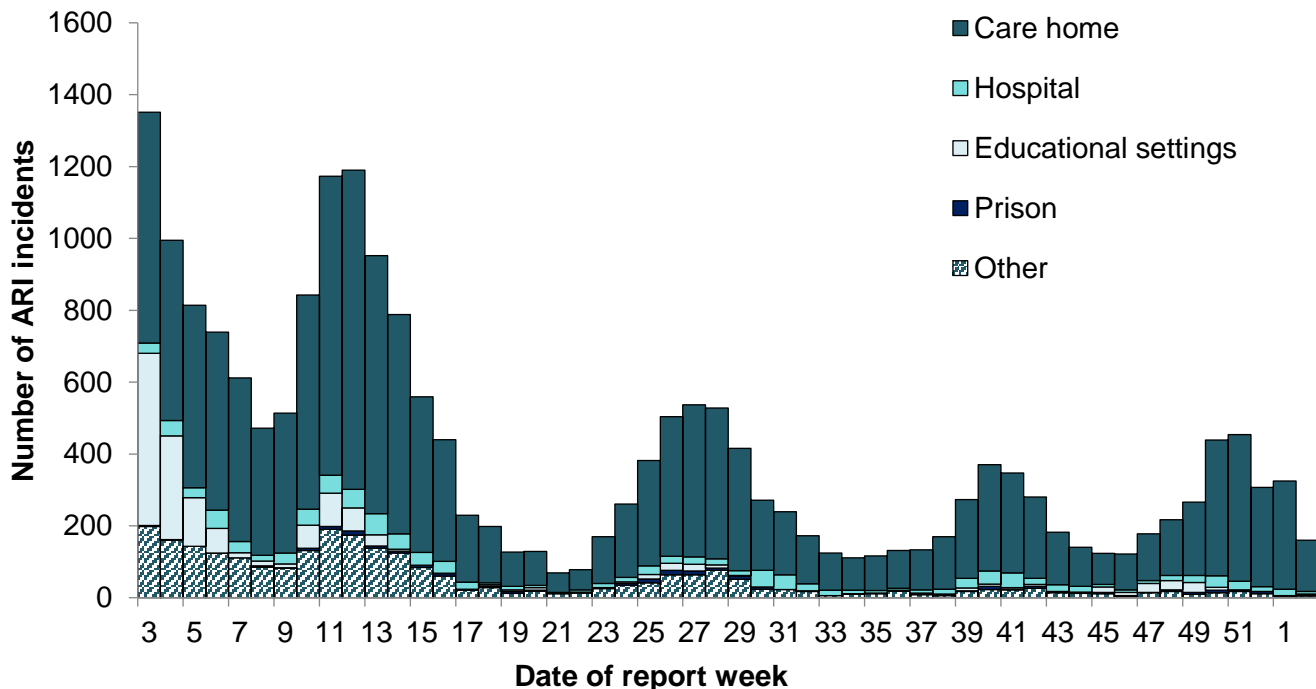
Figure 20: Number of acute respiratory infection (ARI) incidents in care homes by virus type, England
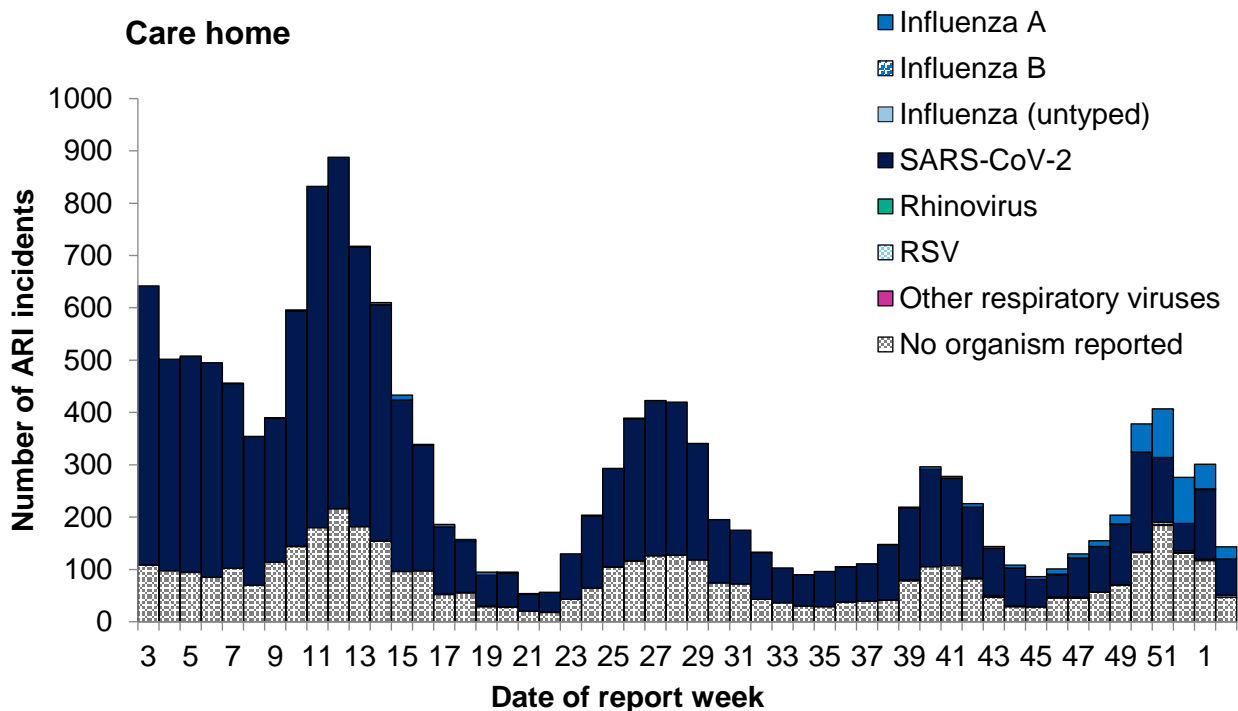
Figure 21: Number of acute respiratory infection (ARI) incidents in hospitals by virus type, England
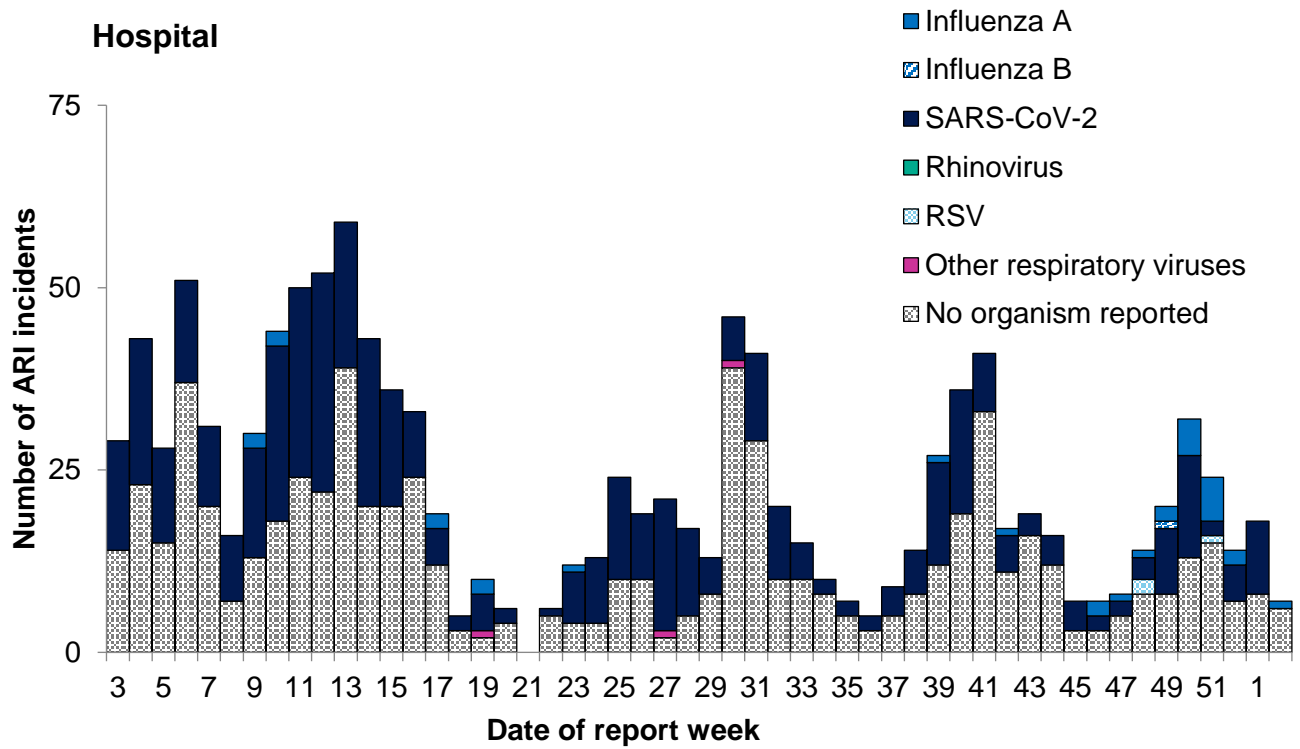
Figure 22: Number of acute respiratory infection (ARI) incidents in educational settings by virus type, England (a) for the weeks 47 2021 to 46 2022 and (b) for the 2022 to 23 academic year

(a)
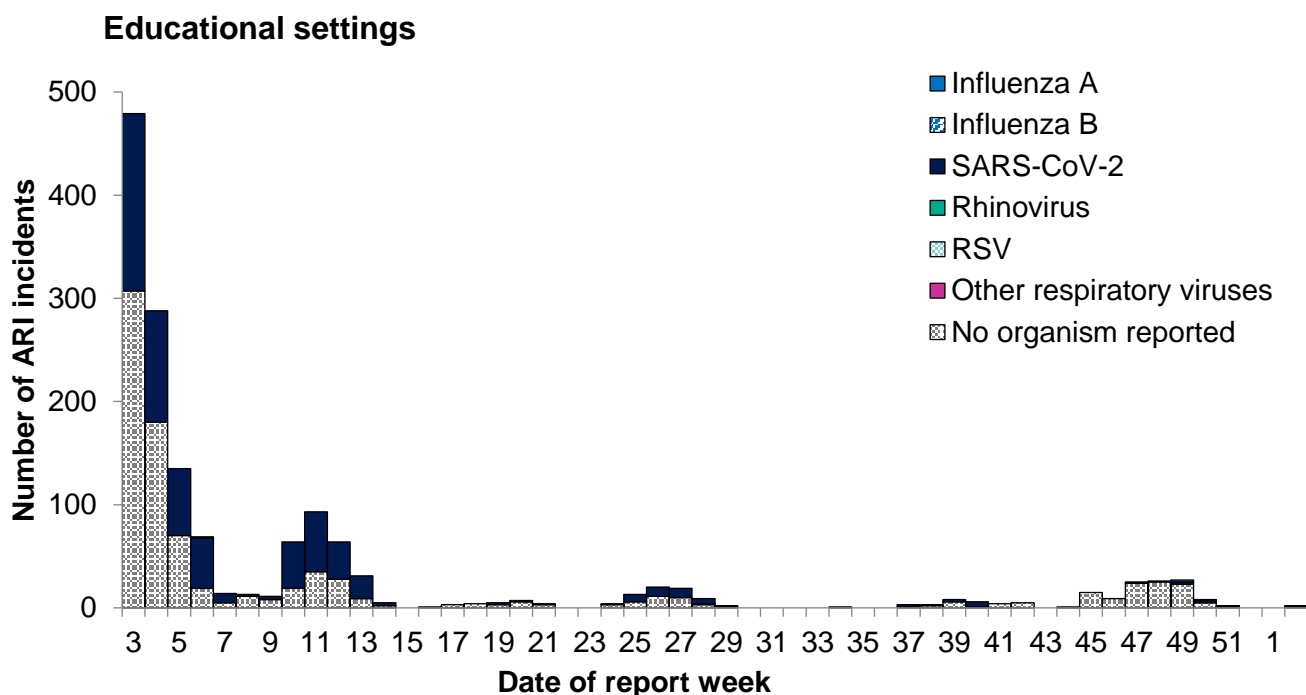
(b)
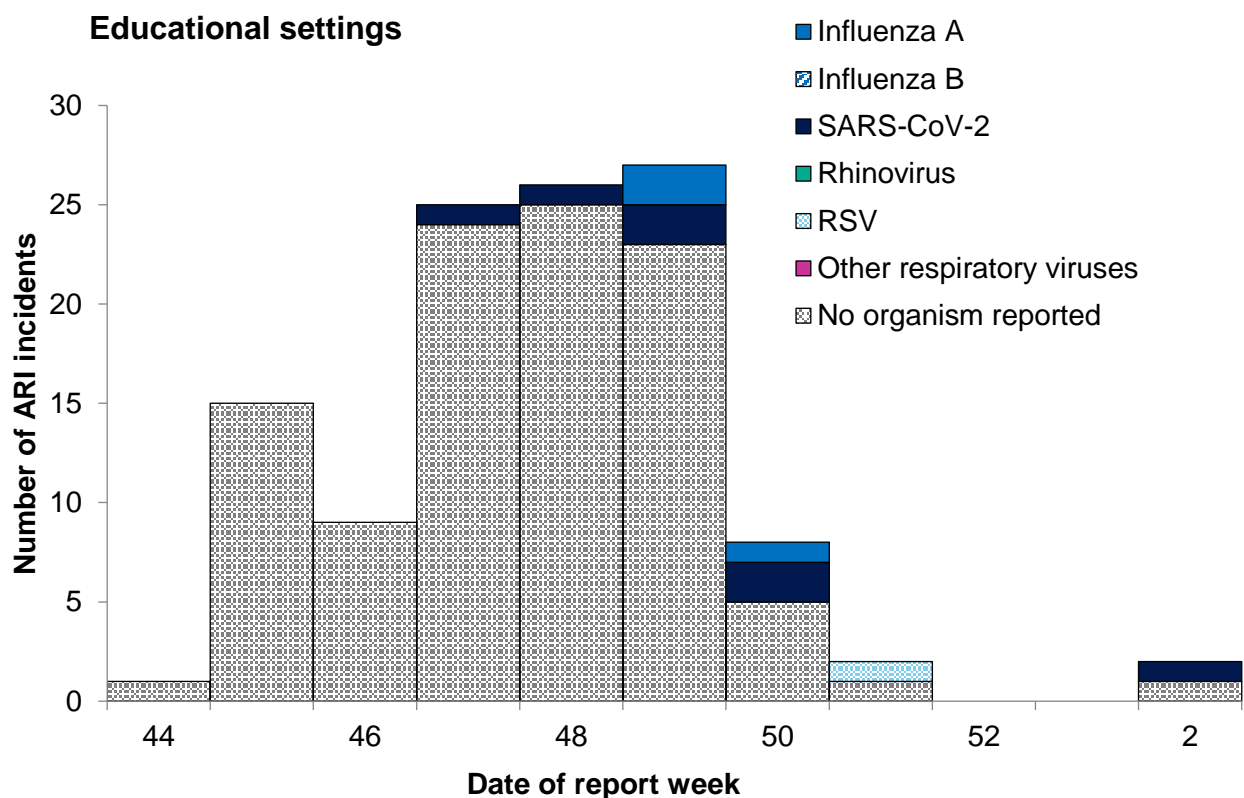
Figure 23: Number of acute respiratory infection (ARI) incidents in prisons by virus type, England

Prisons

Legend: Influenza A, Influenza B, SARS-CoV-2, Rhinovirus, RSV, Other respiratory viruses, No organism reported
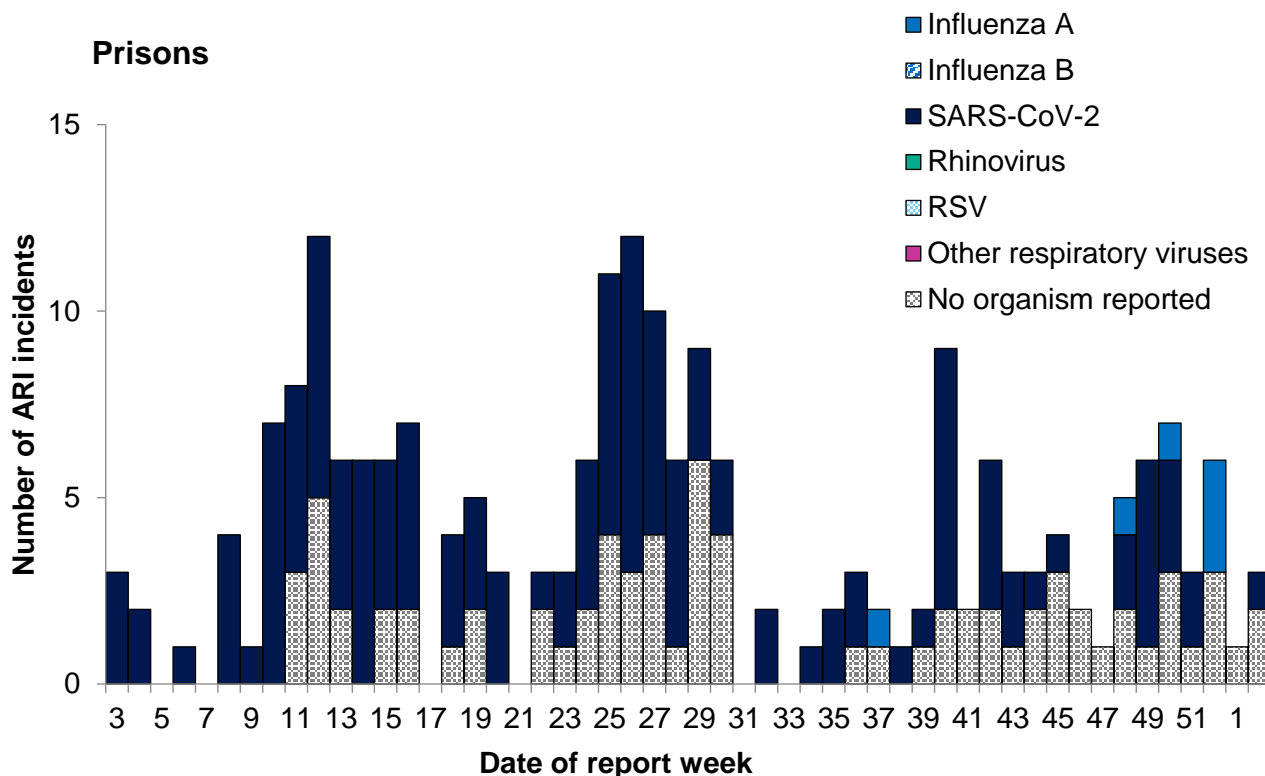
Figure 24: Number of acute respiratory infection (ARI) incidents in other settings by virus type from, England

Other settings

Legend: Influenza A, Influenza B, SARS-CoV-2, Rhinovirus, RSV, Other respiratory viruses, No organism reported
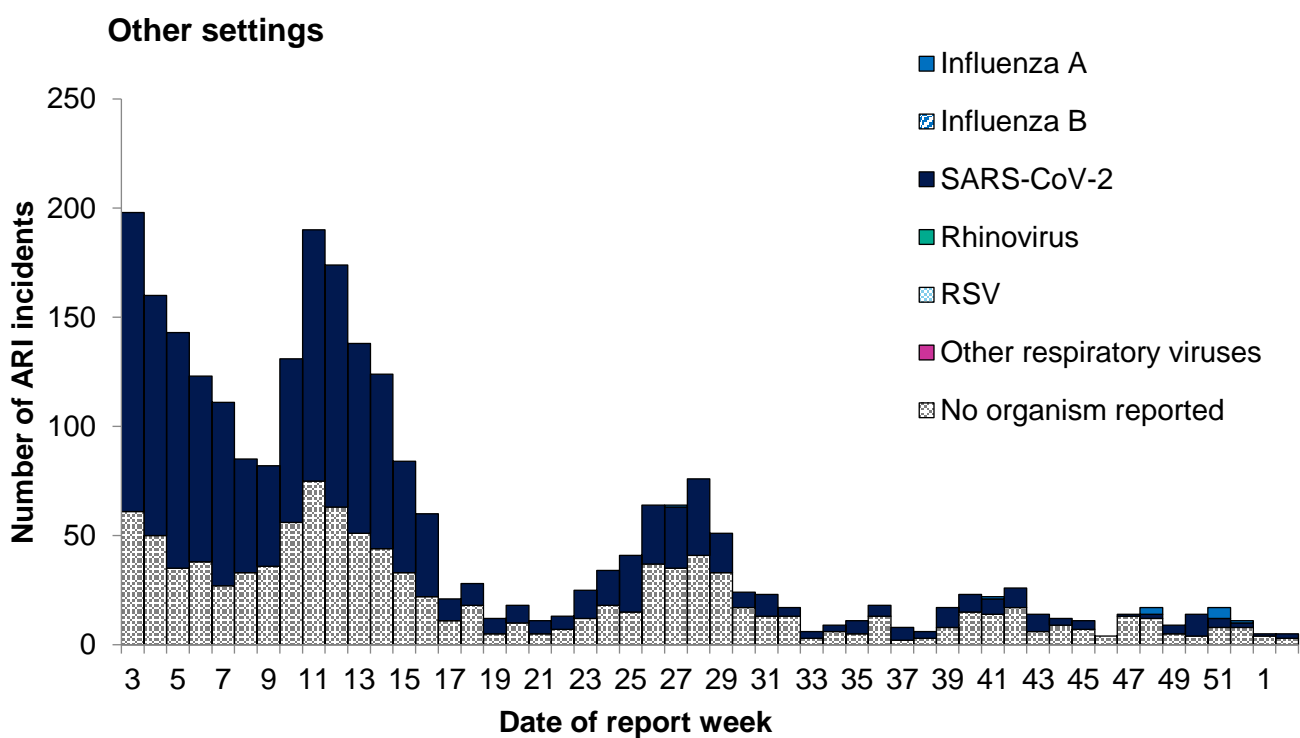
Table 1: Total number of situations and incidents by institution and UKHSA centres over the past 4 weeks with the total number in the last week in brackets

UKHSA Centres	Care home	Hospital	Educational settings	Prisons	Other settings	Total
East of England	101(9)	1(0)	0(0)	5(2)	2(1)	109(12)
East Midlands	52(10)	0(0)	0(0)	0(0)	1(0)	53(10)
London	118(11)	47(5)	1(1)	2(1)	13(0)	181(18)
North East	94(12)	0(0)	0(0)	0(0)	1(0)	95(12)
North West	183(14)	1(0)	1(0)	0(0)	5(0)	190(14)
South East	49(3)	0(0)	0(0)	2(0)	4(0)	55(3)
South West	320(53)	0(0)	0(0)	1(0)	4(0)	325(53)
West Midlands	87(13)	13(2)	2(1)	2(0)	4(3)	108(19)
Yorkshire and Humber	124(18)	1(0)	0(0)	1(0)	4(1)	130(19)
Grand Total	1128(143)	63(7)	4(2)	13(3)	38(5)	1246(160)

FluSurvey

An internet-based surveillance system has been developed based on FluSurvey. FluSurvey is a web tool survey designed to 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 2020.

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 2, there were 2,044 participants completing the weekly symptoms questionnaire of which 217 (10.6%) reported fever or cough and 63 (3.1%) reported influenza like illness (ILI).

Both COVID-19 related symptoms and influenza like illness (ILI) amongst participants completing the weekly symptoms survey have been decreasing since week 52.

Healthcare seeking behaviour amongst participants reporting respiratory symptoms relating to COVID-19 (cough, fever or loss of smell) showed that participants were more likely to telephone their GP provider as a result of their symptoms when compared to other healthcare services (Figure 25).

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. There remains variation on social mixing patterns amongst participants as people are meeting more individuals outside of their households (Figure 26).

Figure 25: FluSurvey participants self-reporting fever or cough and ILI symptoms, and trends in healthcare seeking behaviour among these participants, England
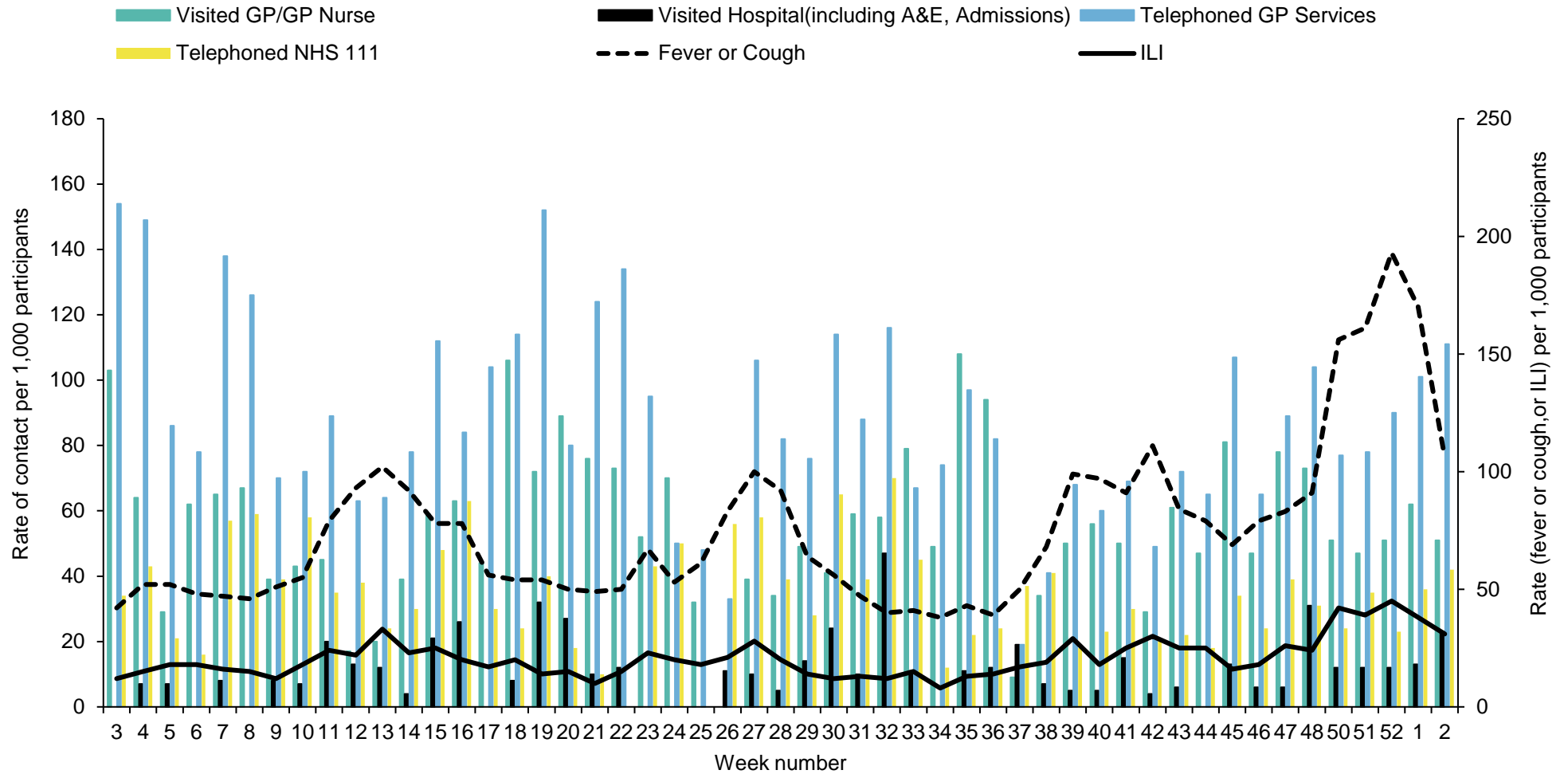
Figure 26: FluSurvey participants' self-reported number of social contacts outside the household
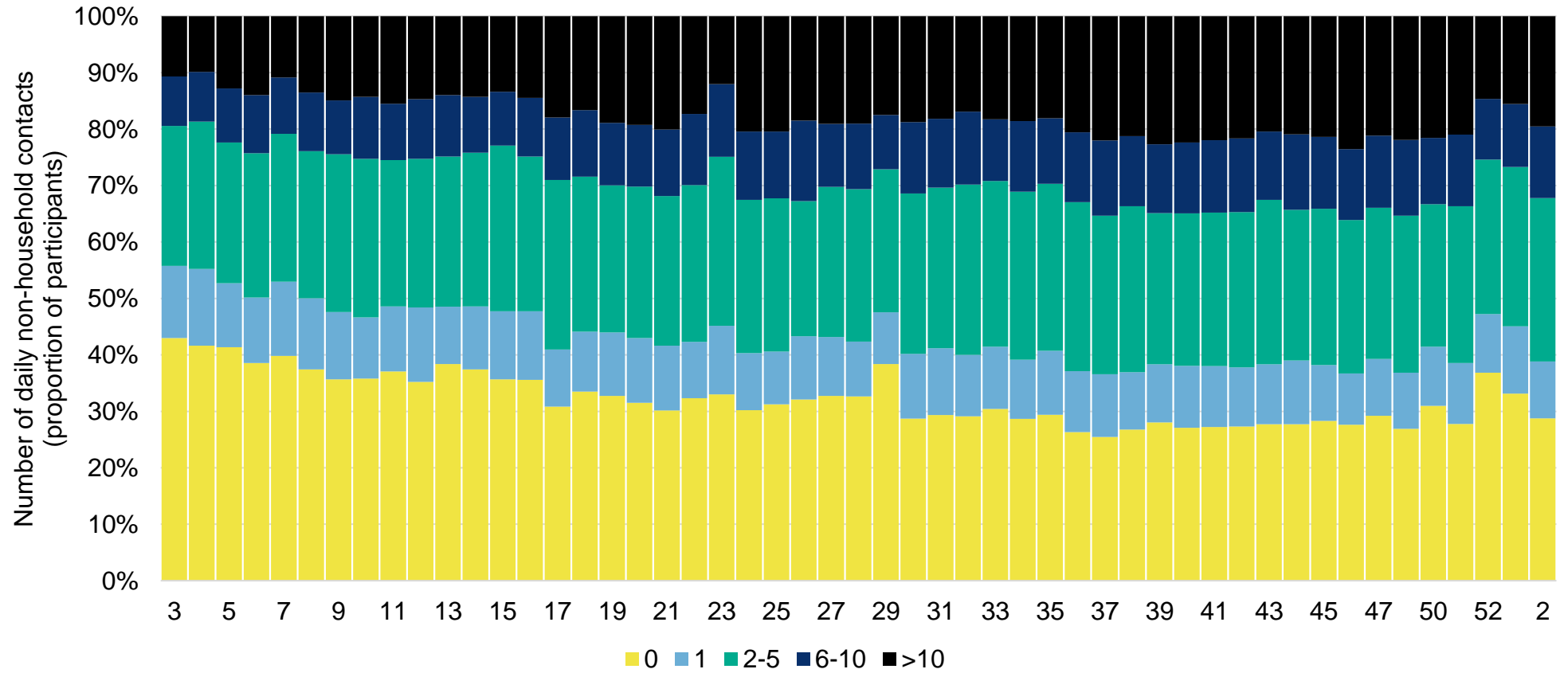
Google search queries

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 2, the overall and media-debiasing weighted Google search scores decreased compared to week 1 (Figure 27).

Figure 27: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England
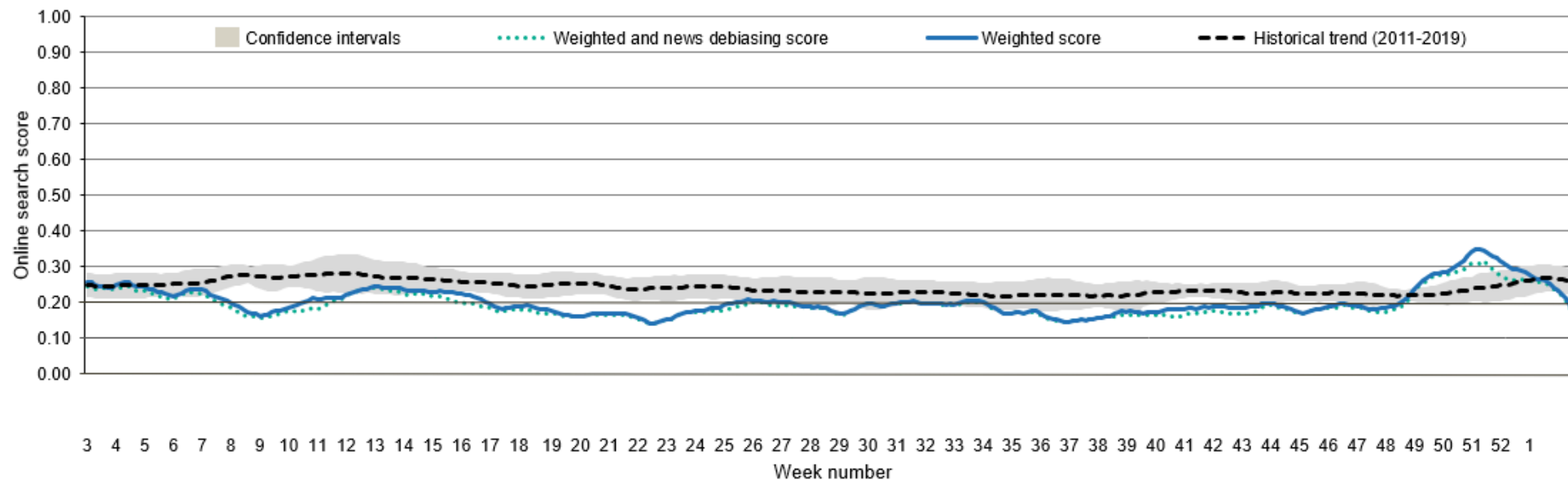
Flu Detector

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 2, the daily ILI rate decreased compared to week 1 and remained below the baseline threshold of 19.6 per 100,000 for the 2022 to 2023 season (Figure 28).

Figure 28: Daily estimated ILI Google search query rates per 100,000 population, England
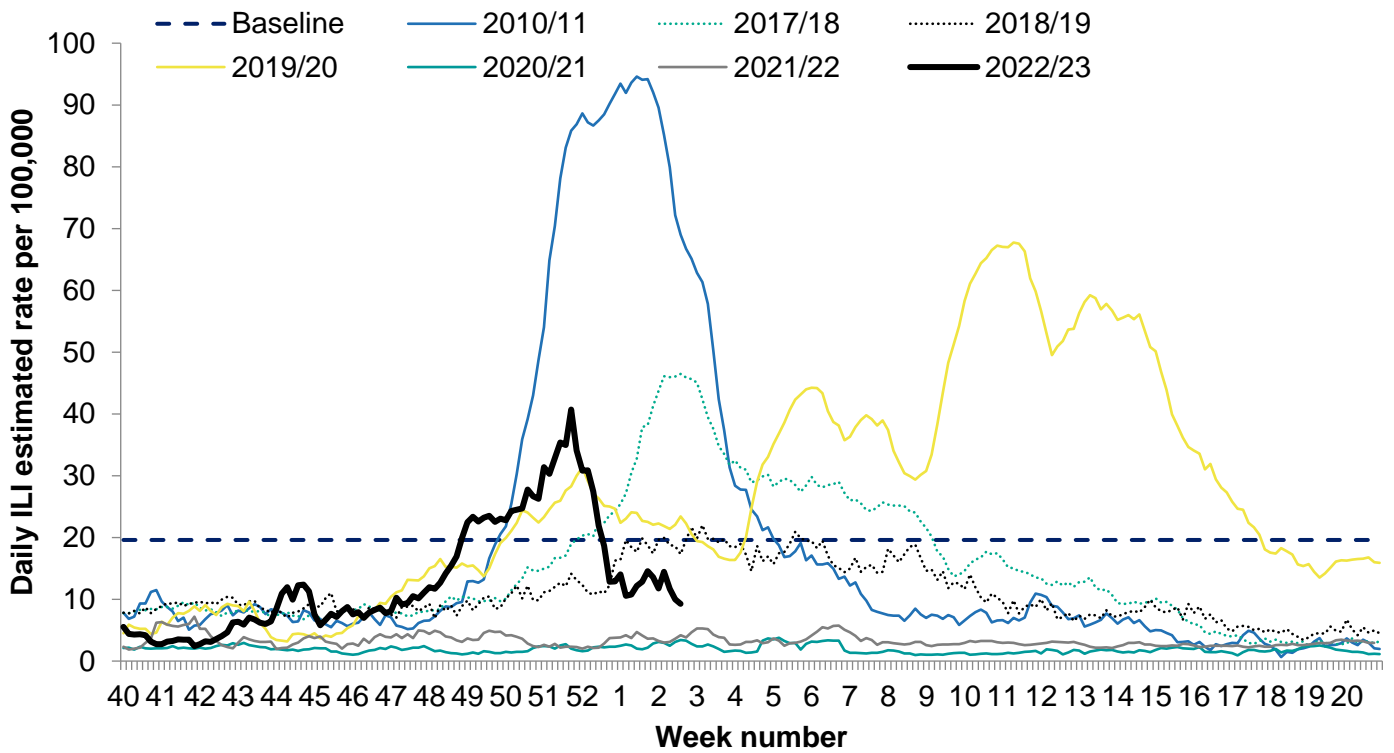
NHS 111

Please note that different syndromic surveillance indictors (NHS 111, GP in hours, GP out of hours and emergency department attendances) are presented here than have been included in previous versions of this report. All indictors previously presented will continue to be published in the Syndromic Surveillance bulletins.

The NHS 111 service monitors daily trends in phone calls made to the service in England, to capture trends in infectious diseases such as influenza and norovirus.

Please note that the number of NHS 111 calls are still lower than usual due to widely publicised disruption faced by a clinical software system. The NHS 111 call data presented in this report should therefore be interpreted with some caution.

During week 2, NHS 111 calls for cold or flu decreased nationally across all age groups. Calls for cough decreased, except for children aged between 1 and 4 years old (Figure 29 and 30).

Please note that NHS 111 callers (from 11 May 2020) who are assessed as having probable COVID-19 symptoms are now triaged using symptom specific pathways such as cold or flu, which are included in routine syndromic indicators.

Further information about these caveats is available from the Remote Health Advice Syndromic Surveillance bulletin.

Figure 29: NHS 111 telephony indicators (and 7-day moving average) for number of daily cold or flu calls, England (a) nationally and (b) by age group

(a)

NHS 111 calls: cold or flu 16/01/2022 to 15/01/2023

Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline. Grey columns show weekends and bank holidays.

(b)

NHS 111 calls: cold or flu by age (years) 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
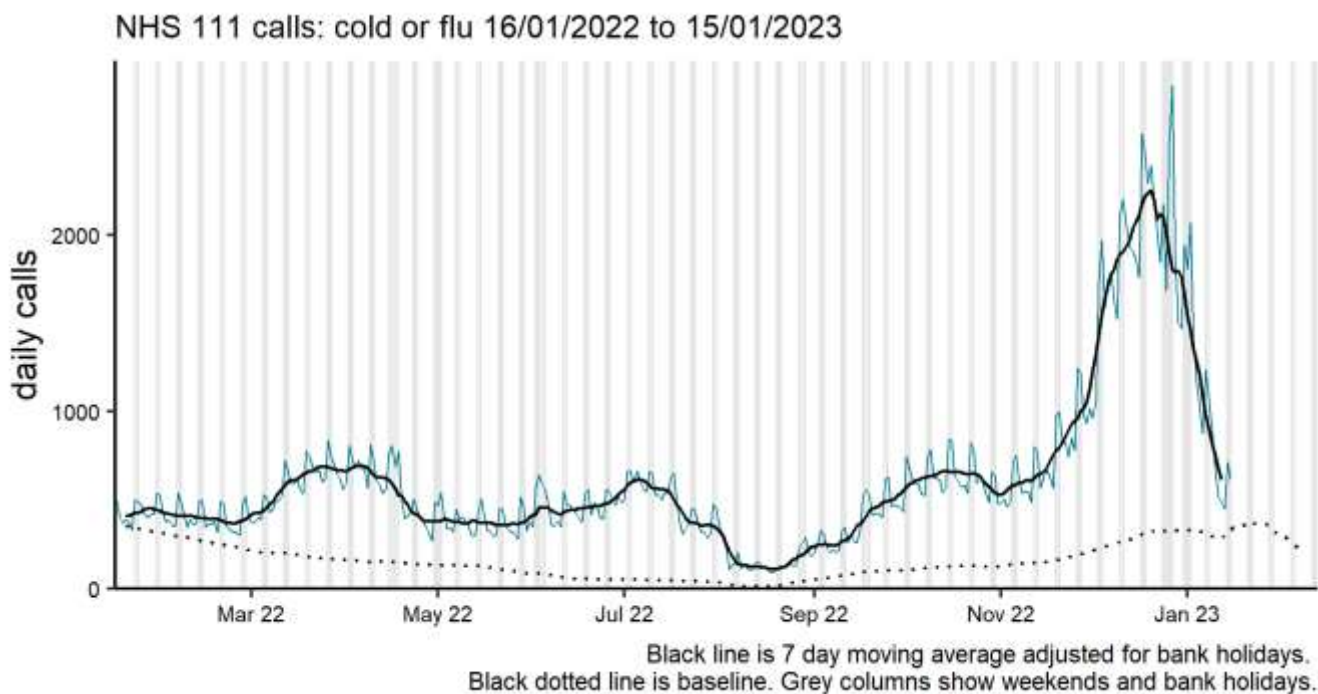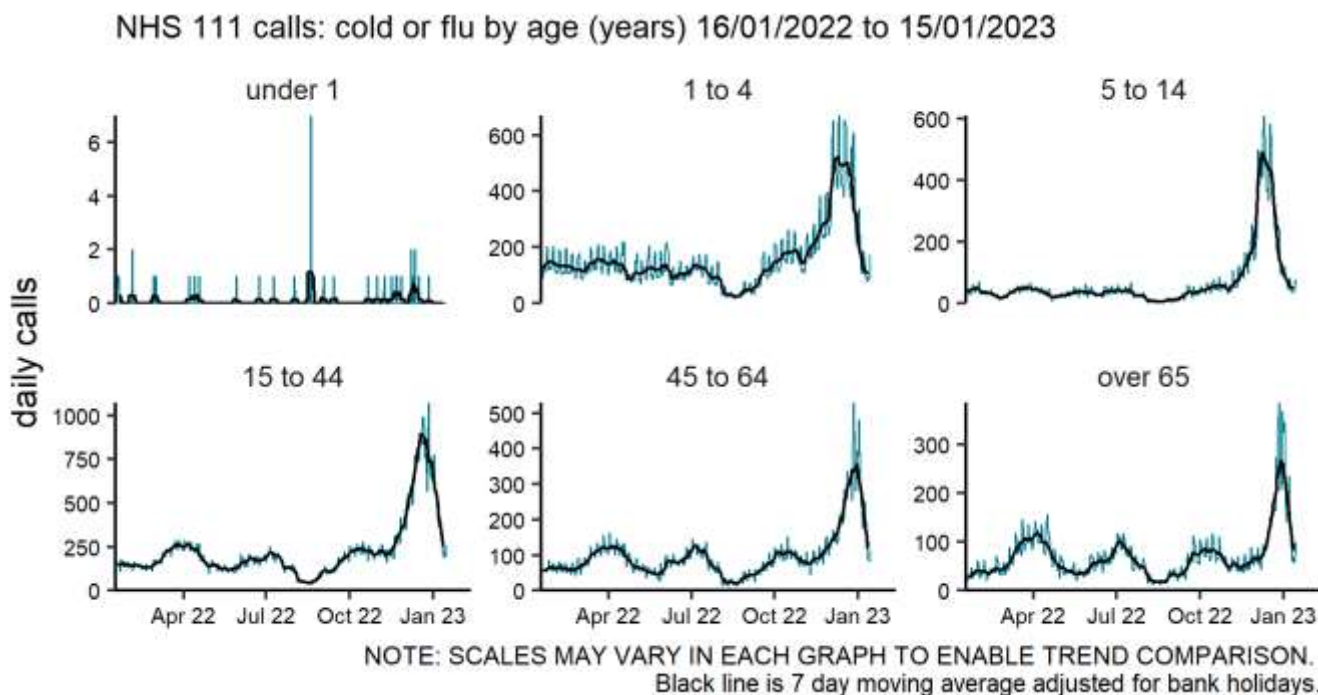
Figure 30: NHS 111 telephony indicators (and 7-day moving average) for number of daily cough calls, England (a) nationally and (b) by age group

(a)
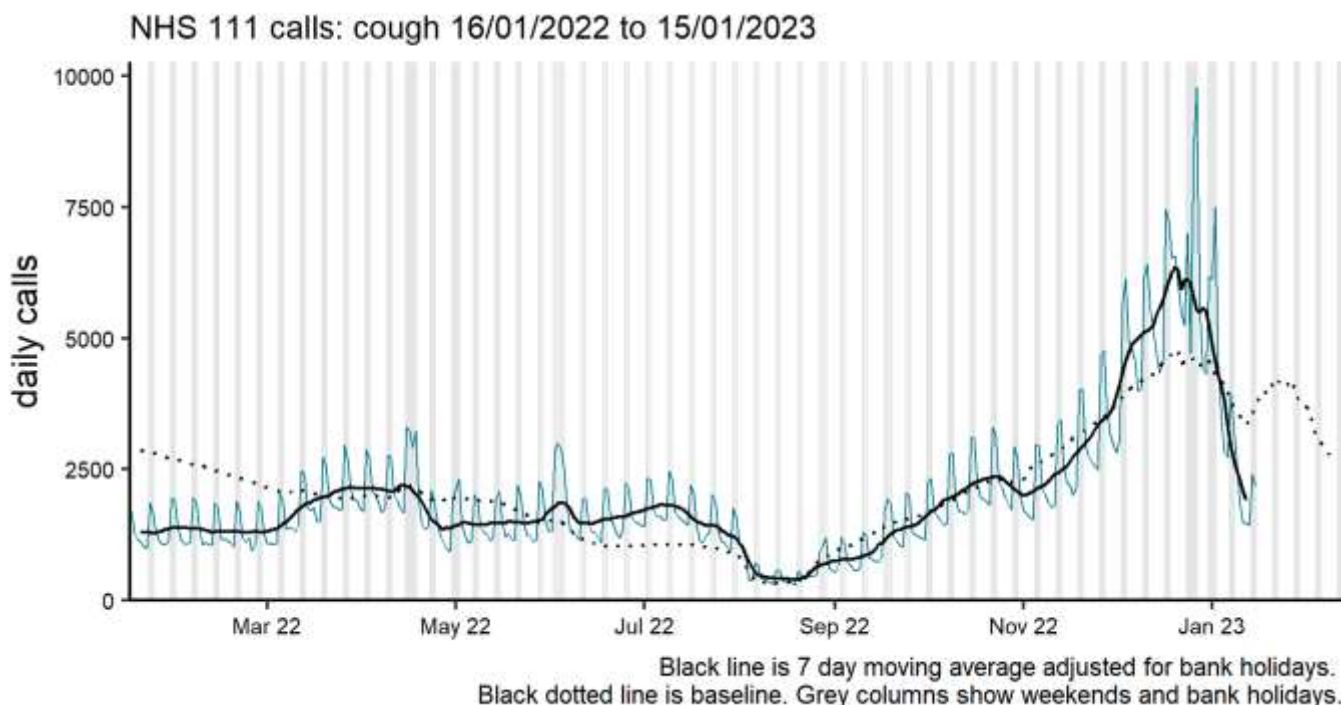
(b)
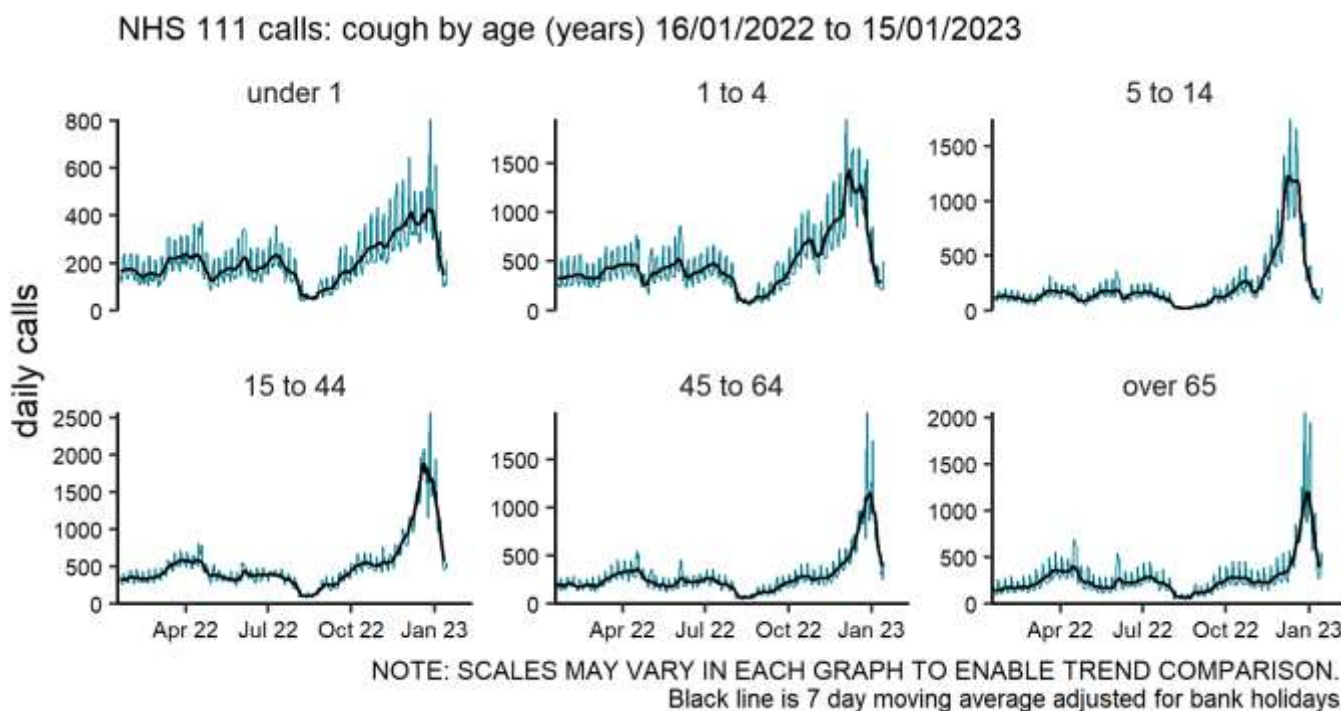
Primary care surveillance

RCGP (England)

The weekly ILI consultation rate through the RCGP surveillance was 12.9 per 100,000 registered population in participating GP practices in week 2 compared to 21.1 per 100,000 in the previous week. This returns back low activity levels (between 11.47 and 15.06 per 100,000) (Figure 31). By age group, the highest rates were seen in adults aged between 45 and 64 years old (17.0 per 100,000), followed by the 75 and over years olds (16.8 per 100,000). The lower respiratory tract infections (LRTI) consultation rate was at 96.6 per 100,000 in week 2, compared to 130.6 per 100,000 in the previous week. The COVID-19 indicator rate was at 24.0 per 100,000 in week 2 compared to 44.2 per 100,000 in the previous week (Figure 32).

Figure 31: RCGP influenza-like illness (ILI) consultation rates, all ages, England
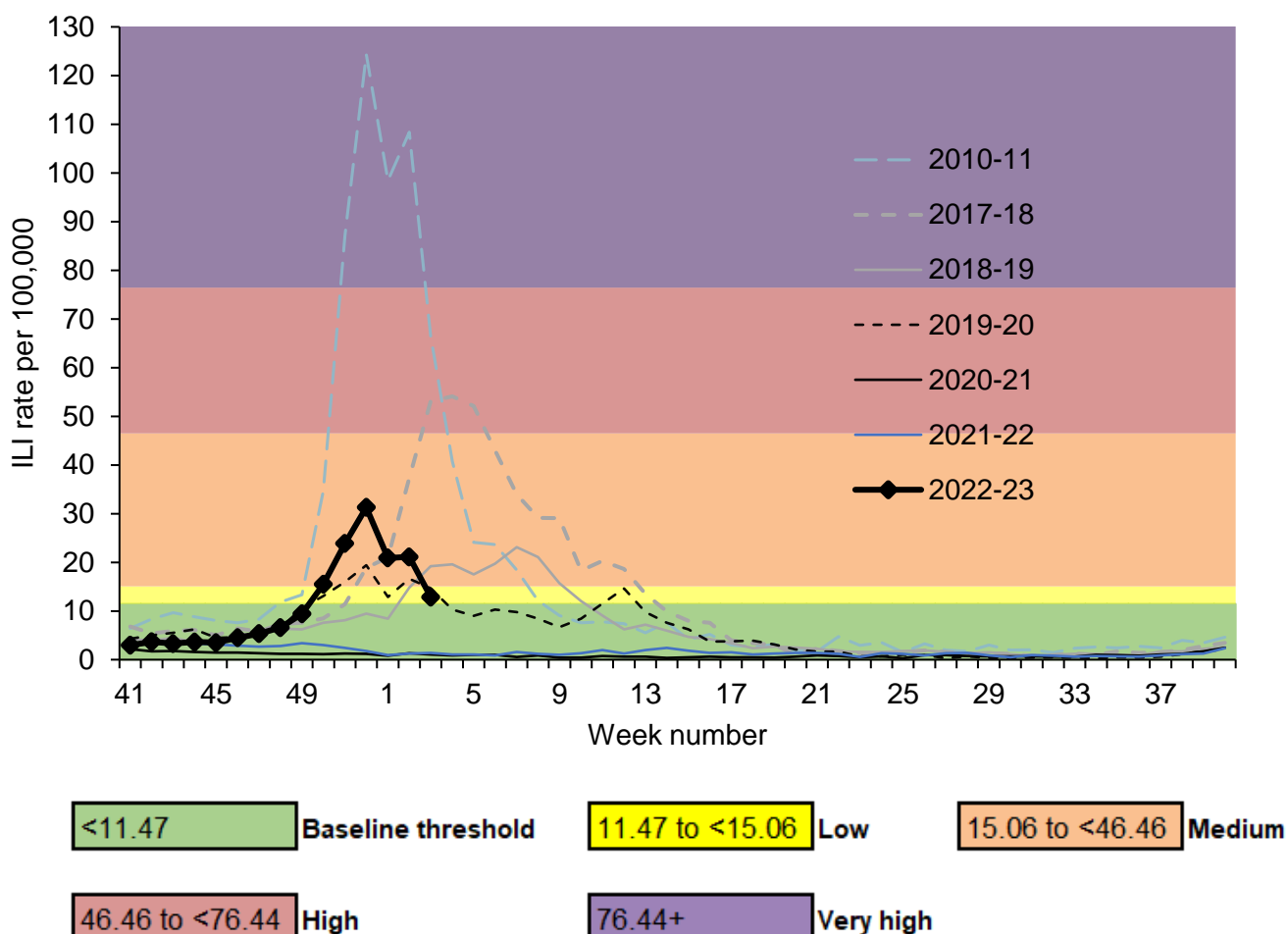
Figure 32: RCGP ILI, LRTI and COVID-19 indicator rates, England
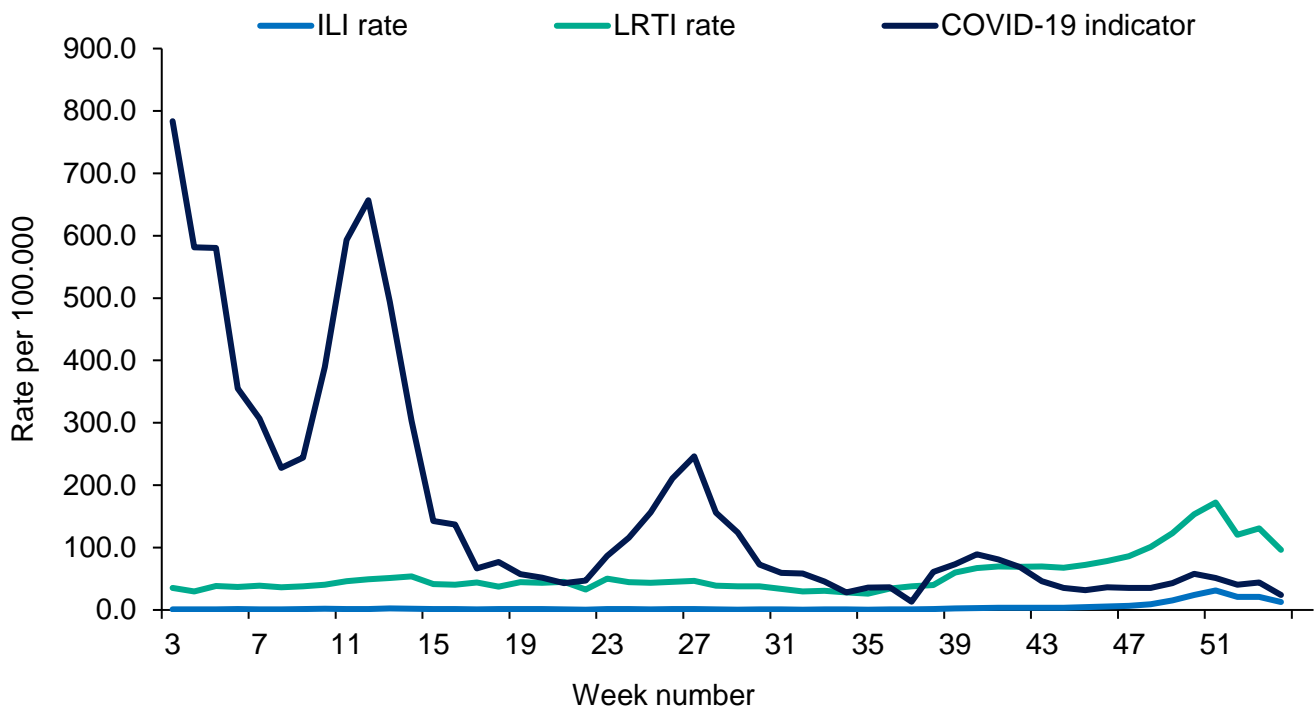
UK

Overall, weekly ILI consultations rates decreased and returned to low activity levels in England and Wales. In Scotland and Northern Ireland, ILI consultations rates also decreased and returned below baseline activity levels.

By age group, the highest incidence was in adults aged between 45 and 64 years old in England (17.0 per 100,000), Wales (26.18 per 100,000), Scotland (18.2 per 100,000), Northern Ireland (12.9 per 100,000).

Table 2: GP ILI consultations in the UK for all ages with MEM (Moving Epidemic Method) thresholds applied

GP ILI consultation rates (all ages)	Week number														
	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2
England (RCGP)	3.0	3.7	3.3	3.6	3.5	4.5	5.3	6.6	9.4	15.5	23.9	31.3	20.9	21.1	12.9
Wales	3.5	2.8	3.9	4.8	6.3	7.0	3.5	4.3	7.8	14.1	24.2	39.1	34.8	22.8	14.3
Scotland	2.1	1.8	4.0	3.8	3.5	4.8	4.1	3.1	5.9	7.2	11.1	20.2	31.9	20.7	15.9
Northern Ireland	1.3	2.2	1.8	3.5	3.0	3.7	3.5	4.9	5.0	6.0	9.4	17.8	14.0	17.7	10.3

The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 2020 to 2021), in a standardised approach across Europe.

Sentinel swabbing scheme in England

In week 2 2023, 182 samples were tested for SARS-CoV-2 through the GP sentinel swabbing scheme in England, of which 8 samples tested positive. 181 samples were tested for RSV, of which 6 tested positive. 166 samples were tested for influenza, of which 11 samples tested positive (Figure 33).

* Please note that due to lower sample numbers, data from week 14 of 2022 onwards should be interpreted with caution.

Figure 33: Number of positive samples and weekly positivity (%) for (a) COVID-19 and (b) Influenza and (c) RSV, GP sentinel swabbing scheme

(a)

(b)

(c)
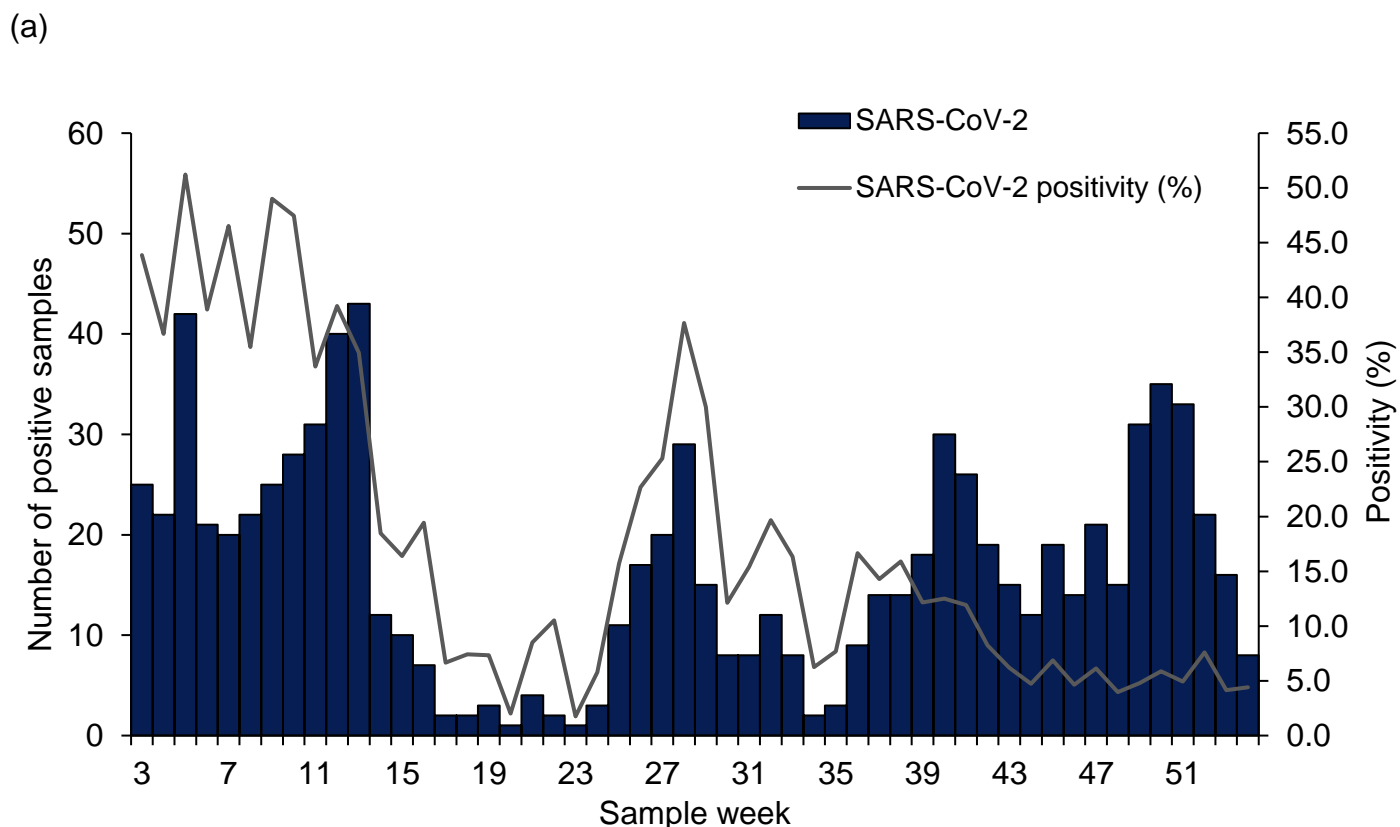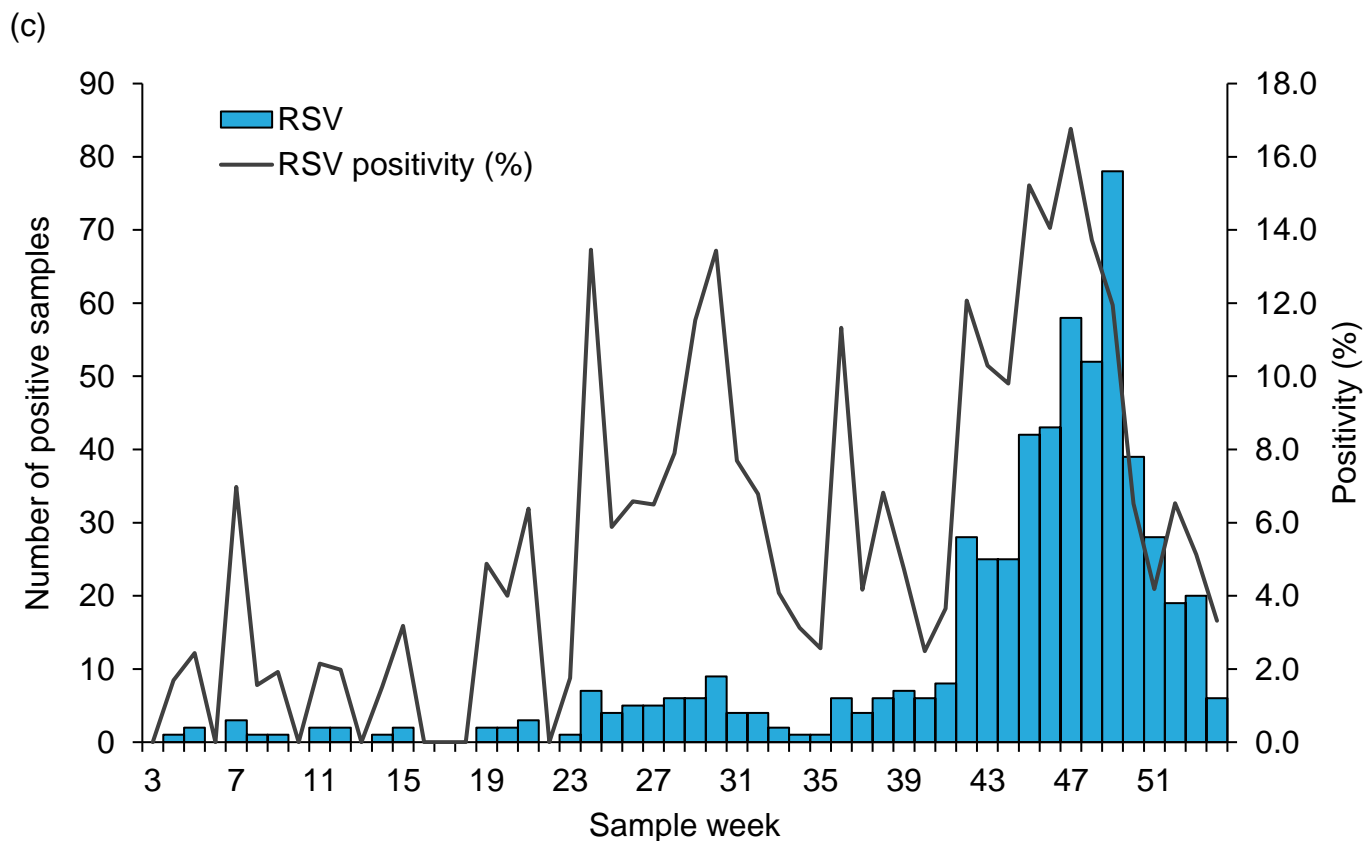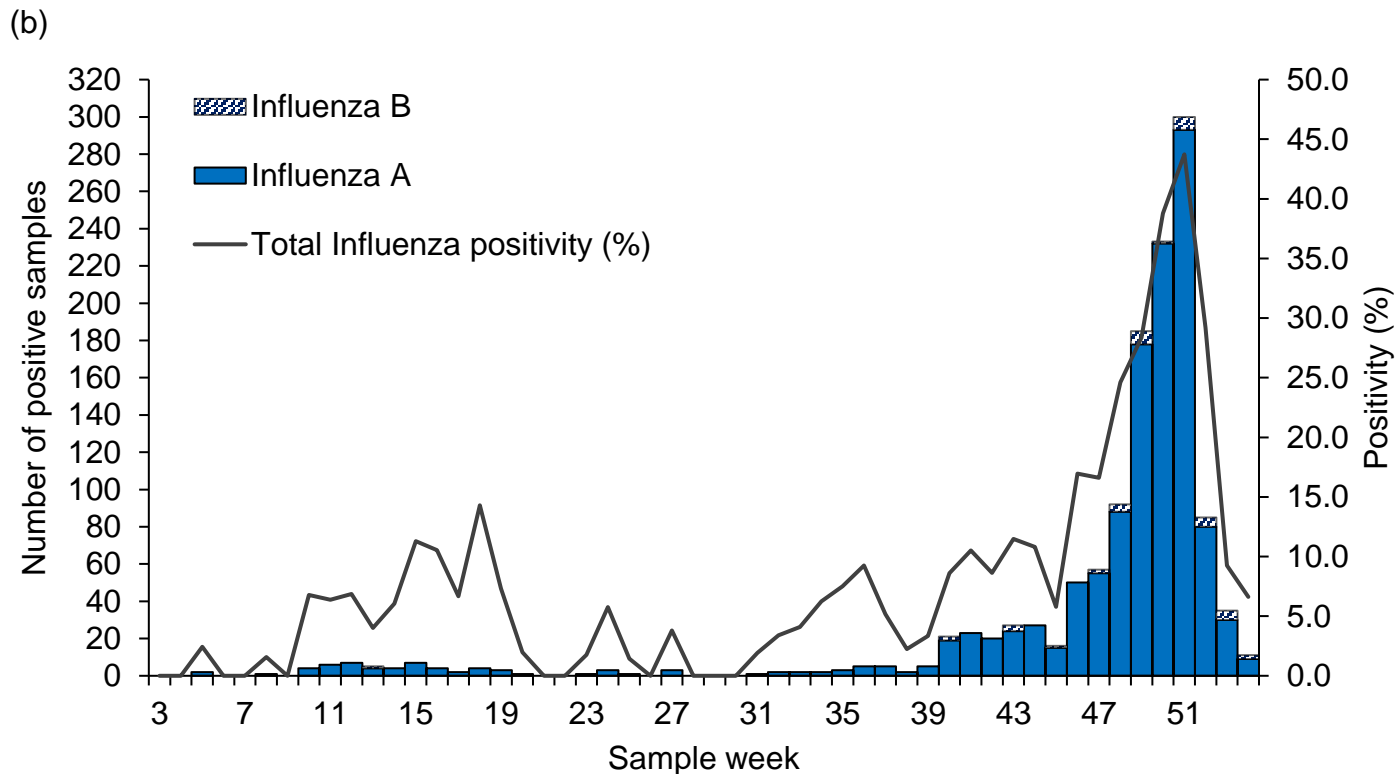
*For the most recent week, more samples are expected to be tested therefore the graphs in Figure 33 should be interpreted with caution

*Positivity (%) is not calculated when the total number tested is less than 10

GP In Hours, Syndromic Surveillance

The GP In Hours (GPIH) syndromic surveillance system monitors the number of GP visits during regular hours of known clinical indicators.

During week 2, the rate of GP in hours consultations for influenza-like illness decreased nationally, across most age groups and regions (Figure 34).

Further indicators and information about caveats are available from the GP In Hours Syndromic Surveillance bulletin.

Figure 34: GPIH clinical indicators for influenza-like illness GP consultations, England (a) nationally, (b) by age group and (c) by UKHSA centre
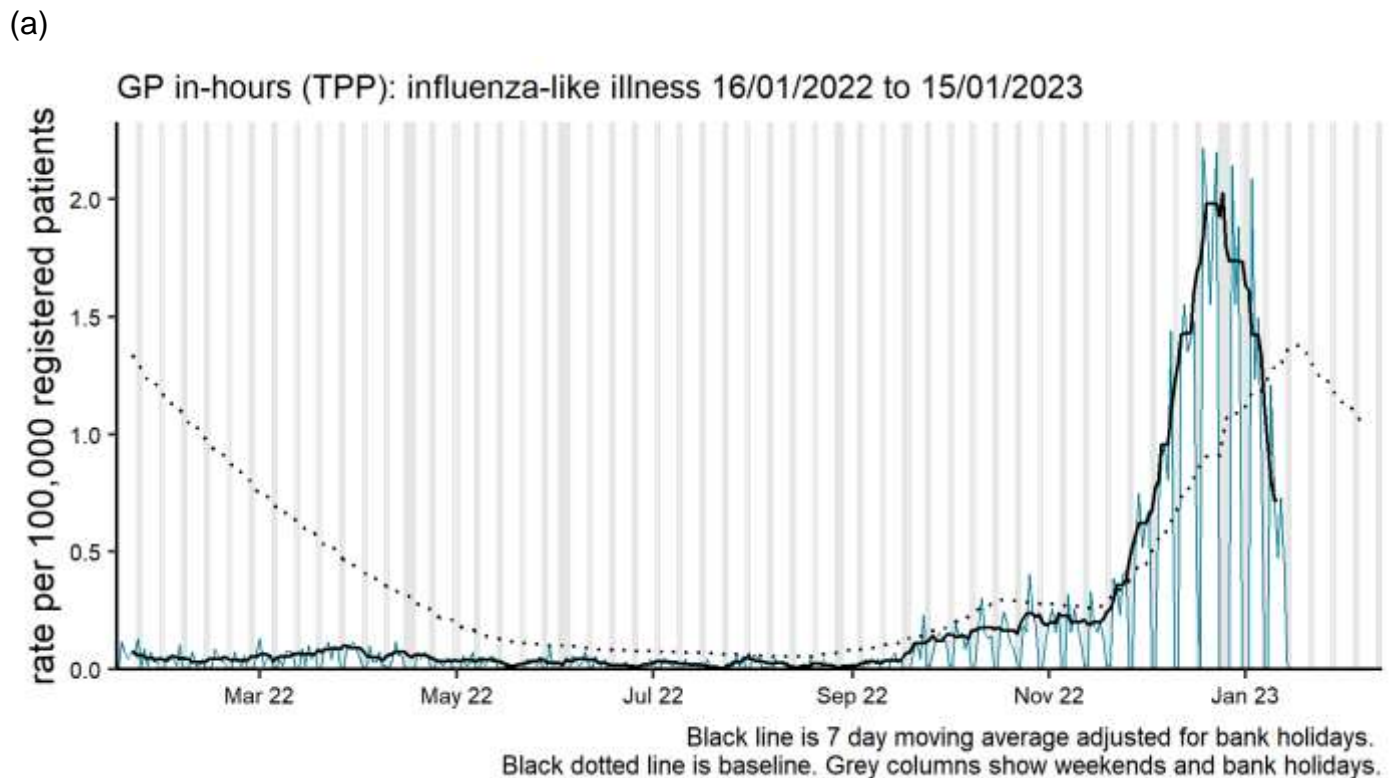
(a)

GP in-hours (TPP): influenza-like illness 16/01/2022 to 15/01/2023

Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline. Grey columns show weekends and bank holidays.

(b)

GP in-hours (TPP): influenza-like illness by age (years) 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.

(c)

GP in-hours (TPP): influenza-like illness by region 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.
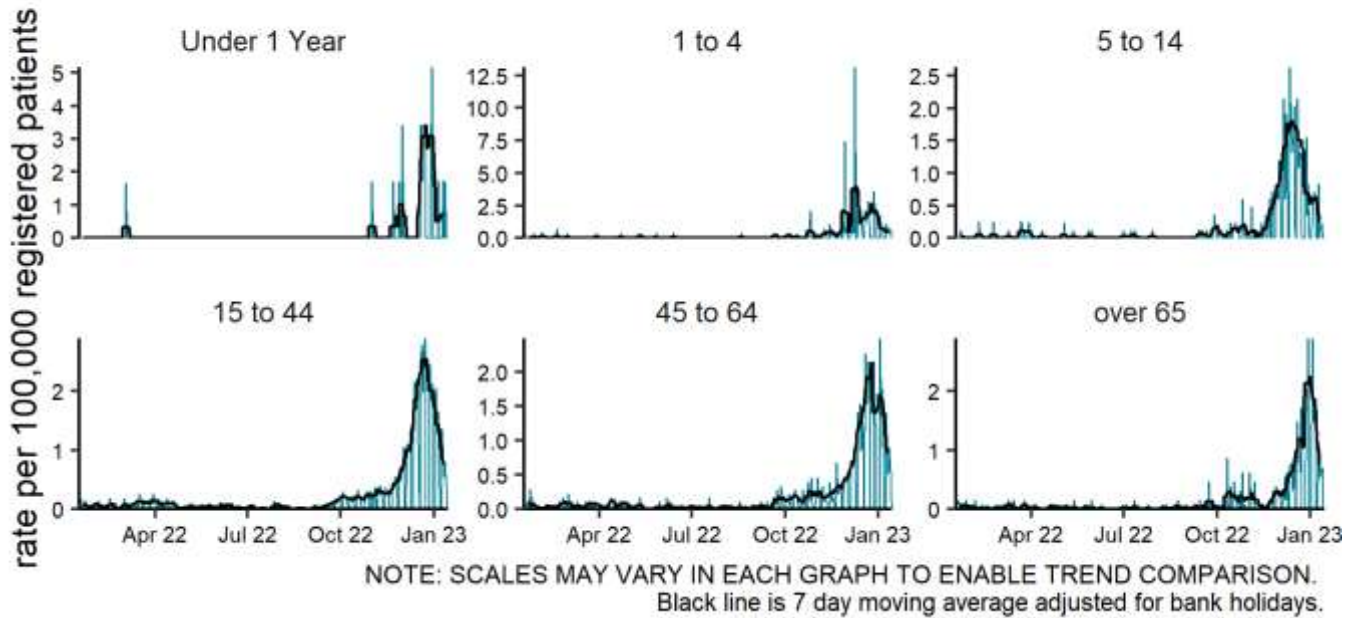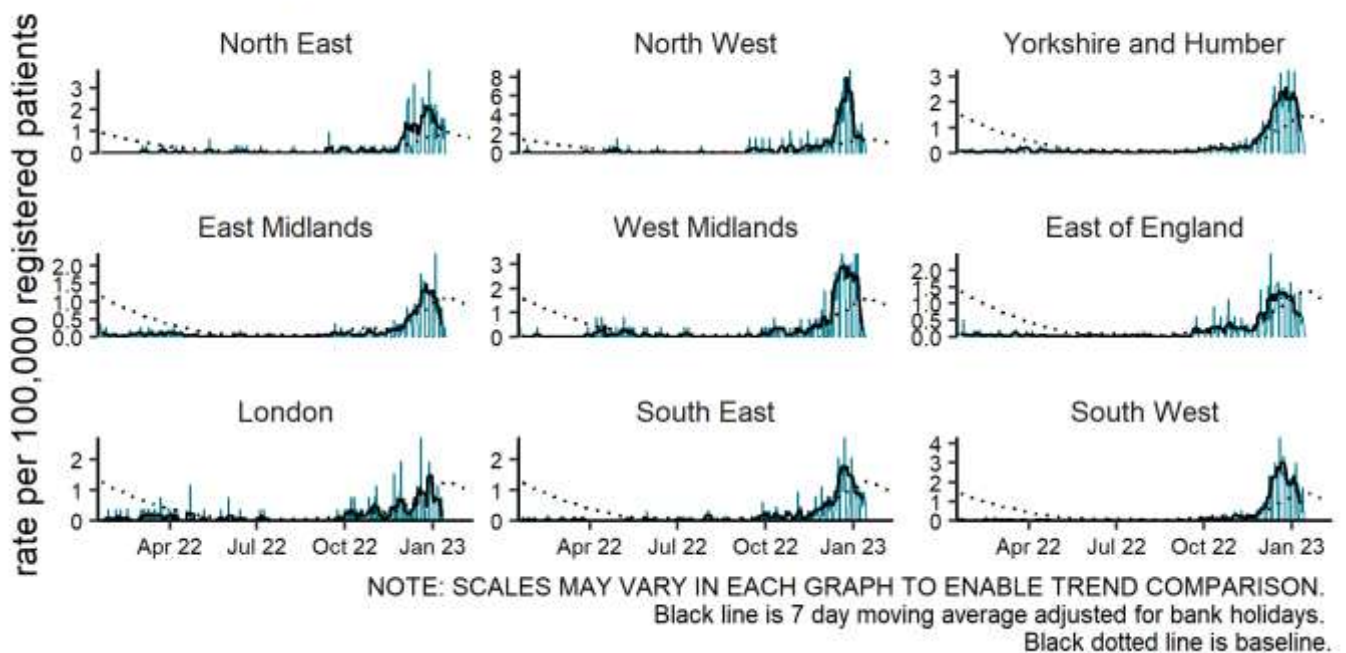
GPIH Baselines are modelled from historical data to give current seasonally expected levels. GP consultations rates decreased during 2020 due to changes in guidance on accessing health care, therefore separate modelled estimates are provided to show seasonally expected levels pre-COVID-19.

GP Out of Hours, Syndromic Surveillance

The GP Out of Hours (GPOOH) syndromic surveillance system monitors the numbers of daily unscheduled visits and calls to GPs during evenings, overnight, on weekends and on public holidays. This system covers around 55% of England's out of hour activity.

Due to a disruption with a GPOOH clinical software system provider, GPOOH data from 4 August onwards is not currently available. Data from GPOOH systems will be added back into this report once available. The most recent data is available in previous reports.

Secondary care surveillance

SARI Watch

The Severe Acute Respiratory Infection (SARI) Watch surveillance system was established in 2020 to report the number of laboratory-confirmed influenza and COVID-19 cases admitted to hospital and critical care units (ICU and HDU) in NHS acute trusts across England. This has replaced the UK Severe Influenza Surveillance Schemes (USISS) Mandatory and Sentinel data collections for influenza surveillance used in previous seasons, and the COVID-19 hospitalisations in England surveillance system (CHESS) collections for COVID-19 surveillance.

The weekly rate of new admissions of COVID-19, influenza and RSV cases is based on the trust catchment population of those NHS Trusts who made a new return. This may differ from other published figures such as the total number of people currently in hospital with COVID-19.

The Moving Epidemic Method (MEM) thresholds for influenza hospital and ICU or HDU admissions are calculated based on the 2016 to 2017 to the 2021 to 2022 seasons (data from 2020 to 2021 was excluded due to the COVID-19 pandemic). These thresholds have been applied to data from the 2022 to 2023 season onwards.

Trends in hospital and critical care admission rates need to be interpreted in the context of testing recommendations. Please note that routine asymptomatic testing for SARS-CoV-2 through NHS settings has been paused from 31 August 2022, therefore SARI-Watch data should be interpreted with this in mind.

Hospitalisations, SARI Watch

In week 2 (ending 15 January 2023), the overall weekly hospital admission rate for COVID-19 decreased to 6.69 per 100,000 compared to 8.94 per 100,000 in the previous week.

By UKHSA centre, the highest hospital admission rate for COVID-19 was observed in the North East. By age group, the highest hospital admission rate for confirmed COVID-19 continues to be in the 85 year olds and over (with a decrease in the majority of age groups in week 2).

In week 2 (ending 15 January 2023), the overall weekly hospital admission rate for influenza decreased to 2.73 per 100,000 compared to 6.88 per 100,000 in the previous week. Due to retrospective updates, the rate in week 51 2022 was revised to 16.05 per 100,000 and the rate in week 52 2022 was revised to 11.36 per 100,000. The rate for week 1 2023 was also revised due to retrospective updates. The rate in the latest week remains in the medium impact range. By UKHSA Centre, the highest hospitalisation rate was observed in the East Midlands (5.29 per 100,000). By age group, the highest hospital admission rate for influenza was in the 85 year olds and over (24.65 per 100,000). There were 251 new hospital admissions to sentinel Trusts for influenza (10 influenza A(H1N1)pdm09, 16 influenza A(H3N2), 189 influenza A(not subtyped) and 36 influenza B) in week 2.

Figure 35: Weekly overall hospital admission rates of new COVID-19 and influenza positive cases per 100,000 population reported through SARI Watch, England
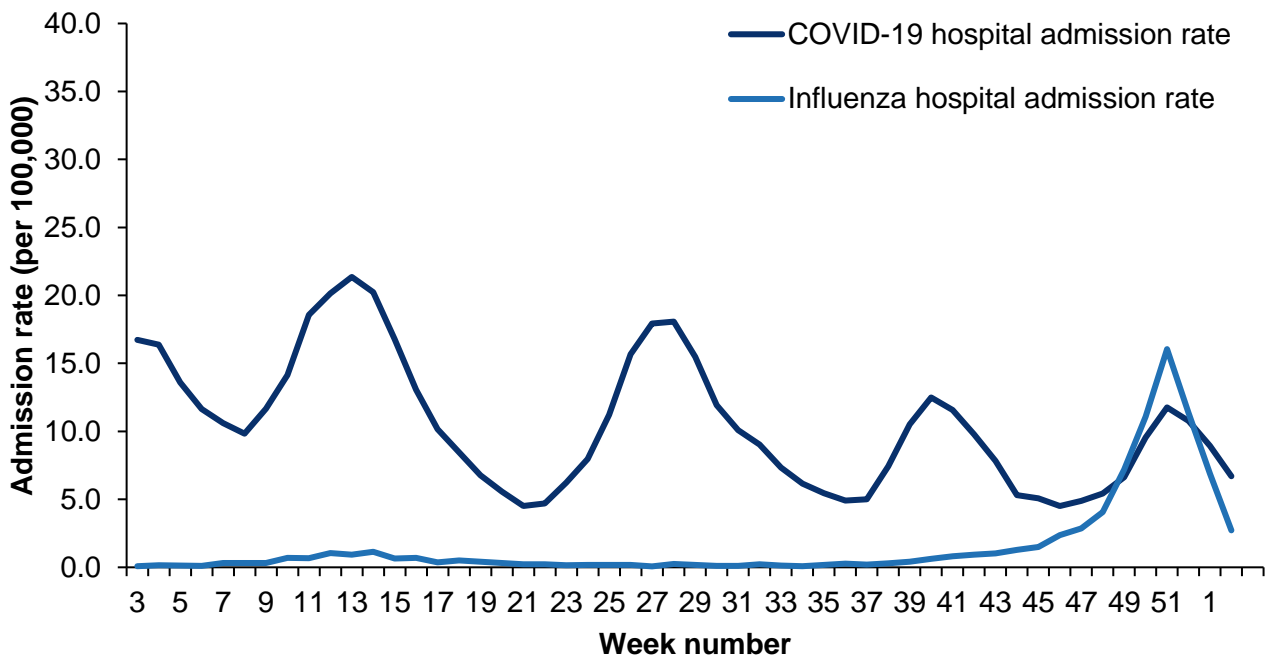
* Influenza hospital admission rate based on 22 sentinel NHS trusts for week 2

* COVID-19 hospital admission rate based on 93 NHS trusts for week 2

* SARI Watch data is provisional

Figure 36: Weekly overall influenza hospital admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England
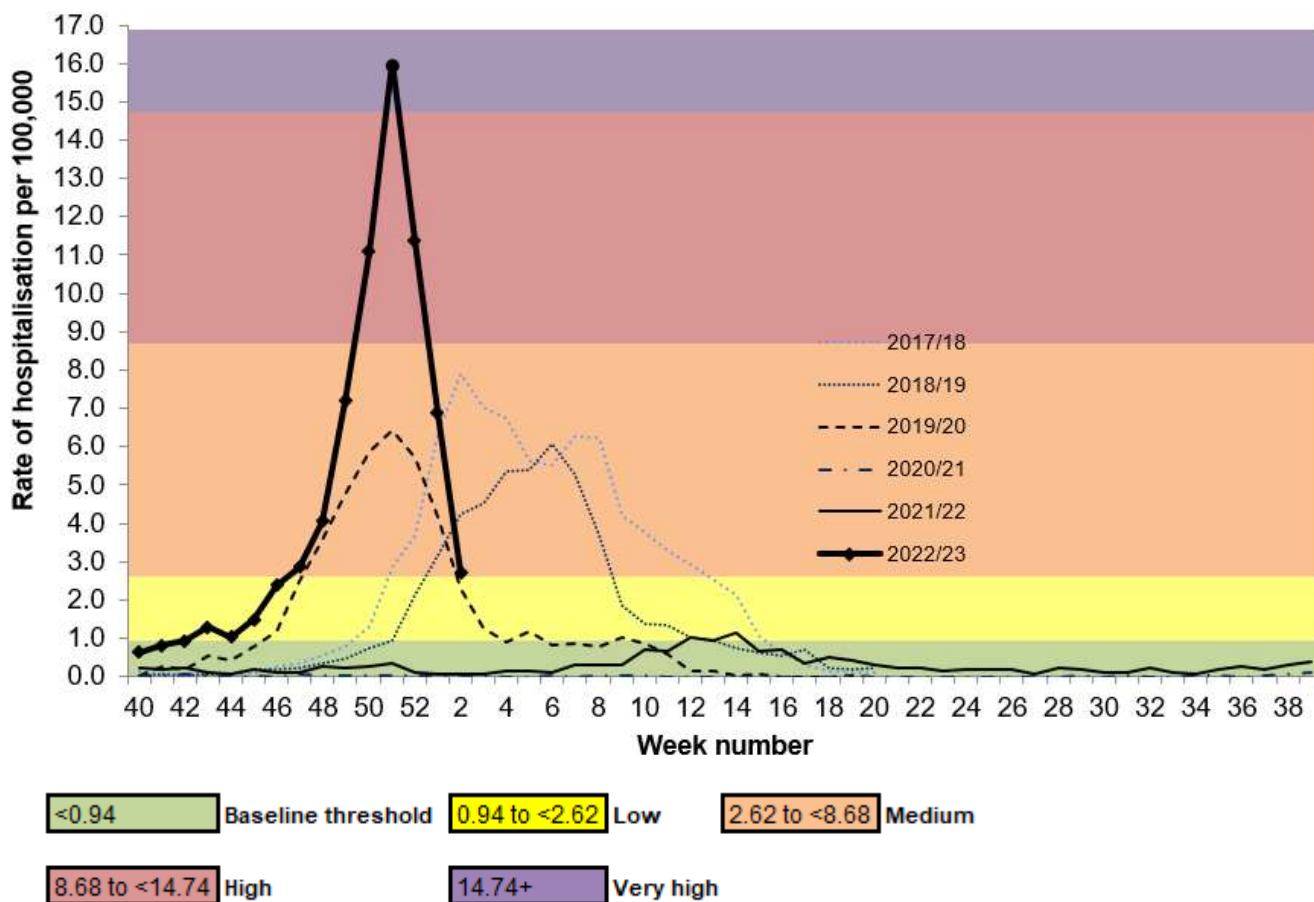
* MEM thresholds are based on data from the 2016 to 2017 to the 2021 to 2022 seasons (data from 2020 to 2021 was excluded due to the COVID-19 pandemic).

Figure 37: Weekly influenza hospital admissions by influenza type, SARI Watch, England
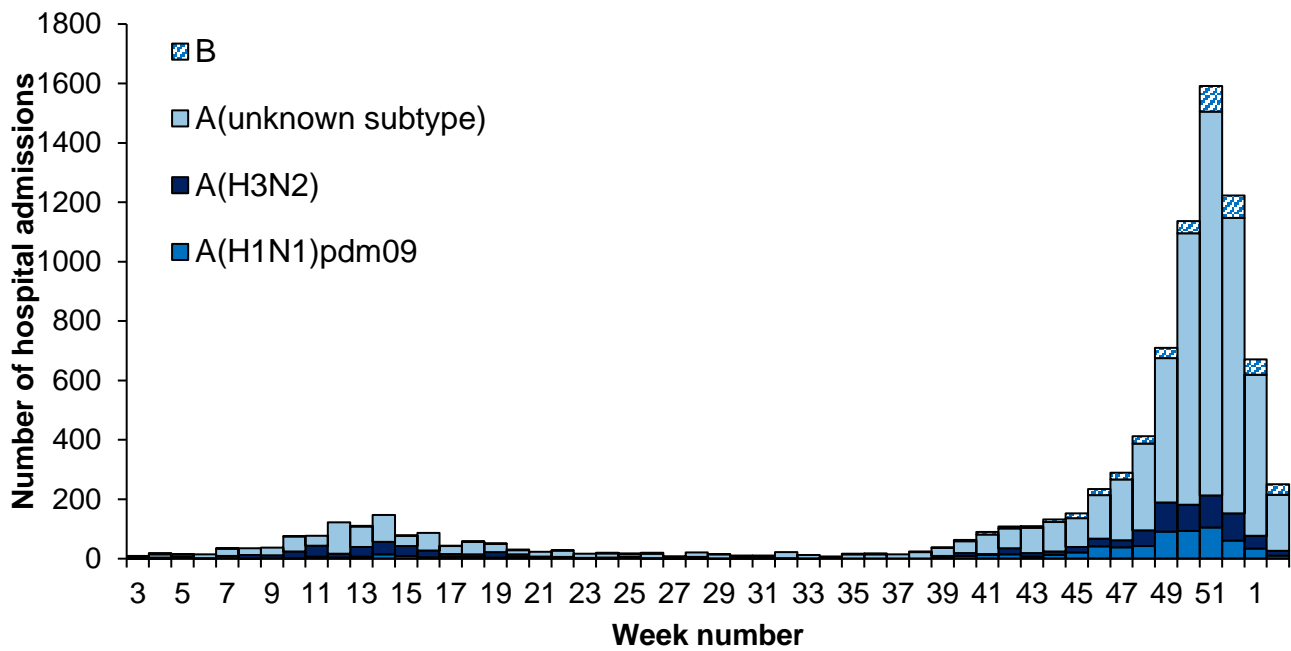
*Number of influenza hospital admissions based on sentinel NHS trusts

46

Figure 38: Weekly hospital admission rate by UKHSA centre for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch*

(a)

(b)
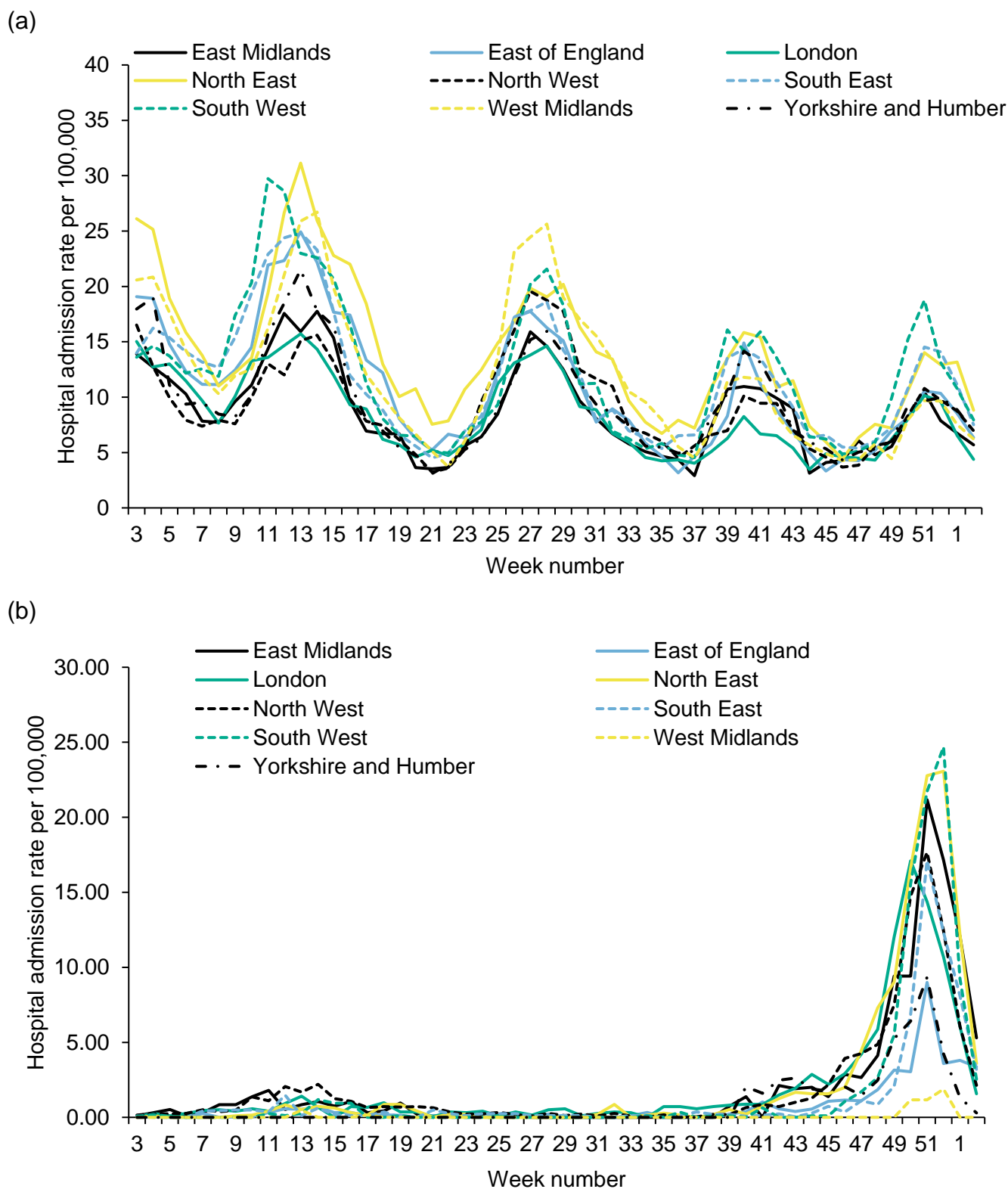
* Rates in some regions may not include all influenza surveillance sentinel sites from week to week

47

Figure 39: Weekly hospital admission rate by age group for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch

(a)

(b)
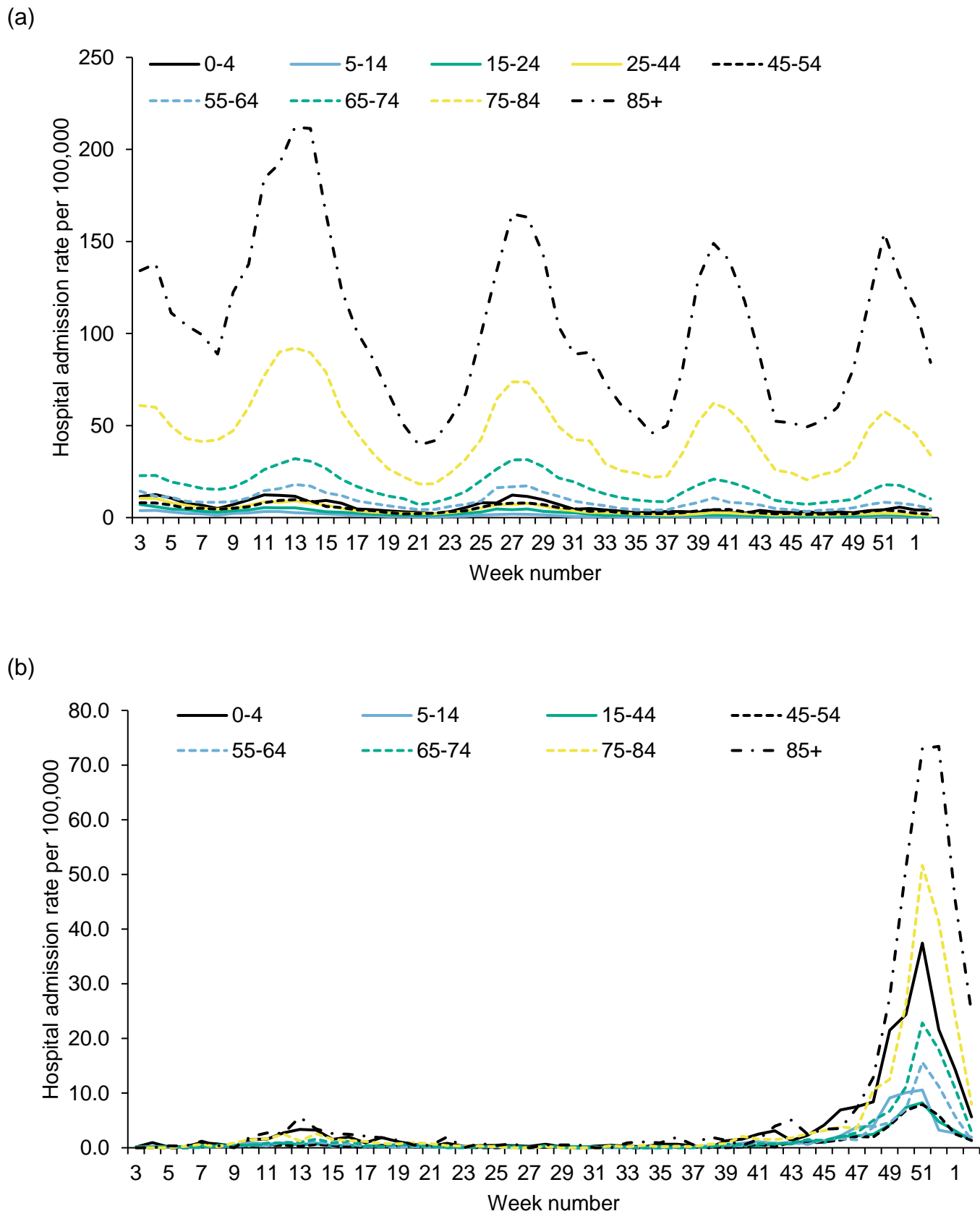
ICU or HDU admissions, SARI Watch

In week 2 (ending 15 January 2023), the overall weekly ICU or HDU admission rates for COVID-19 remains low, decreasing slightly to 0.23 per 100,000, compared to 0.28 per 100,00 the previous week. Note that ICU or HDU admissions rates may represent a lag from admission to hospital to an ICU or HDU ward.

By UKHSA centre, the highest ICU or HDU admission rates for COVID-19 were observed in London. By age group, the highest ICU or HDU admission rates for COVID-19 was observed in the 75 to 84 year olds and over.

In week 2, the overall ICU or HDU rate for influenza was 0.15 per 100,000 compared to 0.34 per 100,000 in the previous week. There were 59 new case report of an ICU or HDU admission for influenza in week 2 (5 influenza A(H1N1)pdm09, 2 influenza A(H3N2), 47 influenza A(not subtyped) and 5 influenza B).

Figure 40: Weekly overall ICU or HDU admission rates of new COVID-19 and influenza positive cases per 100,000 population reported through SARI Watch, England
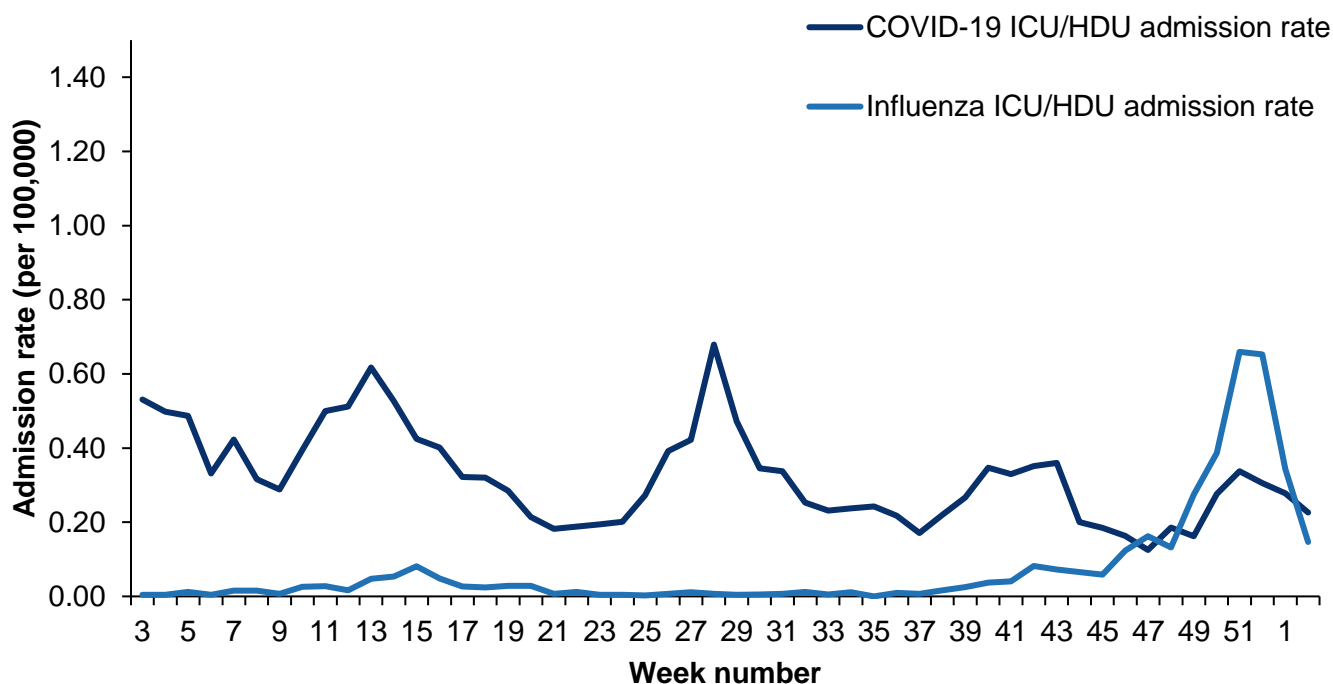

* Influenza ICU or HDU admission rate based on 95 NHS trusts for week 2

* COVID-19 ICU or HDU admission rate based on 80 NHS trusts for week 2

* SARI Watch data is provisional

49

Figure 41: Weekly overall influenza ICU or HDU admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England
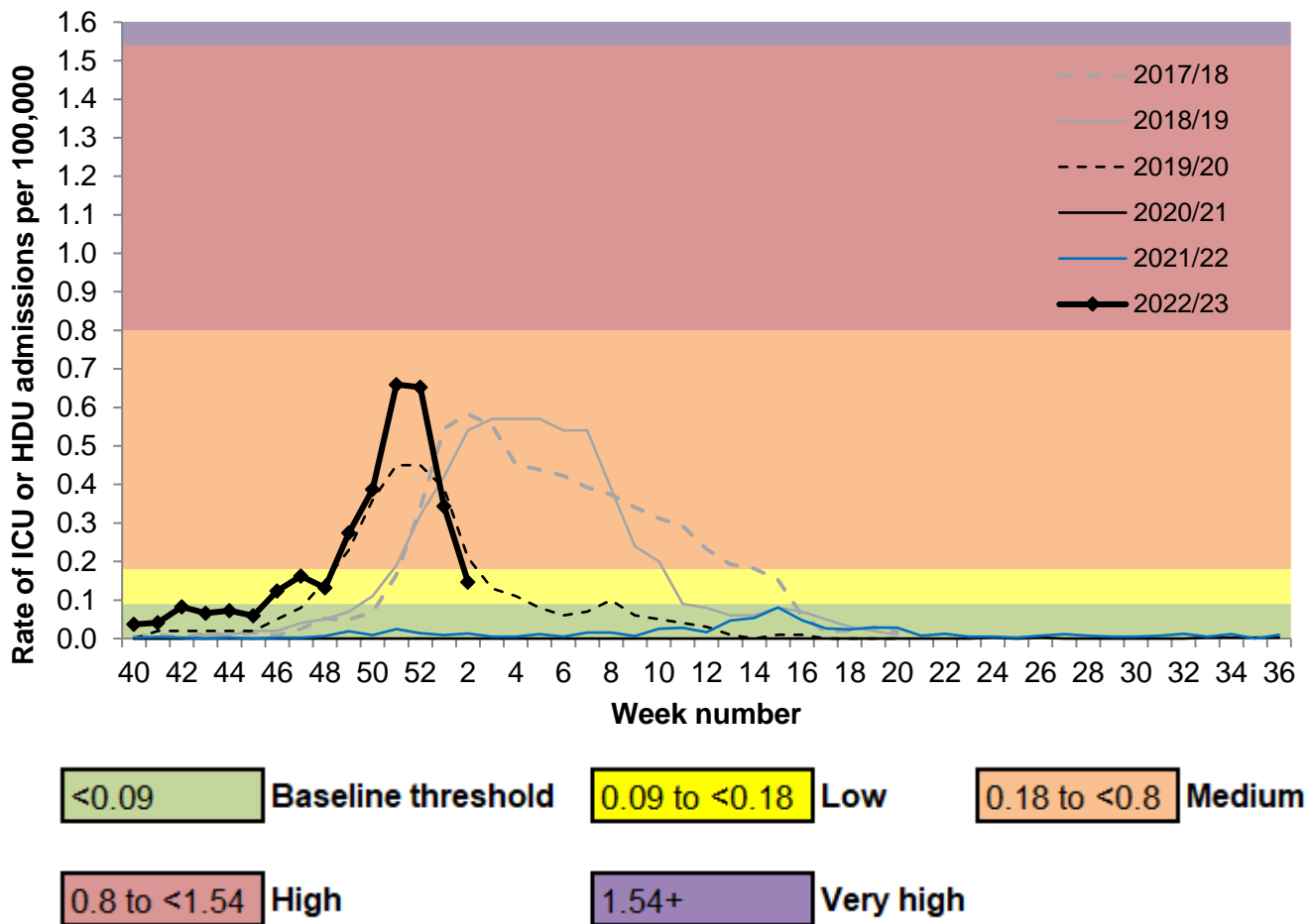
Figure 42: Weekly influenza ICU or HDU admissions by influenza type, SARI Watch, England
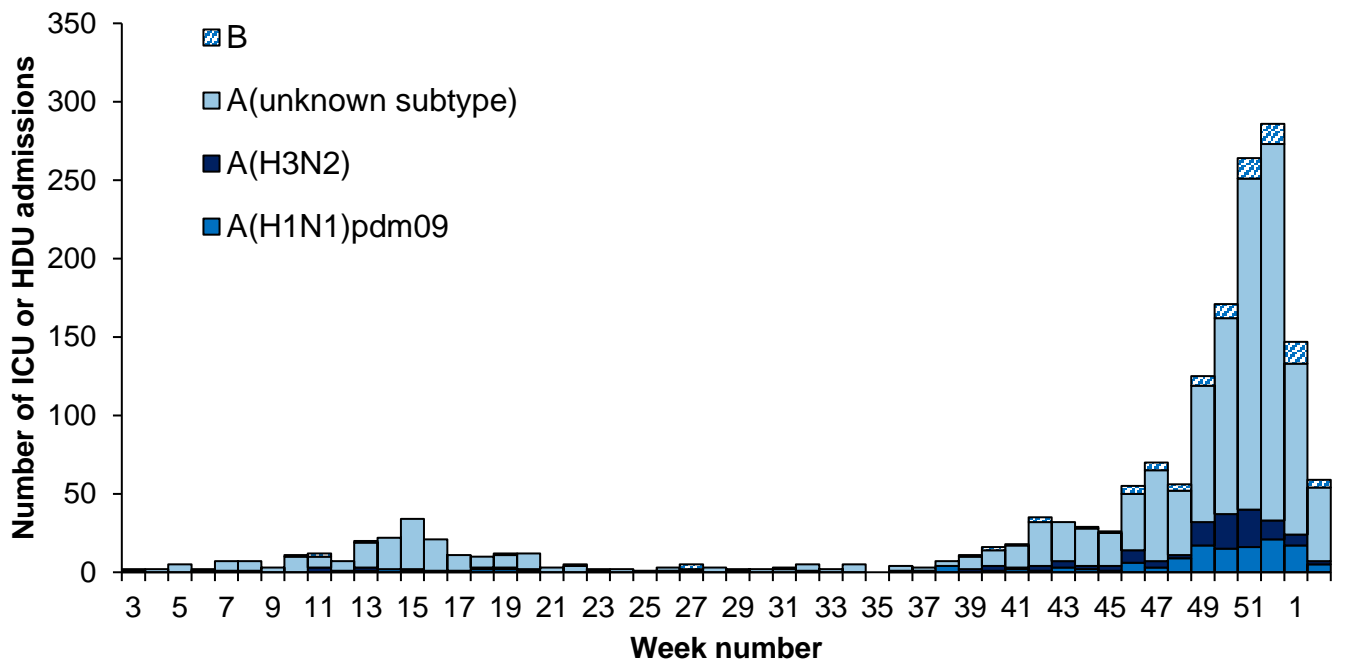
Figure 43: Weekly ICU or HDU admission rate by UKHSA centre for new (a) COVID-19 positive cases and (b) influenza, reported through SARI Watch

(a)

(b)
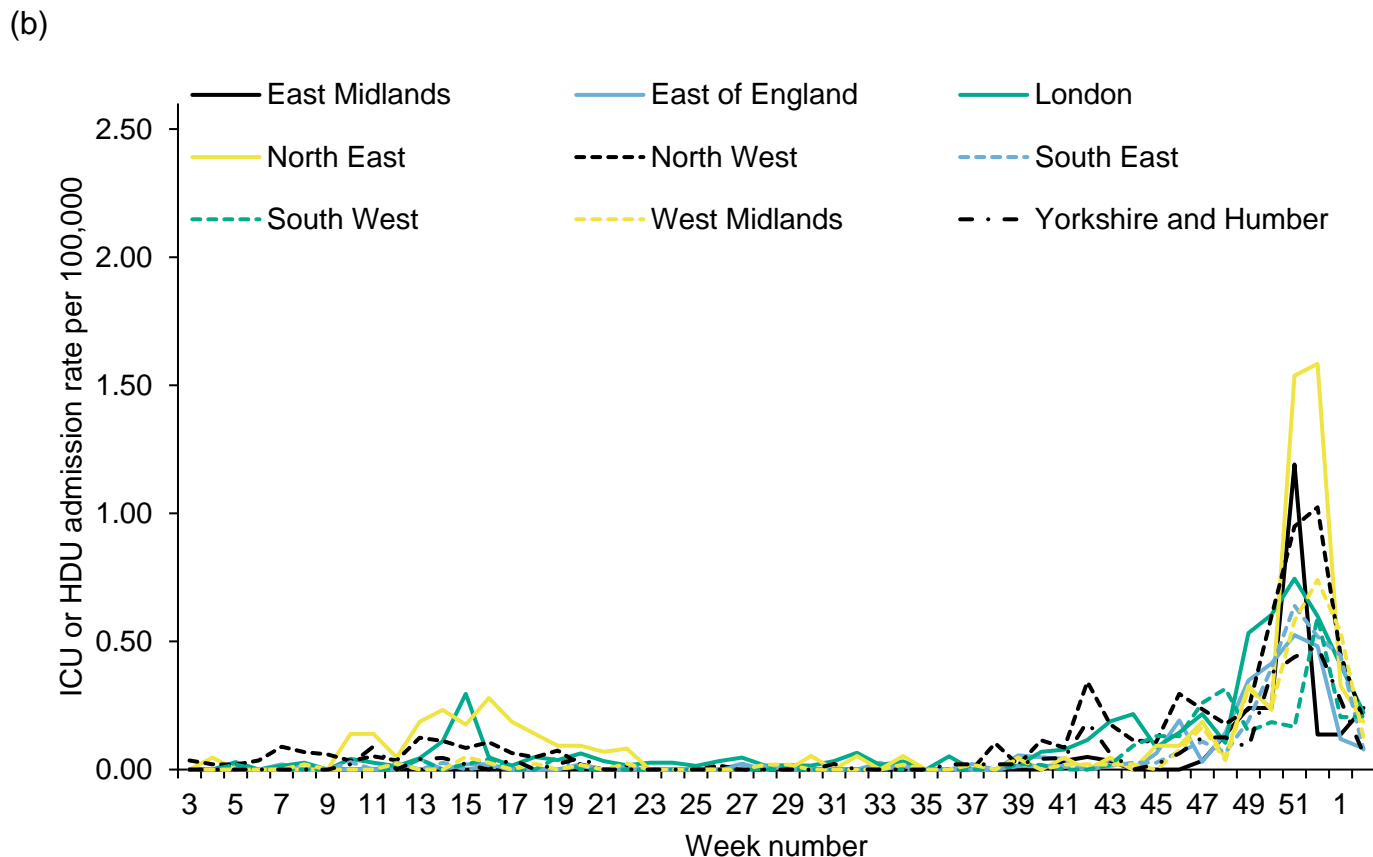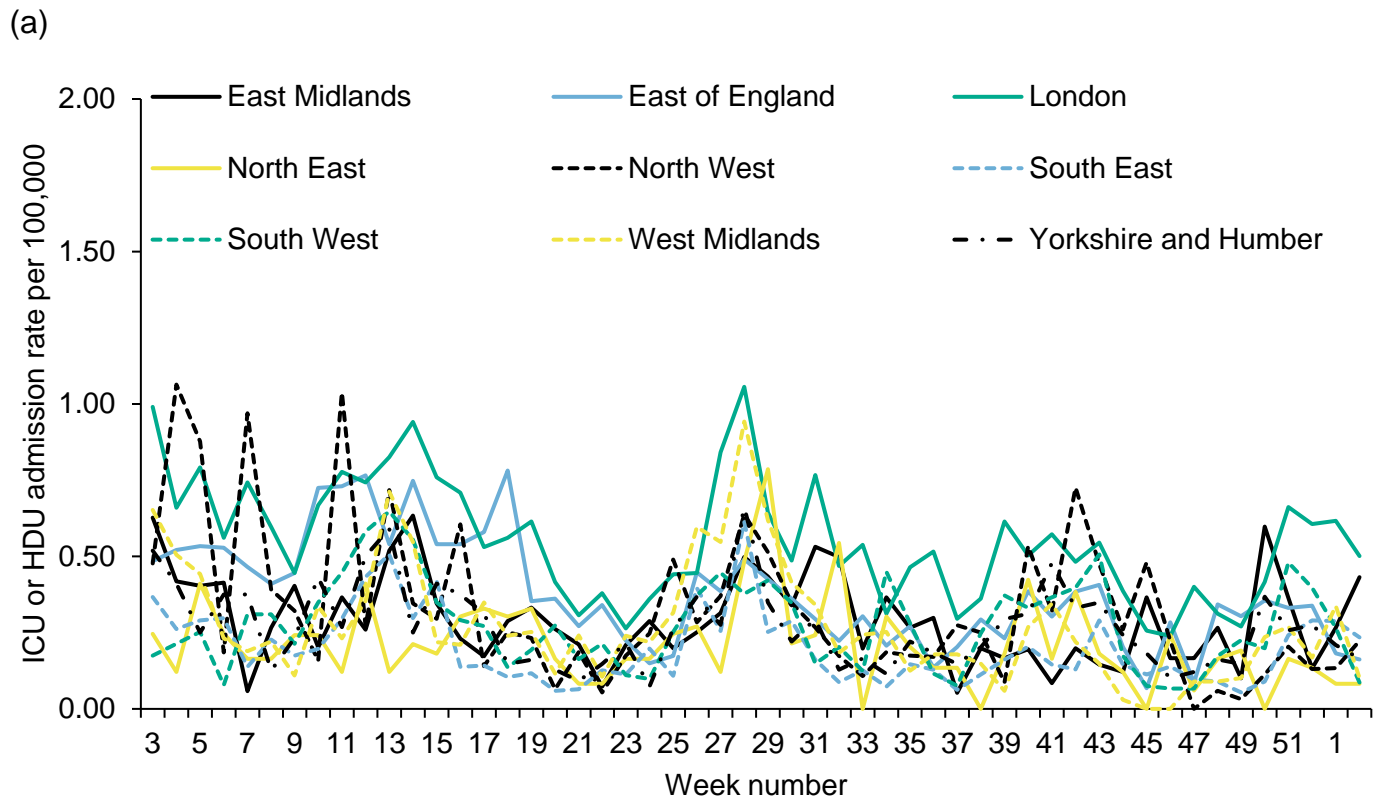
Figure 44: Weekly ICU or HDU admission rate by age group for new (a) COVID-19 positive cases and (b) influenza, reported through SARI Watch

(a)

(b)
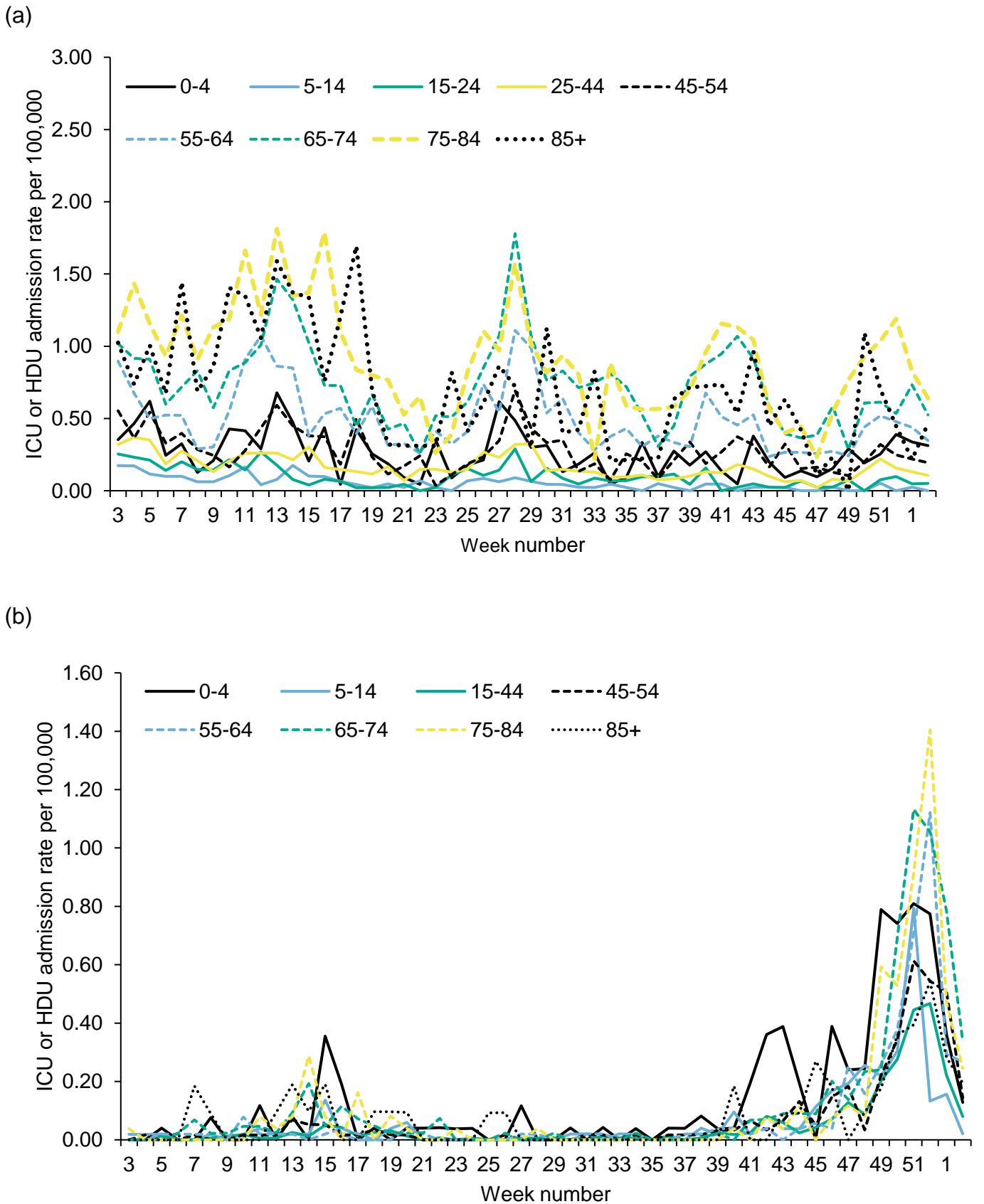
ECMO, SARI Watch

There were 2 new laboratory confirmed ECMO admissions reported in week 2 from the 7 Severe Respiratory Failure (SRF) centres in the UK (Figure 45). 1 was due to influenza. No new COVID-19 admissions were reported.

Figure 45: Laboratory confirmed ECMO admissions (COVID-19, influenza and non-COVID-19 confirmed) to Severe Respiratory Failure centres in the UK

 * SARI Watch data is provisional
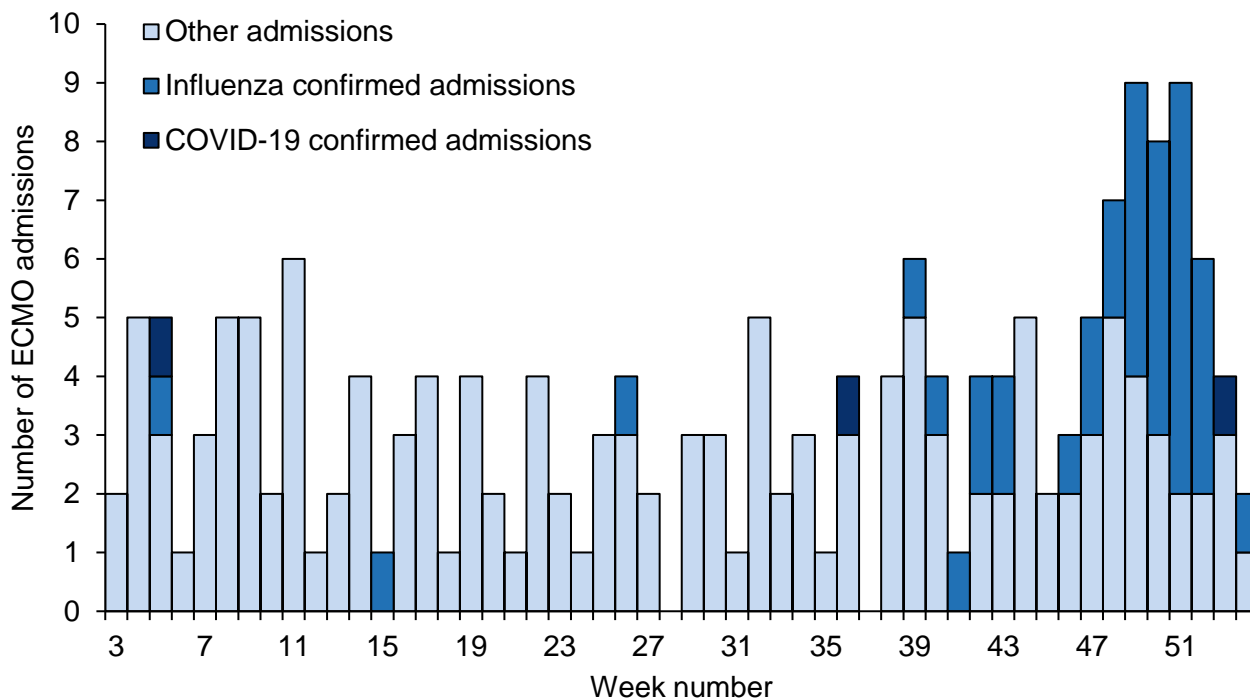
RSV admissions, SARI Watch

Data on hospitalisations, including ICU or HDU admissions, with respiratory syncytial virus (RSV) are shown below. RSV SARI Watch surveillance is sentinel.

In week 2, the overall hospital admission rate continued to decrease for RSV at 1.44 per 100,000 compared to 1.83 per 100,000 in the previous week. The highest rates were seen in the 85 year olds and over (10.48 per 100,000).

Figure 46: Weekly overall hospital admission rates (including ICU or HDU) of RSV positive cases per 100,000 population reported through SARI Watch, England
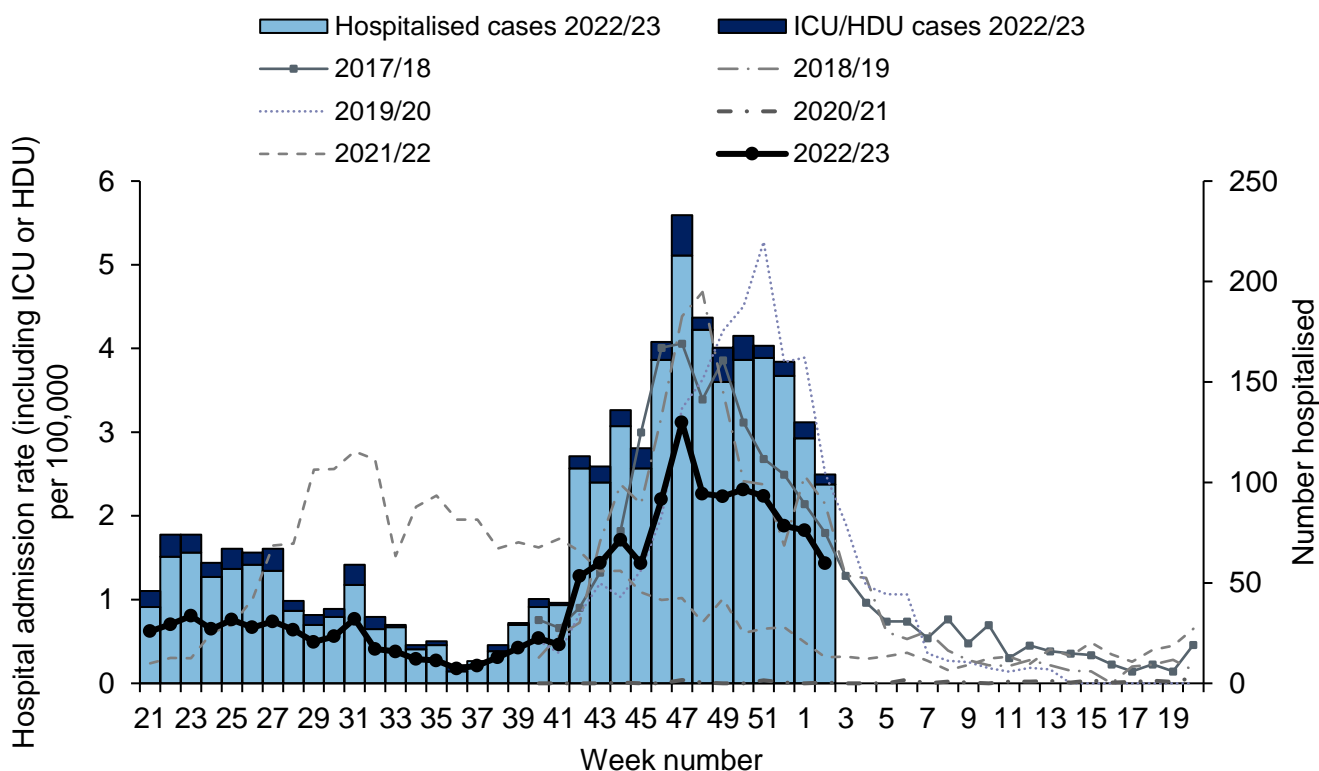
* Please note that in previous seasons, RSV SARI Watch surveillance has run from week 40 to week 20. In the 2020 to 2021 season onwards this was extended to run throughout the year, to allow for surveillance of out-of-season trends

Figure 47: Weekly hospitalisation (including ICU or HDU) admission rates by age group for new RSV cases reported through SARI Watch, England
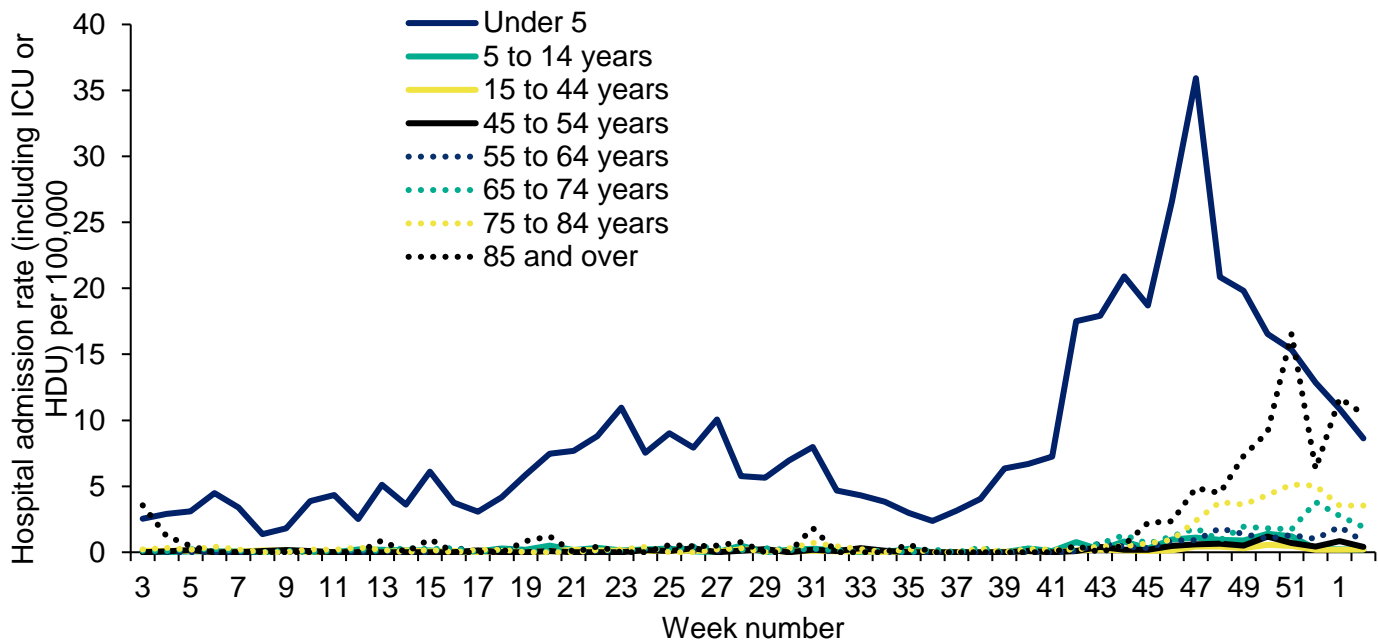
* Please note that rates are based on the number of hospitalised cases divided by the Trust catchment population, multiplied by 100,000

* SARI Watch data is provisional

Emergency Department attendances, Syndromic surveillance

The Emergency Department Syndromic Surveillance System (EDSSS) monitors the daily visits in a network of emergency departments across England.

During week 2, attendances for acute bronchiolitis continued to decrease, with a slight increase in children aged between 1 and 4 years and adults aged between 15 and 44 years. Attendances for covid-like illness, acute respiratory infection and influenza-like illness continued to decrease nationally, for all age groups and regions (Figures 48, 49, 50 and 51).

Please note: the COVID-19-like ED indicator is an underestimation of the number of COVID-19 attendances as it only includes attendances with a COVID-19-like diagnosis as their primary diagnosis. The EDSSS COVID-19-like indicator should therefore be used to monitor trends in ED attendances and not to estimate actual numbers of COVID-19 ED attendances. Further information about these caveats is available from the Emergency Department Syndromic Surveillance bulletin.

Figure 48: Daily ED attendances for COVID-19-like infections, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)

EDSSS: covid-19-like 16/01/2022 to 15/01/2023

Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline. Grey columns show weekends and bank holidays.
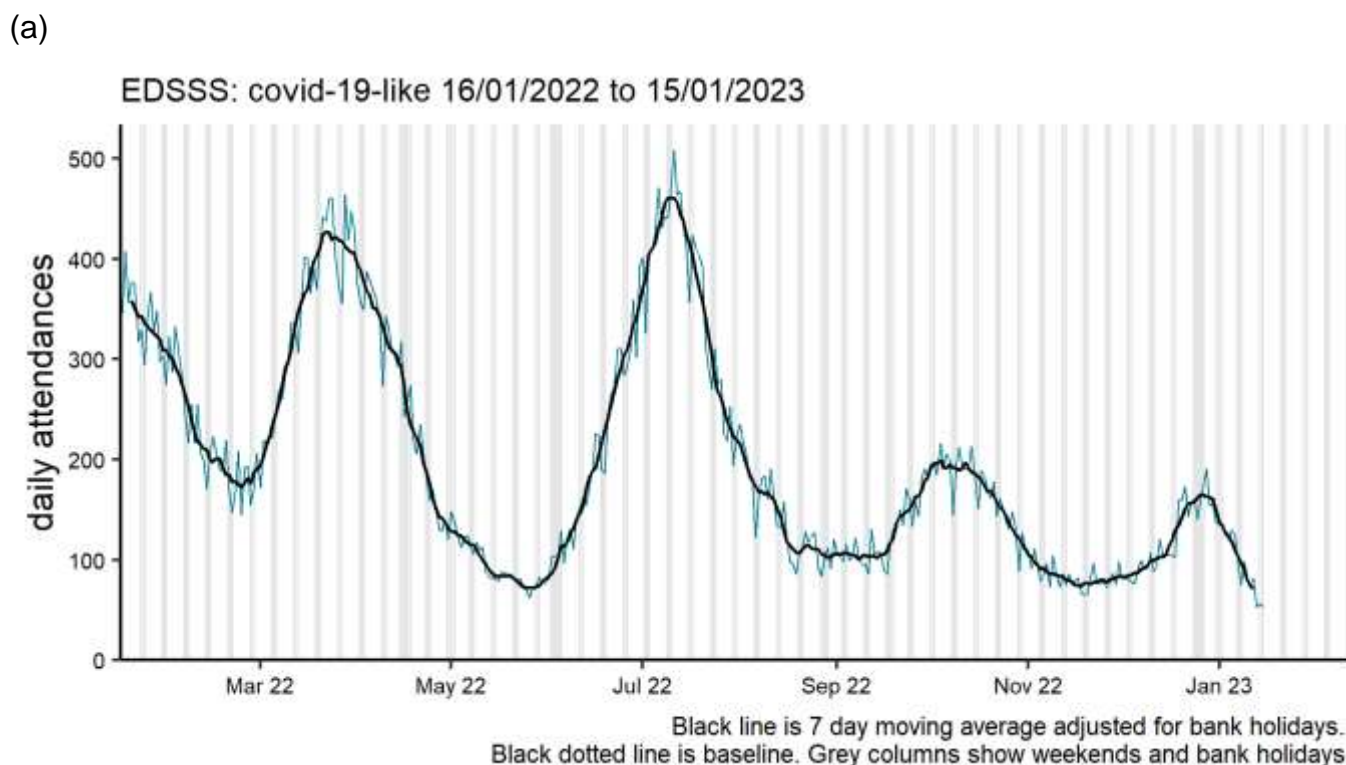
(b)

EDSSS: covid-19-like by age (years) 16/01/2022 to 15/01/2023
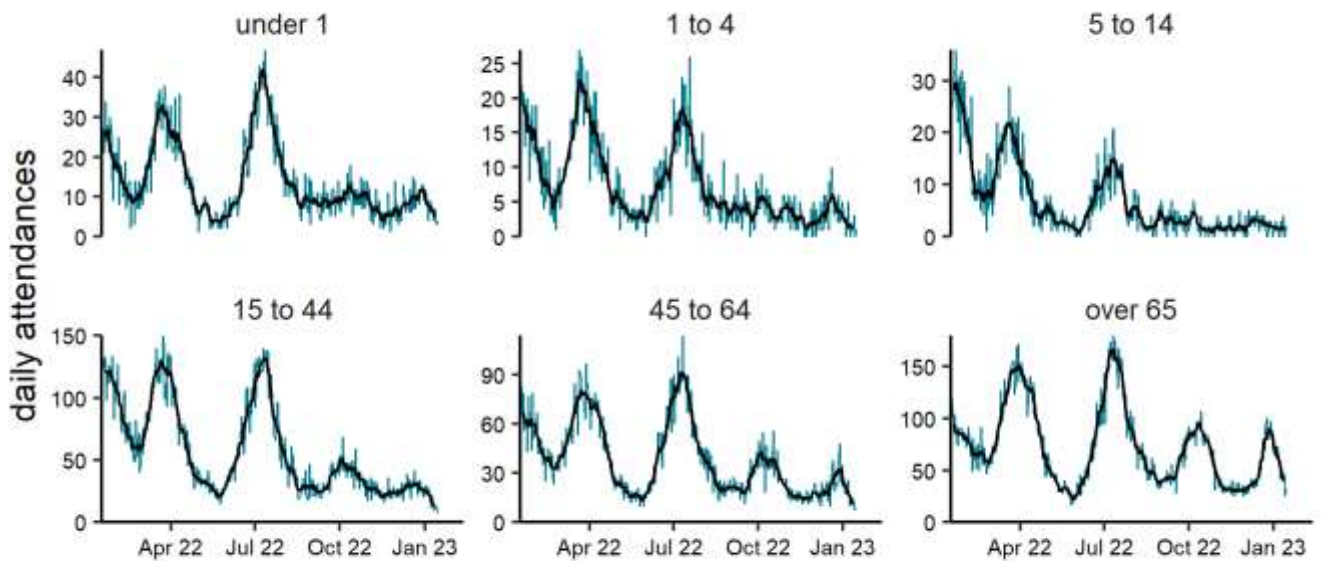
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.

(c)

EDSSS: covid-19-like by region 16/01/2022 to 15/01/2023
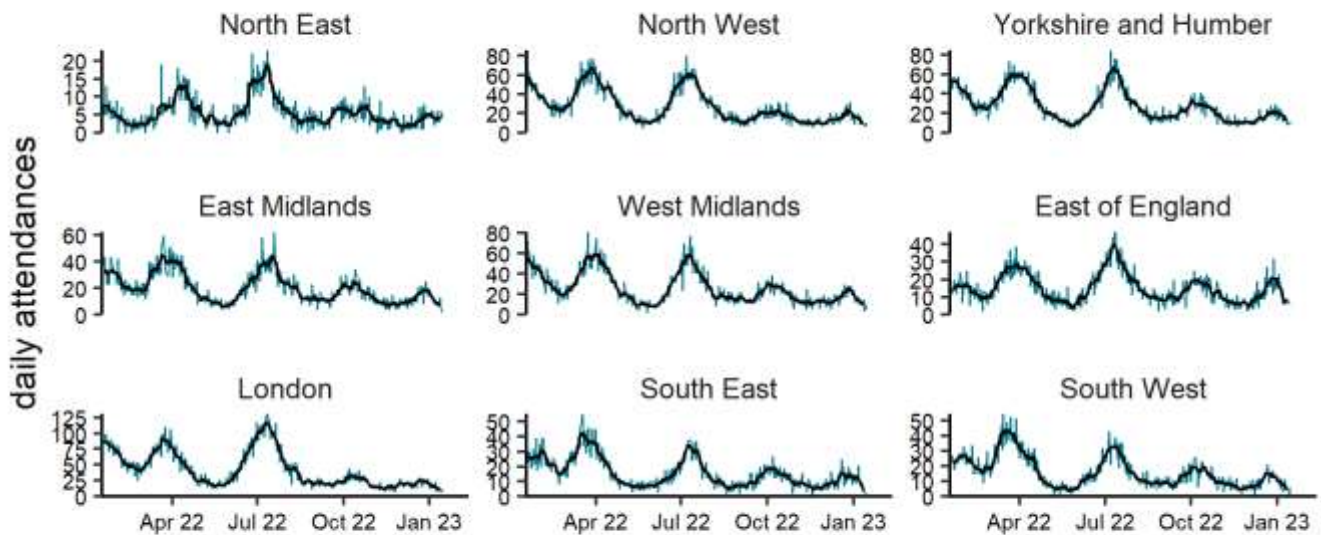
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.

Figure 49: Daily ED attendances for acute respiratory infection, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)

(b)

(c)

EDSSS: acute respiratory infection by region 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.
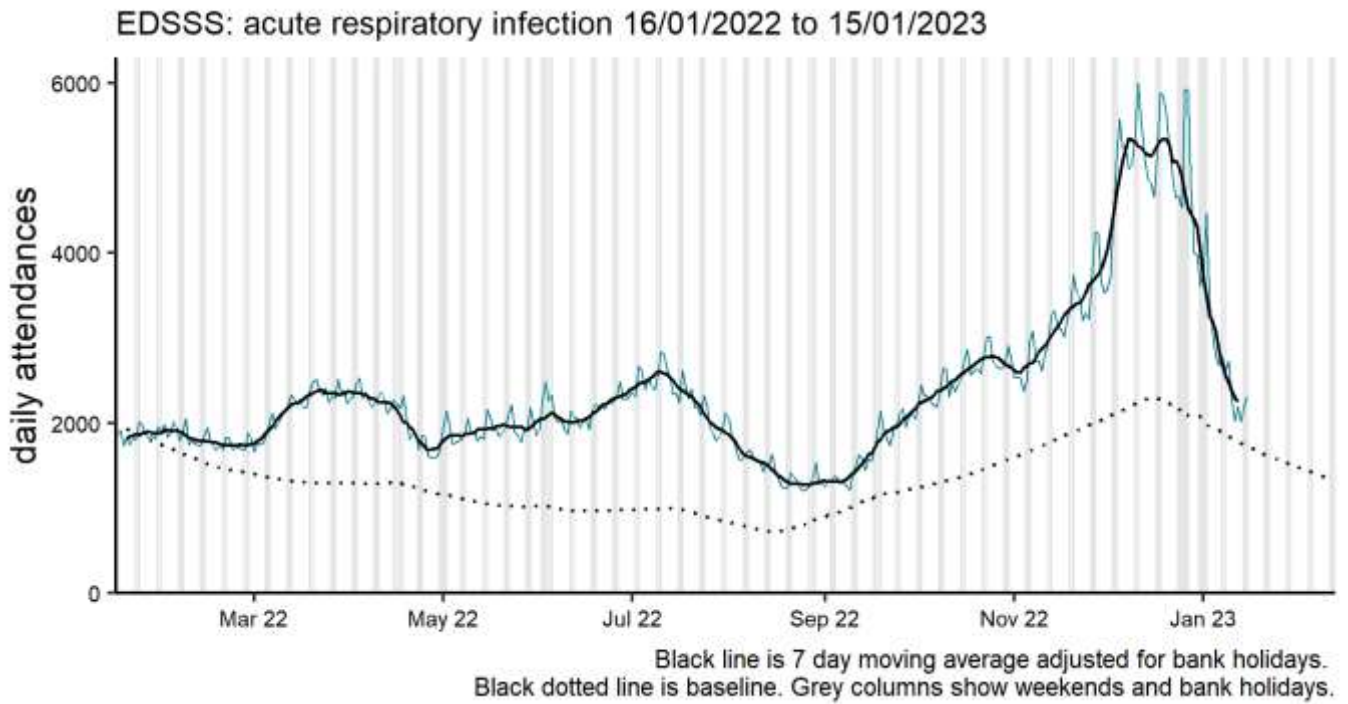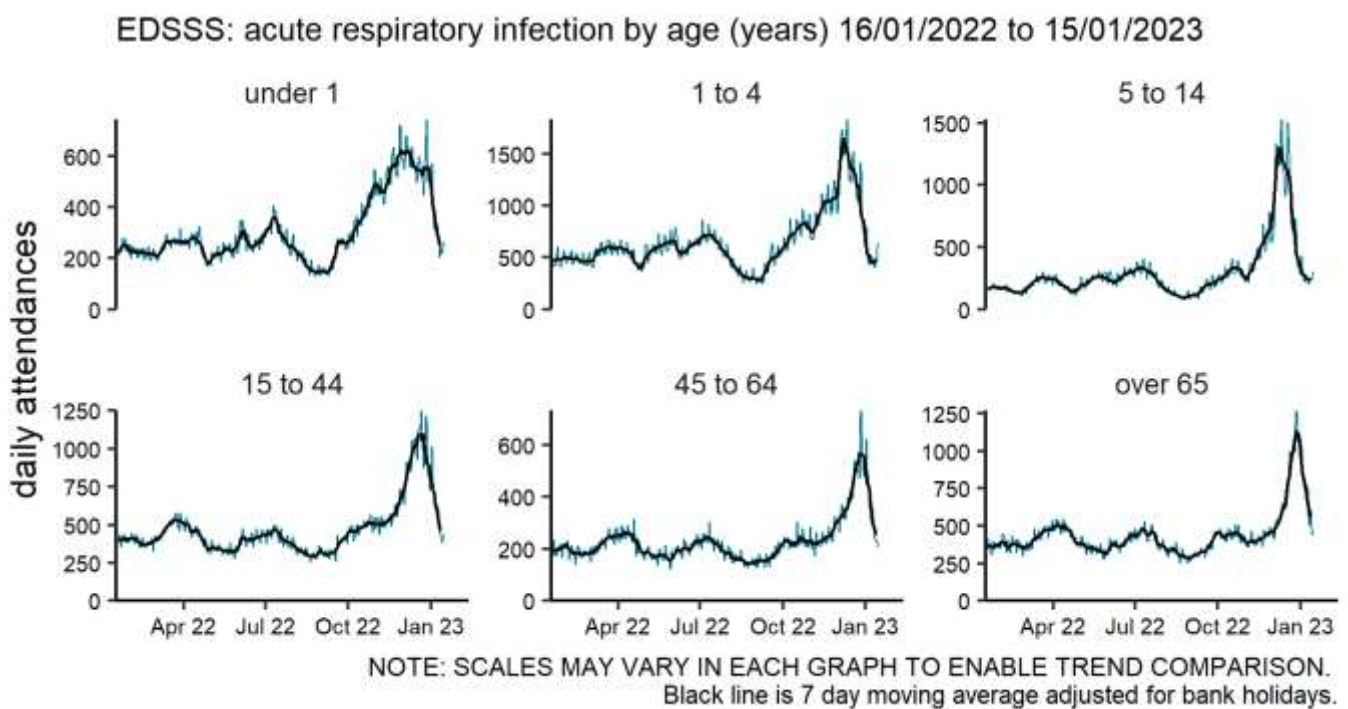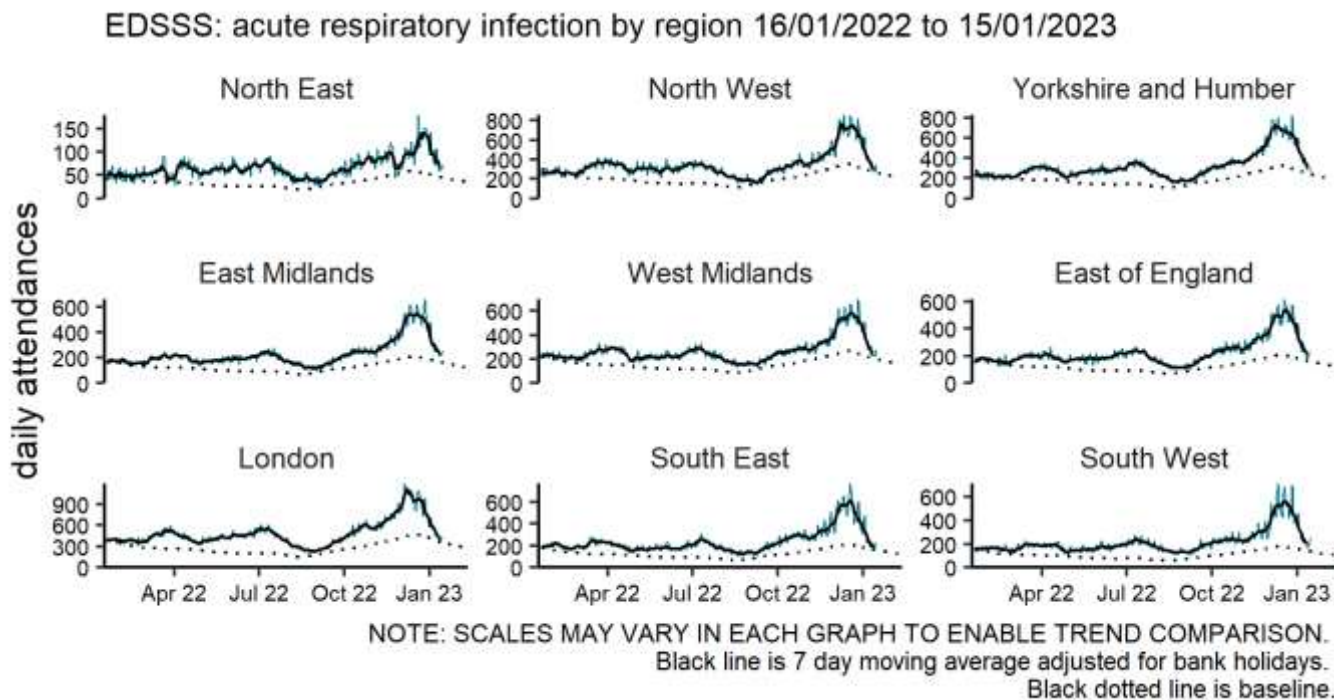
Figure 50: Daily ED attendances for influenza-like illness, England (a) nationally, (b) by age group and (c) by UKHSA centre
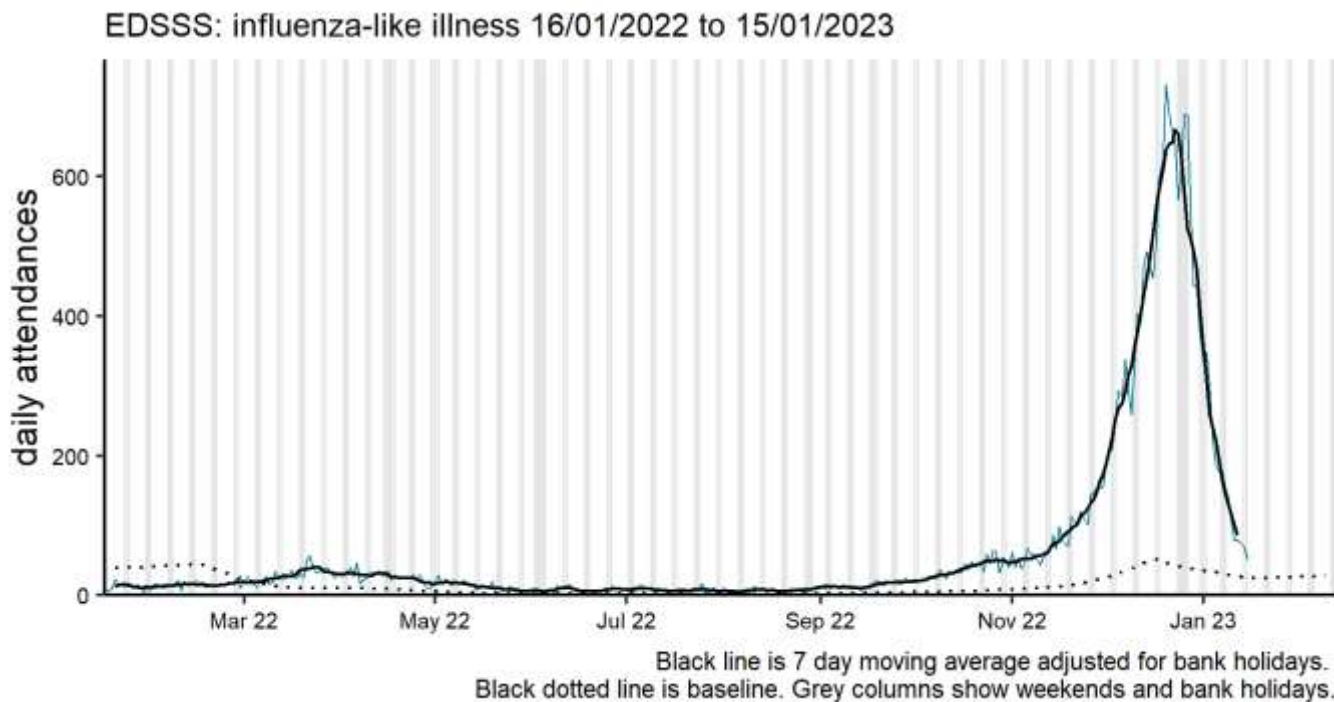
(a)

EDSSS: influenza-like illness 16/01/2022 to 15/01/2023

Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline. Grey columns show weekends and bank holidays.

(b)

EDSSS: influenza-like illness by age (years) 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.

(c)

EDSSS: influenza-like illness by region 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.
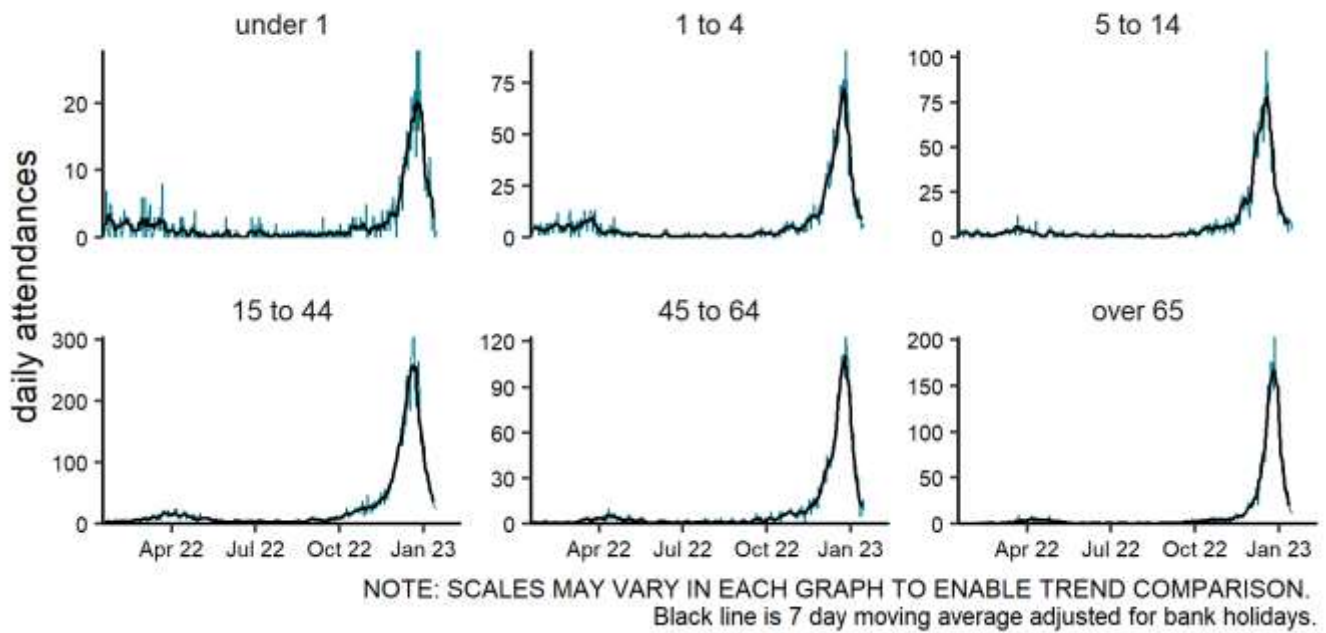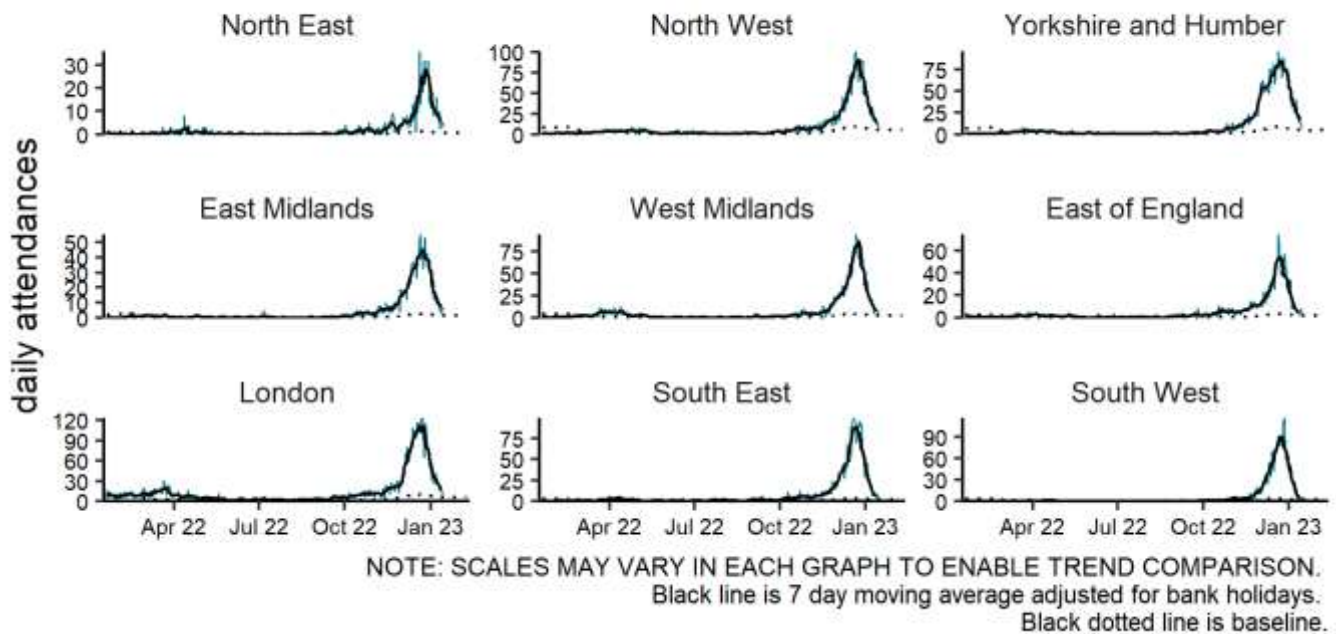
Figure 51: Daily ED attendances for acute bronchiolitis, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)

EDSSS: acute bronchiolitis 16/01/2022 to 15/01/2023

Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline. Grey columns show weekends and bank holidays.

(b)

EDSSS: acute bronchiolitis by age (years) 16/01/2022 to 15/01/2023

NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
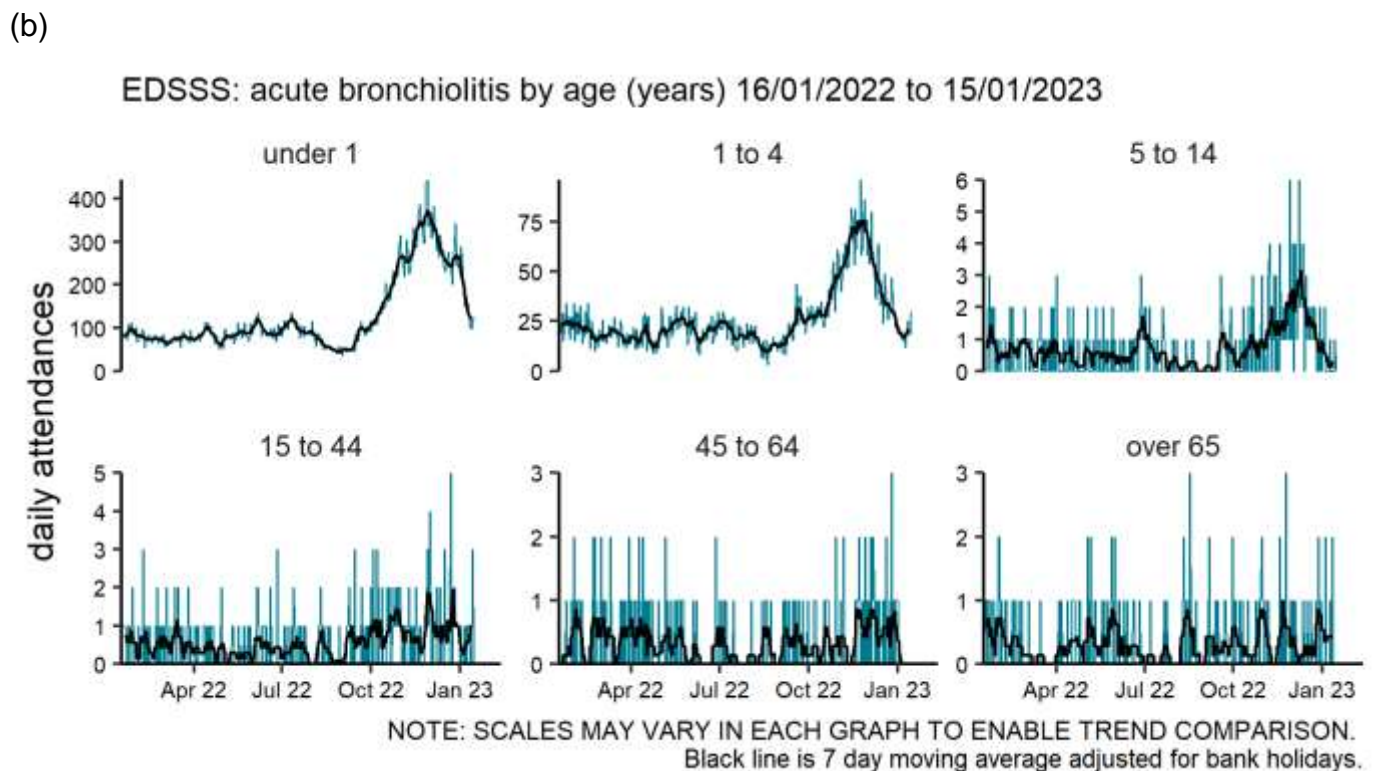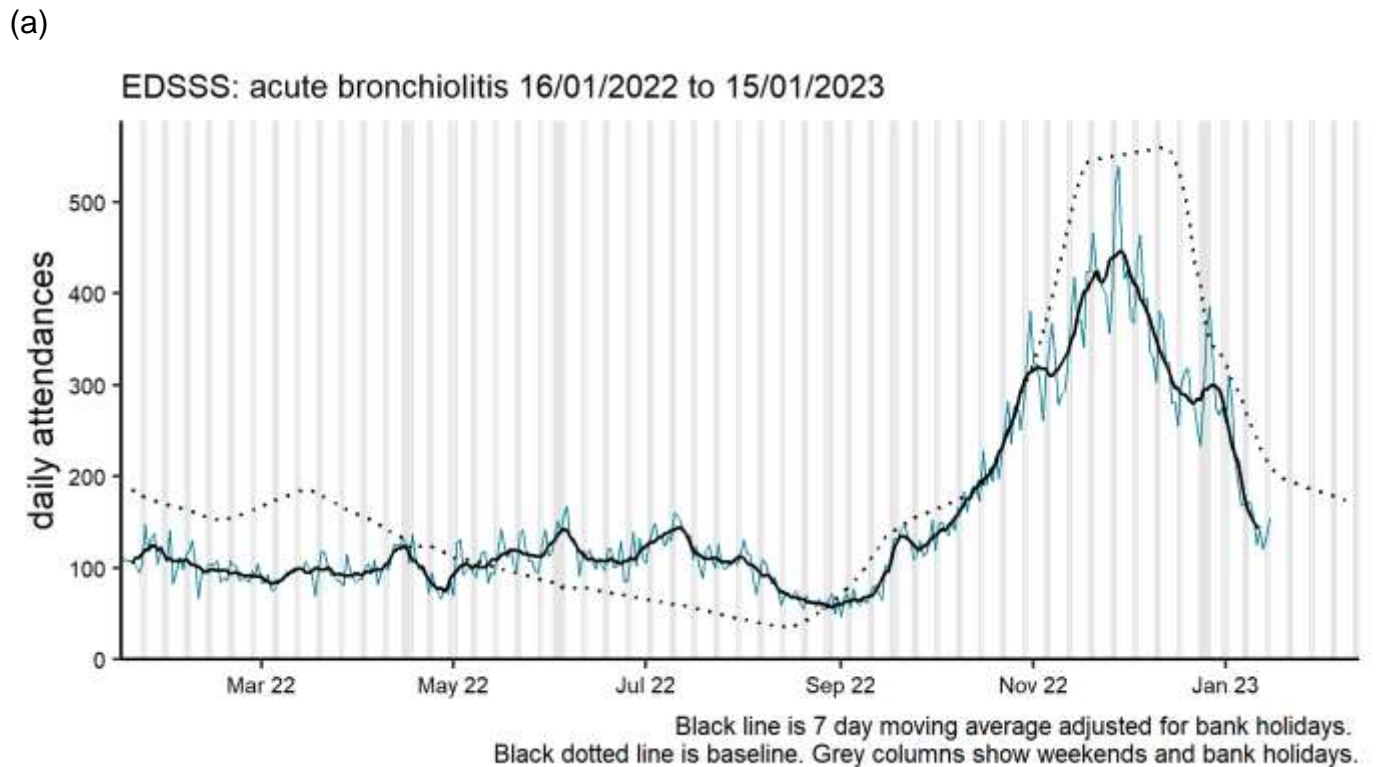
(c)

EDSSS: acute bronchiolitis by region 16/01/2022 to 15/01/2023
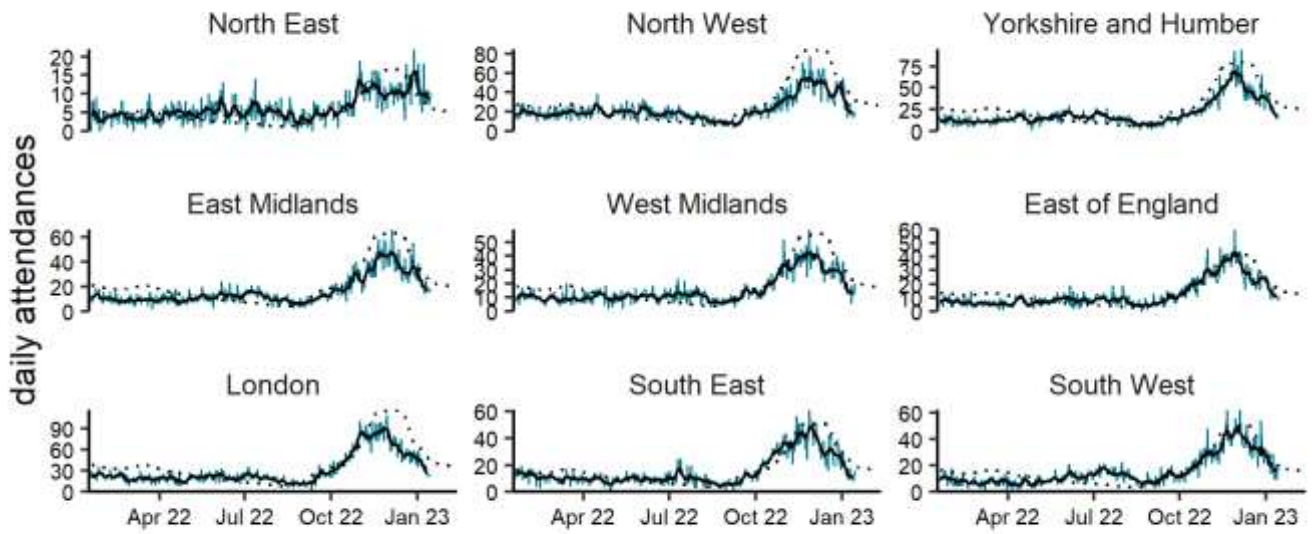
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.

Mortality surveillance

COVID-19 deaths

COVID-19 related deaths by the 28 day definition are reported below. This metric includes a death in a person with a positive COVID-19 test who died within (equal to or less than) 28 days of the first positive specimen date in the most recent episode of infection.

Figure 52: Number of deaths by week of death and time since a positive COVID-19 test (28 day definition), England
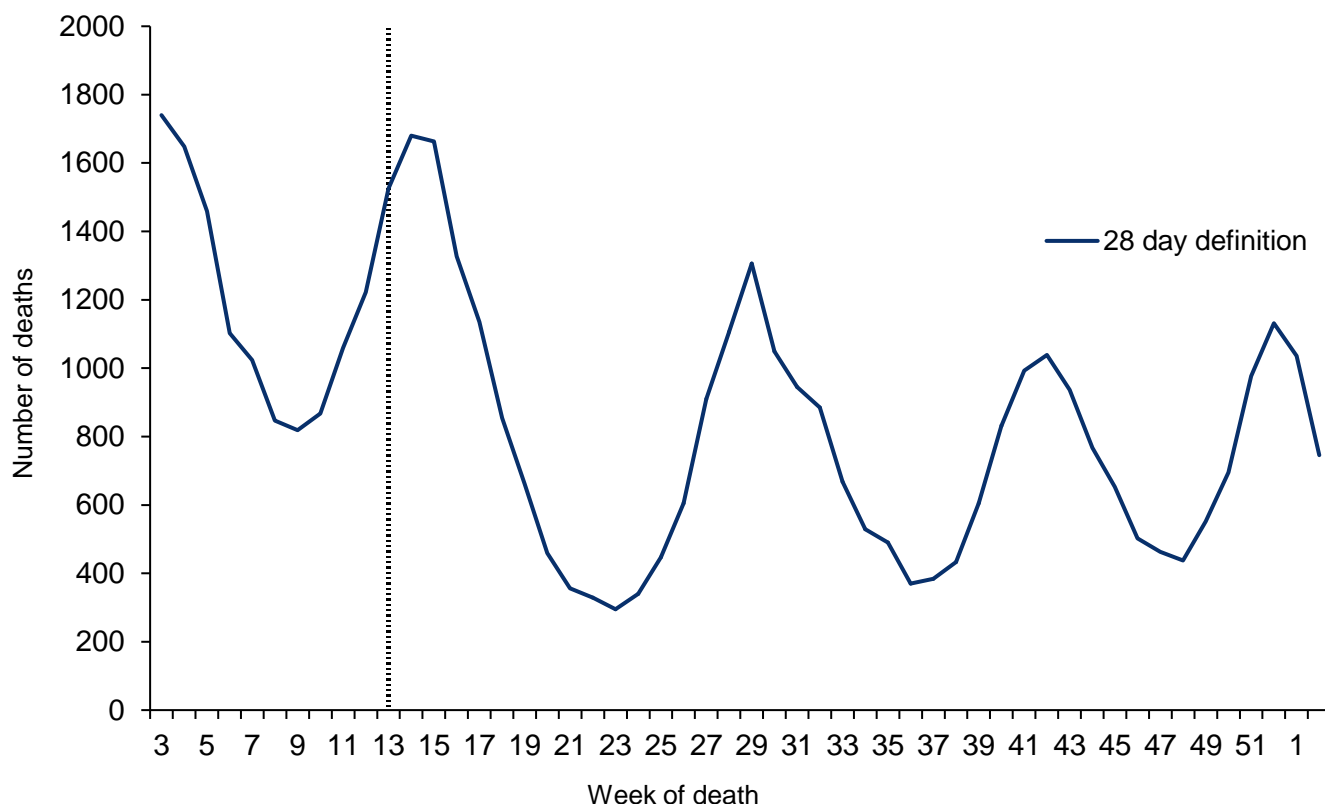
* Vertical dotted line indicates the end of provision of free universal testing for the general public in England, as outlined in the plan for living with COVID-19.

* Data is shown by the week of death. This gives the most accurate analysis of this time progression, however, for the most recent weeks' numbers more deaths are expected to be registered therefore this should be interpreted with caution

Figure 53: Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillars 1 and 2 for the weeks 51 to 2 by 28 day definition
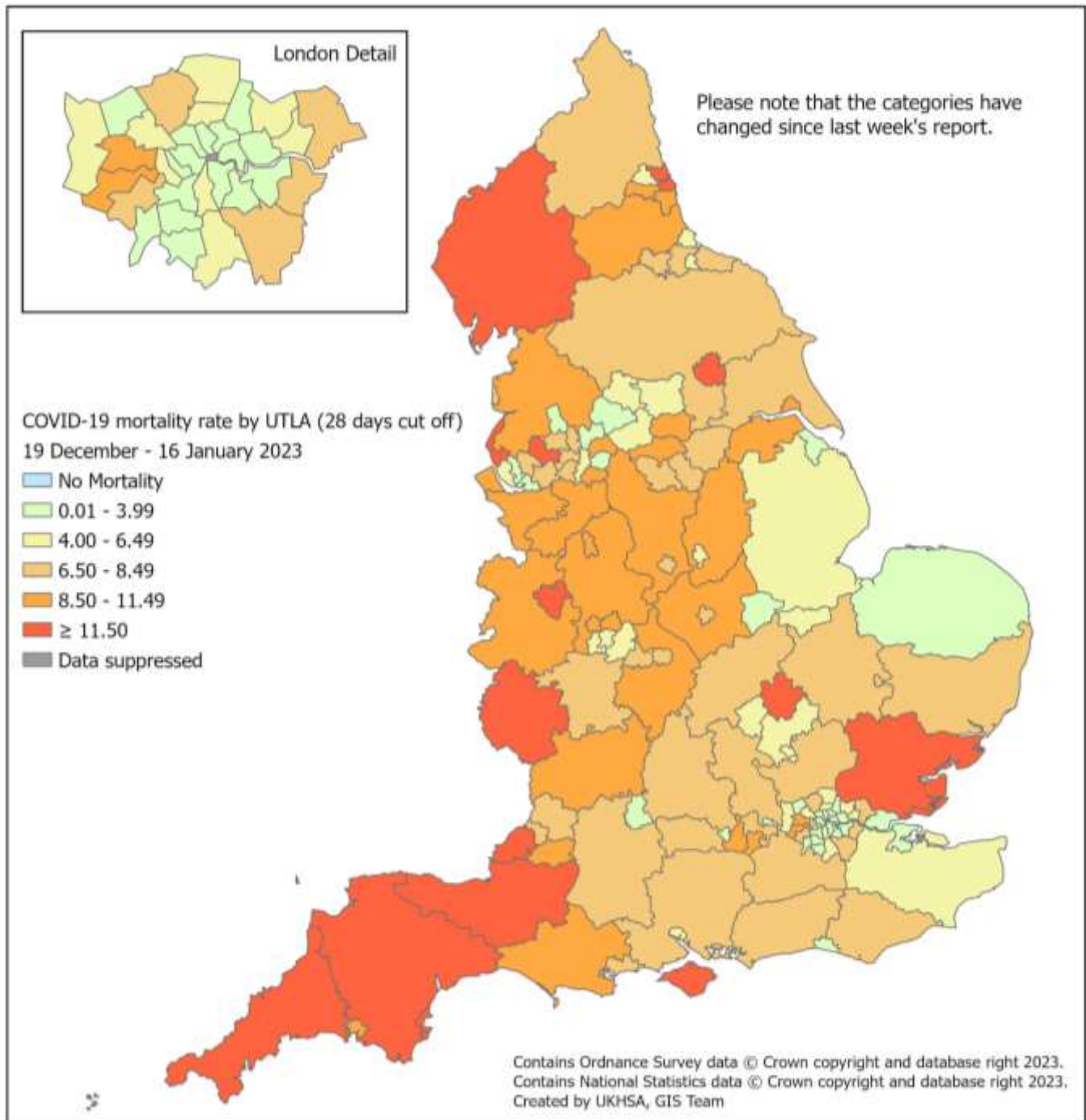
Daily excess all-cause mortality (England)

Deaths occurring from 1 January 2020 to 11 January 2023 were assessed to calculate the daily excess above a baseline using age-group and region specific all cause deaths as provided daily by the General Register Office (GRO). The deaths were corrected to allow for delay to registration based on past data on these delays. The baseline until November 2020 was from the same day of the year in the previous 5 years plus or minus 7 days with an extrapolated time trend. The baseline from December 2020 to March 2021 only uses the same days +/- 7 days from the past 3 low flu years with no trend, and the baseline from April 2021 onwards is set to be the same as the previous years baseline. Along with the baseline 2 and 3 standard deviation (SD) limits shown (Figure 54).

Weeks in which at least 2 days exceeded the 3SD threshold are shown in Table 3 and the daily difference from the baseline by age and region is given in Figures 55 and 56.

Note that as this data is by date of death with delay corrections, numbers are subject to change each week, particularly for more recent days. The current week's model supersedes models presented in previous week.

Excess all-cause mortality was observed in week 1.

Note that level 3 heat-health alerts were issued for June 17 to 18, July 11 to 21, and August 9 to 16 2022, and a level 4 heat-health alert issued for July 18 to 19 2022.

Other measures of excess mortality published by UKHSA are the Fingertips excess mortality in England report, which uses ONS death registration data and the all-cause mortality surveillance report, which uses the EuroMOMO model to measure excess deaths.

Figure 54: Daily excess all-cause deaths in all ages, England, 1 January 2020 to 11 January 2023
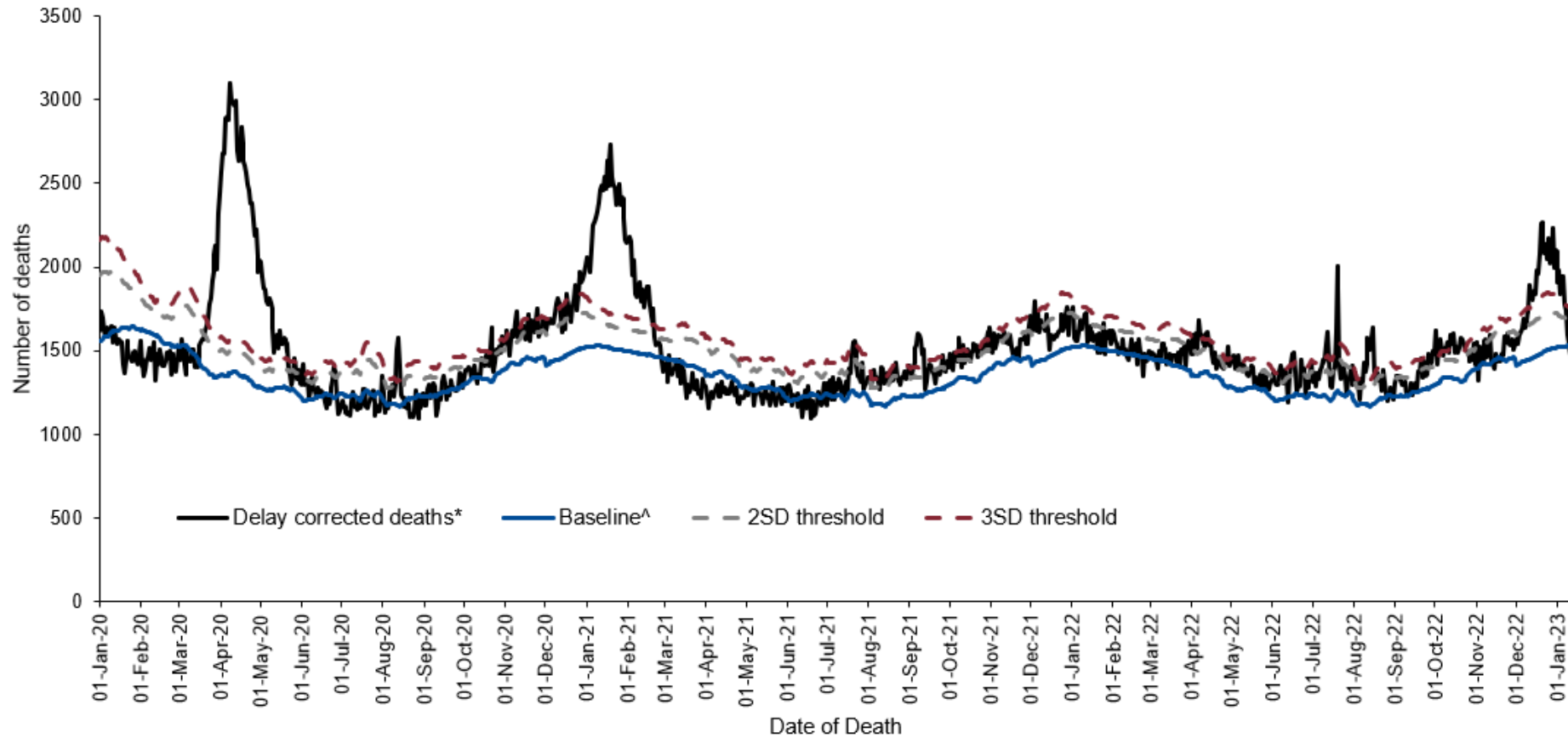
^Baseline calculation:

January to November 2020: same day in previous 5 years plus or minus 1 week with a linear trend.

December 2020 to March 2021: past 3 low flu years plus or minus 2 weeks, no trend.

March 2021 onwards: same baseline as 2020

*Corrected for delay to registration from death

Table 3: Excess all-cause deaths by (a) age group and (b) UKHSA centres, England

(a)

Age Group	Excess detected in week 1 2023	Weeks in excess from week 10 to 53 2020	Weeks in excess from week 1 to 52 2021	Weeks in excess from week 1 to 52 2022	Weeks in excess from week 1 2023
All	✓	13 to 21, 33, 43, 45, 50, 52 to 53	01 to 07, 29, 31 to 32, 35 to 36, 40 to 44, 48	14 to 15, 17 to 18, 23 to 24, 27 to 29, 32 to 33, 39 to 42, 50 to 52	1
under 25	x	None	None	None	None
25 to 44	x	14 to 16	None	None	None
45 to 64	x	12 to 19, 49 to 50, 52 to 53	01 to 08, 23, 29 to 30, 36, 41 to 44, 48 to 49	29, 49 to 51	None
65 to 74	x	13 to 19, 46, 48, 52 to 53	01 to 07, 36, 43, 48	50 to 52	None
75 to 84	✓	13 to 21, 33, 45, 49, 52 to 53	01 to 07, 32, 36, 40, 42	14 to 18, 22 to 24, 28 to 29, 31 to 32, 38 to 42, 49 to 52	1
85+	✓	13 to 21, 33, 53	01 to 07, 31, 36	28 to 29, 32, 39, 41, 50 to 52	1

b)

UKHSA Centres	Excess detected in week 1 2023	Weeks in excess from week 10 to 53 2020	Weeks in excess from week 1 to 52 2021	Weeks in excess from week 1 to 52 2022	Weeks in excess from week 1 2023
East of England	x	14 to 19, 52 to 53	01 to 07	23, 27, 29, 51 to 52	None
East Midlands	x	13 to 19, 48	01 to 07	29	None
London	x	12 to 19, 33, 52 to 53	01 to 06, 36	50 to 52	None
North East	✓	14 to 21	02 to 04	52	1
North West	✓	13 to 19, 33, 42 to 47	01 to 07, 31 to 32, 36, 43	14 to 15, 29 to 30, 32, 42, 51 to 52	1
South East	x	13 to 21, 33, 50 to 53	01 to 07, 36, 41, 49	14, 32, 40 to 42, 49 to 52	None
South West	x	13 to 19, 33	02 to 07, 29, 36	29, 32, 34, 39, 50 to 52	None
West Midlands	x	13 to 20, 45, 48	01 to 07, 29, 36, 40, 48	13, 28 to 29, 32, 41 to 42, 51 to 52	None
Yorkshire and Humber	✓	14 to 21, 23, 43 to 50	02 to 04, 32, 35 to 36	29, 32, 42, 50 to 52	1

Figure 55: Daily excess all-cause deaths by age group, England, 1 January 2022 to 11 January 2023

(a)

(b)
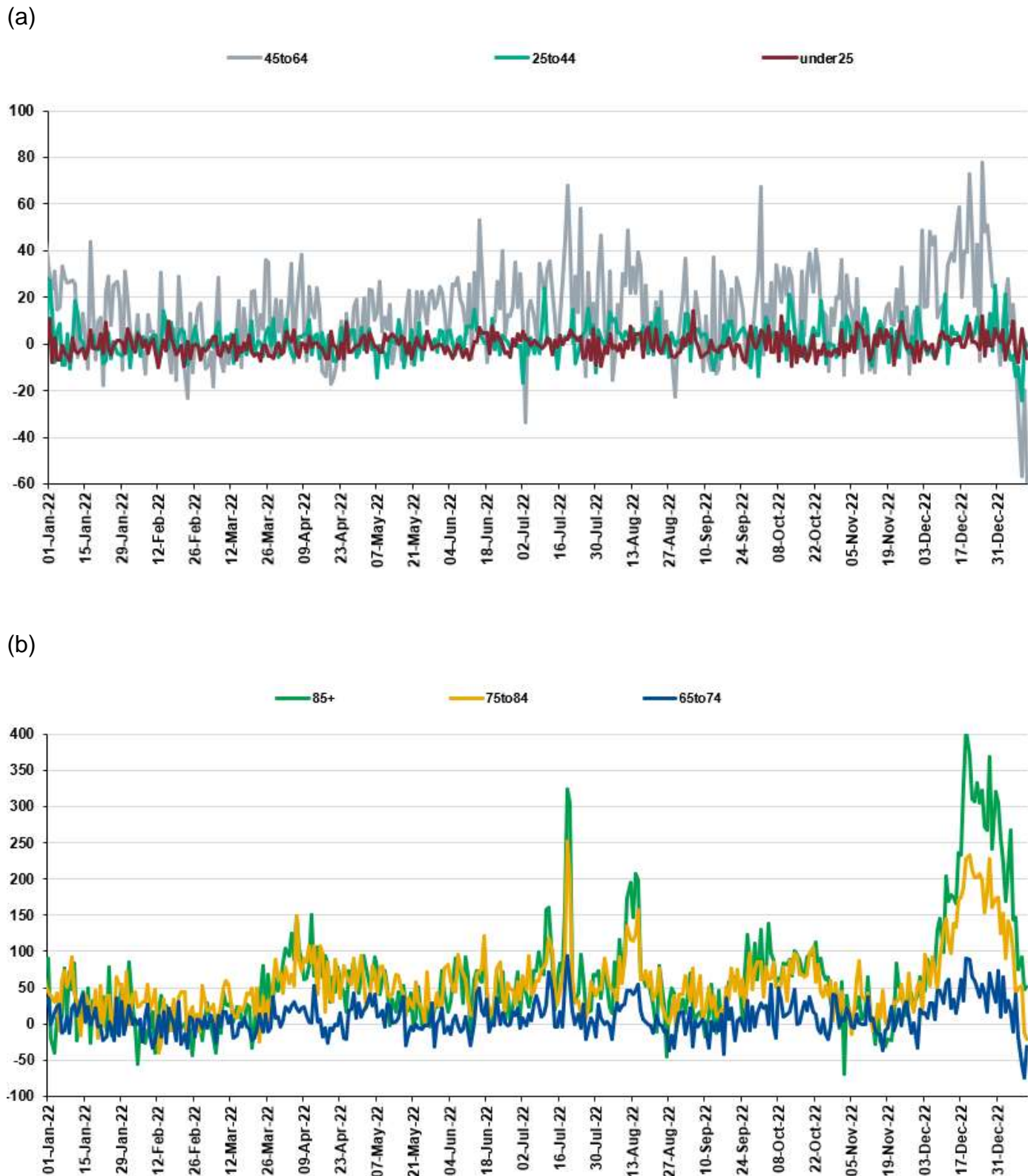
Figure 56: Daily excess all-cause deaths by UKHSA centre, England, 1 January 2022 to 11 January 2023

(a)

(b)
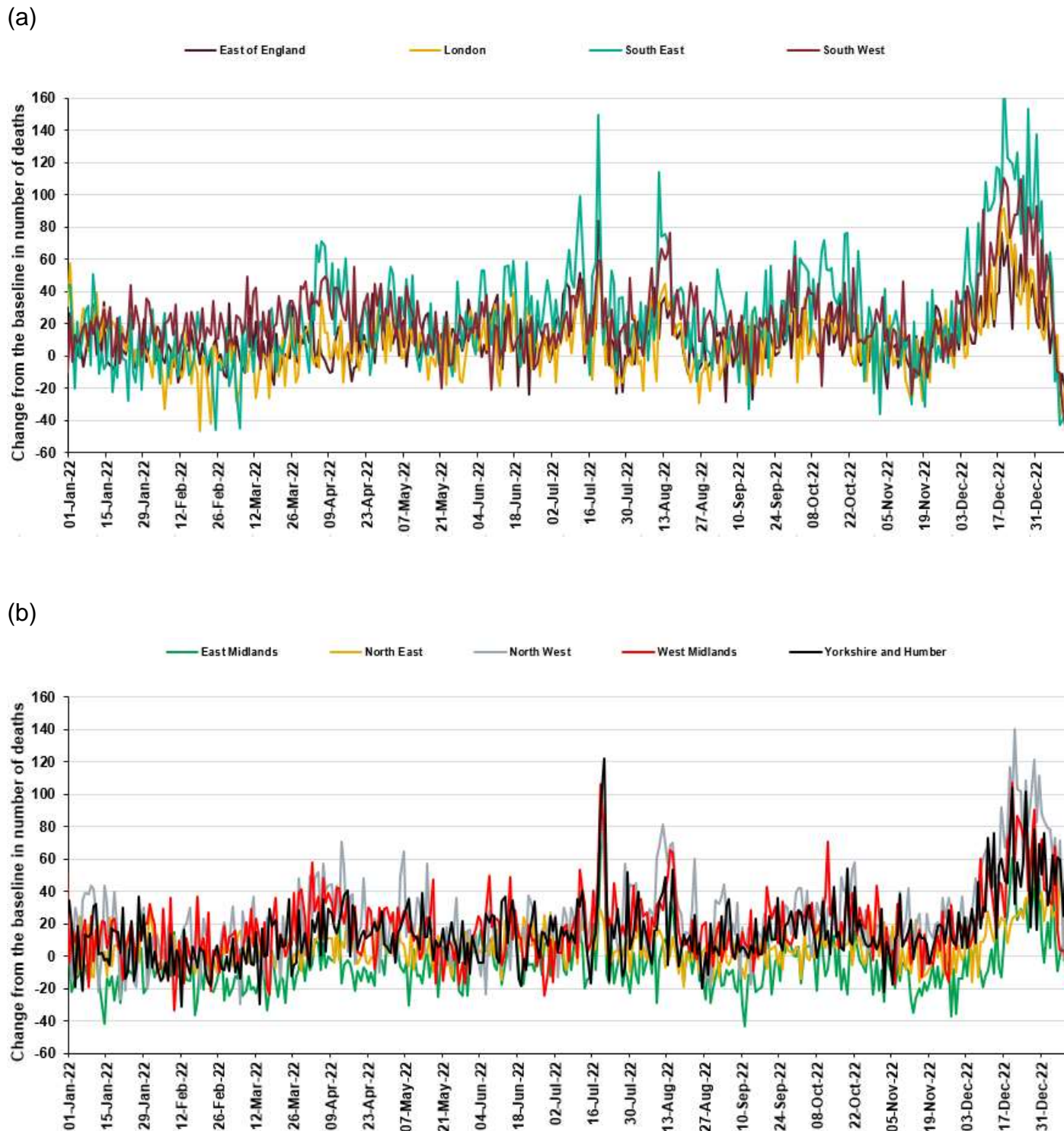
Microbiological surveillance

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.

Between week 40 2022 and week 3 2023, the UKHSA Respiratory Virus Unit have genetically characterised, by sequencing of the haemagglutinin (HA) gene, 1,537 influenza A viruses (969 A(H3N2) and 568 A(H1N1)pdm09 viruses) and 30 influenza B viruses.

The 969 influenza A(H3N2) viruses genetically characterised, all belong in the genetic subclade 3C.2a1b.2a.2. The Northern Hemisphere 2022/23 influenza A(H3N2) vaccine strain (an A/Darwin/9/2021-like virus) also belongs in this 3C.2a1b.2a.2 genetic subclade.

The 568 influenza A(H1N1)pdm09 viruses characterised to date this season, all belong in genetic subgroup 6B.1A.5a.2. The Northern Hemisphere 2022/23 influenza A(H1N1)pdm09 vaccine strain (an A/Victoria/2570/2019-like virus) also belongs in genetic subclade 6B.1A.5a, within the 6B.1A.5a.2 cluster.

Thirty influenza B/Victoria lineage viruses have been genetically characterised, all belonging in subclade V1A3, within the subgroup V1A3a.2. The Northern Hemisphere 2022/23 influenza B/Victoria lineage vaccine strain (a B/Austria/1359417/2021-like virus) also belongs in this V1A3a.2 subclade/group.

The Respiratory Virus Unit has confirmed by genome sequencing the detection of live attenuated influenza vaccine (LAIV) viruses in two influenza A positive samples and 4 influenza B positive samples collected since week 40, all from children aged 2 to 16 years of age.

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 40 2022 and 3 2023 have been analysed. No viruses with known markers of resistance to neuraminidase inhibitors were detected in 844 A(H3N2), 523 A(H1N1)pdm09 and 30 Influenza B NA sequences analysed. No viruses with known markers of resistance to baloxavir marboxil were detected in 693 A(H3N2), 400 A(H1N1)pdm09 and 27 influenza B PA sequences analysed.

Table 4: Antiviral susceptibility of influenza positive samples tested at UKHSA-RVU

(Sub)type	Neuraminidase Inhibitors		Baloxavir	
	Susceptible	Reduced Susceptibility	Susceptible	Reduced Susceptibility
A(H3N2)	844	0	693	0
A(H1N1)pdm09	523	0	400	0
B/Victoria-lineage	30	0	27	0

SARS-CoV-2 variants

UKHSA conducts genomic surveillance of SARS-CoV-2 variants.

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

Detailed surveillance of particular variants of concerns can be found in recent technical briefings.

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

The prevalence of different UKHSA-designated variants amongst sequenced episodes is presented in Figure 57.

Of the sequenced episodes from 19 December 2022 to 17 January 2023, 52.3% were classified as BQ.1 (V-22OCT-01), 17.4% as CH.1.1 (V-22DEC-01), 10.5% as BA.2.75 (V-22JUL-01), 9.3% as XBB (V-22OCT-02), 6.4% as BA.5 (V-22APR-04) and 2.9% as BA.2 (V-22JAN-01).

Figure 57. Prevalence of SARS-CoV-2 variants amongst available sequences episodes for England from 1 February, as of 17 January 2023 *
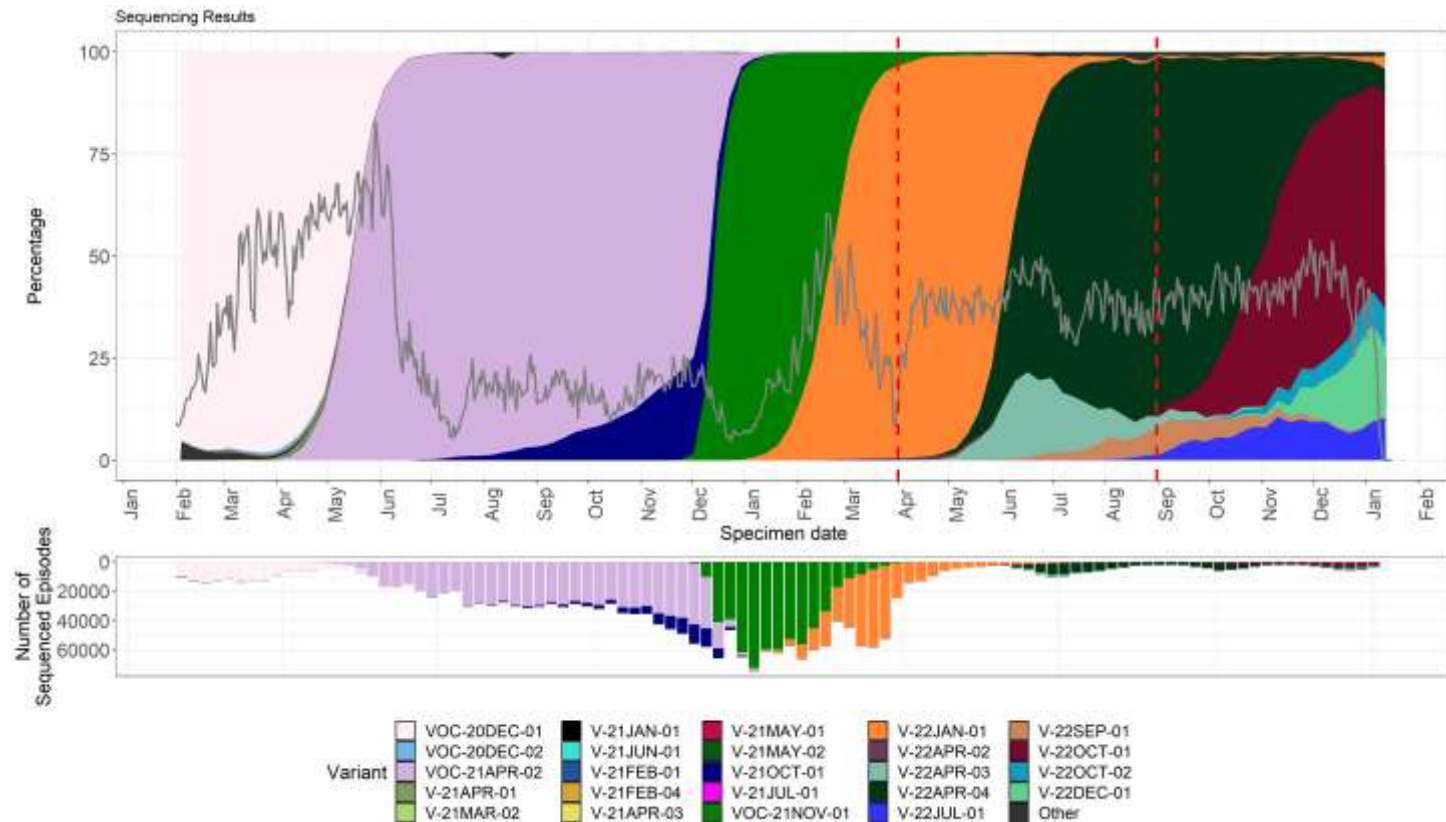
* This figure was updated on 20 January 2023 to replace an old version

The grey line indicates proportion of cases sequenced.
The vertical dashed lines (red) denote changes in policies:
•   April line denotes the start of England's 'Living with COVID' Plan.
•   End of August line denotes the change in asymptomatic testing
Note: Recombinants such as XD, are not specified but are largely within the 'Other' group currently as numbers are too small.

As of week 2 2023, BQ.1 continues to be the most commonly circulating variant in England (Table 5).

Table 5. Total distribution of SARS-CoV-2 variants detected in England in the last 12 weeks, up to week 2 (week ending 15 January 2023)

Variant	Other names by which this variant is known	Total confirmed (sequencing) cases in the last 12 weeks	Last reported specimen date
VOC-21APR-02	Delta	2	26/12/2022
VOC-21NOV-01	Omicron BA.1	12	07/01/2023
V-22JAN-01	Omicron BA.2	307	10/01/2023
V-22APR-03	Omicron BA.4	51	03/01/2023
V-22APR-04	Omicron BA.5	8598	10/01/2023
V-22JUL-01	Omicron BA.2.75	3865	11/01/2023
V-22SEP-01	Omicron BA.4.6	481	06/01/2023
V-22OCT-01	Omicron BQ.1	24207	11/01/2023
V-22OCT-02	Omicron XBB	2332	10/01/2023
V-22DEC-01	Omicron CH.1.1	5266	11/01/2023

*Sequencing data has a lag of approximately two weeks therefore the presented numbers should be interpreted in this context

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

*Confirmed individuals are confirmed COVID-19 cases with a validated sequencing result meeting the confirmed case definitions

Antimicrobial susceptibility

Table 6 shows in the 12 weeks up to week 2 2023, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA (Methicillin-resistant *Staphylococcus aureus*) and MSSA (methicillin-susceptible *Staphylococcus aureus*) tested and susceptible to antibiotics. These organisms are the important causes of community-acquired pneumonia (CAP), and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

Table 6: Antimicrobial susceptibility surveillance in lower respiratory tract

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
S. pneumoniae	Penicillin	3,221	88
	Macrolides	3,661	84
	Tetracycline	3,428	83
H. influenzae	Amoxicillin or ampicillin	14,796	40
	Co-amoxiclav	17,483	47
	Macrolides	3,529	5
	Tetracycline	17,344	98
S. aureus	Methicillin	6,480	92
	Macrolides	7,615	70
MRSA	Clindamycin	388	48
	Tetracycline	450	72
MSSA	Clindamycin	4,390	76
	Tetracycline	5,262	94

* Macrolides = erythromycin, azithromycin and clarithromycin

Data source: UKHSA's SGSS Antimicrobial Resistance (AMR) module, please note that this is different to the data source used in the reports published between weeks 41, 2020 to 5, 2021 inclusive of the 2020 to 2021 influenza season when the SGSS Communicable Disease Report (CDR) module was used instead due to a UKHSA SGSS AMR data infrastructure issue which has now been resolved. Therefore, the above results are not directly comparable to the results reported between weeks 41, 2020 and 5, 2021. The AMR module of SGSS was used during the 2019 to 2020 influenza season. There has been a reduction in the total number of bacterial positive lower respiratory tract clinical samples reported to UKHSA since mid-March 2020.

COVID-19 sero-prevalence surveillance

Since week 42 2021, updates on COVID-19 sero-prevalence estimates have been published in the weekly COVID-19 vaccine surveillance report.

Influenza vaccination

Influenza vaccine uptake in GP patients

Up to week 2 of 2023, in 90.5% of GP practices reporting weekly to ImmForm for the main collection, the provisional proportion of people in England who had received the 2022 to 2023 influenza vaccine in targeted groups was as follows:

- 47.8% in under 65 years in a clinical risk group
- 34.1% in all pregnant women
- 79.1% in all 65 year olds and over
- 39.8% in those aged 50 to 64 who are not in a clinical risk group

Figure 58: Cumulative weekly influenza vaccine uptake by target group in England
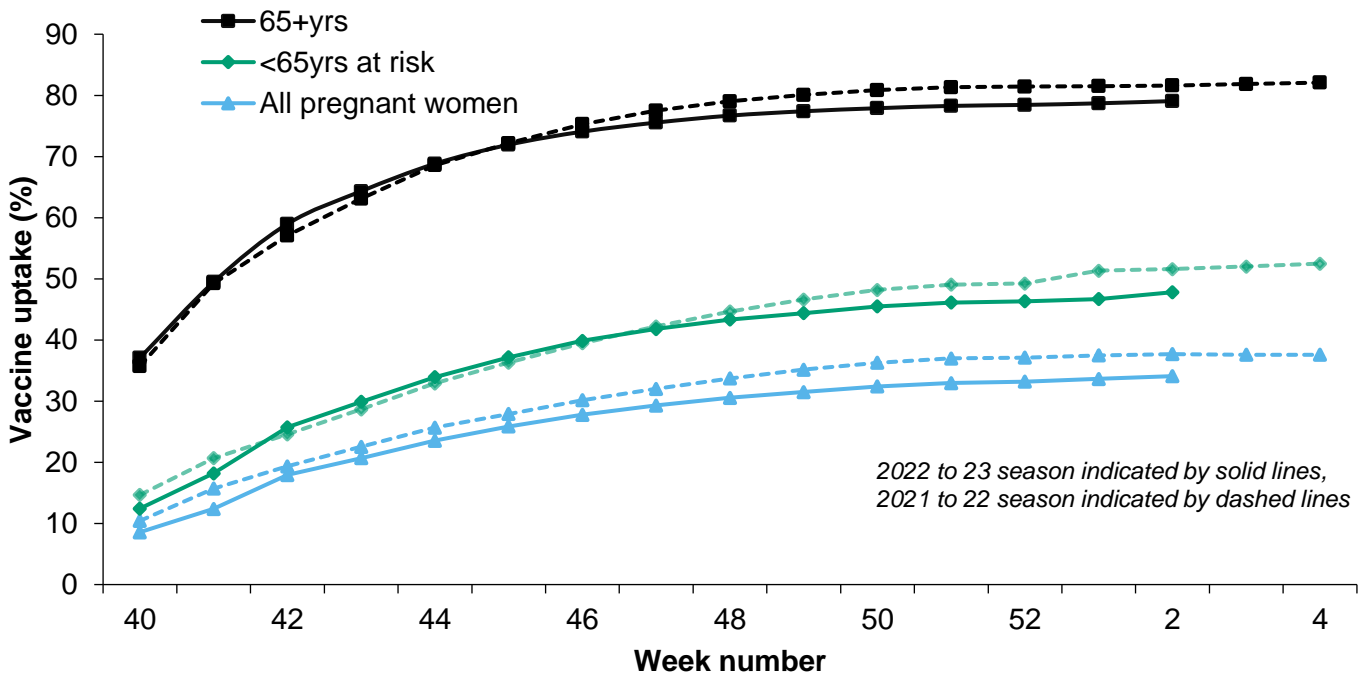
In 2022 to 2023, all 2 and 3 year olds continue to be eligible for influenza vaccination through their GPs. Up to week 2 of 2023, in 92.3% of GP practices reporting weekly to ImmForm for the childhood collection, the provisional proportion of children in England who had received the 2022 to 2023 influenza vaccine in targeted groups was as follows:

- 41.0% in all 2 year olds
- 43.5% in all 3 year olds

Figure 59: Cumulative weekly influenza vaccine uptake in 2 and 3 year olds, in England
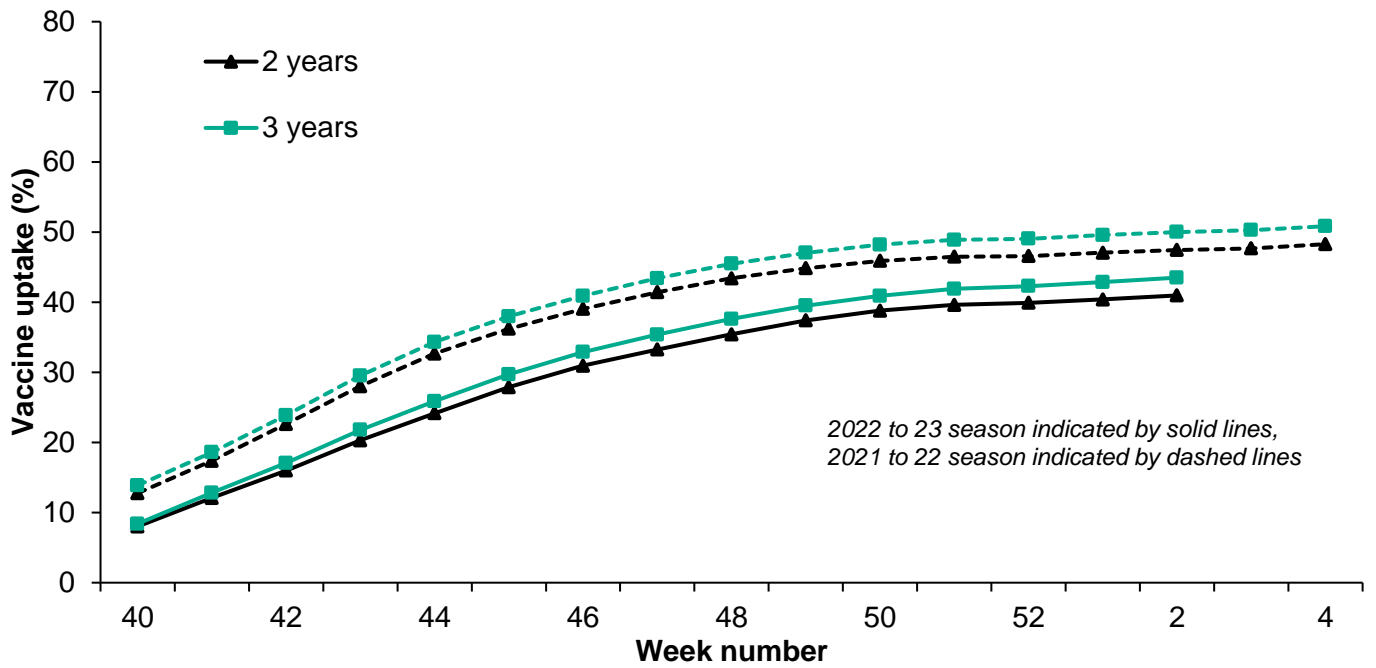
COVID-19 vaccination

COVID-19 vaccine uptake in England

COVID-19 vaccinations began in England on 8 December 2020 during week 50 2020 (week ending 13 December 2020). Cumulative data up to week 1 2023 (week ending 8 January 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 on the date data is extracted. The weekly vaccine coverage data is extracted on a Tuesday with data capped to the previous Sunday and 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. 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 Booster Campaign

Immunity derived from vaccination declines over time and following on from the Spring campaign, the JCVI has recommended an Autumn Booster 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, over winter 2022 to 2023.

The Autumn booster data reported below covers any booster dose administered from the 1 September 2022 provided there is at least 3 months from the previous dose. Eligible groups for the Autumn booster campaign are defined in the COVID-19 healthcare guidance Green Book and include residents in a care home for older adults, staff working in care homes for older adults, frontline health and social care workers, all adults aged 50 years and over, persons aged 5 to 49 years in a clinical risk group, household contacts of people with immunosuppression, and carers.

Table 7 presents coverage as measured against the total population and includes people who are not yet due to have their Autumn booster. It is important that unvaccinated individuals, especially vulnerable adults, receive a primary course of vaccination, irrespective of whether individuals have had previous infection. Table 8 should be interpreted in the context of Table 7 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. This helps

us understand the data in the context of vaccine waning across the whole COVID-19 programme.

By the end of week 2 2023 (week ending 15 2023), 64.5% (15,041,173 out of 23,316,385) of all people aged over 50 years old had been vaccinated with an Autumn booster dose since 1 September 2022, Table 7 and Figure 60. Vaccine uptake of those aged over 80 years old was 82.3% (2,449,932 out of 2,977,127).

Table 7: Provisional cumulative people vaccinated by age with a booster of COVID-19 vaccine from the 1 September 2022 as part of the Autumn booster campaign in England

National	People in NIMS cohort who are living and resident in England	Vaccinated with an Autumn booster since 1 September 2022*	Percentage vaccine uptake
Over 80	2,977,127	2,449,932	82.3
75 to under 80	2,423,320	1,997,465	82.4
70 to under 75	2,729,400	2,154,521	78.9
65 to under 70	3,039,710	2,183,906	71.8
60 to under 65	3,692,501	2,262,970	61.3
55 to under 60	4,203,066	2,188,390	52.1
50 to under 55	4,251,261	1,803,989	42.4
Total aged 50 and over	23,316,385	15,041,173	64.5

*Autumn booster defined as any additional dose of vaccine after a 2 dose primary course provided there is an interval of at least 3 months, and it is given since the 1 September 2022.

Figure 60: Cumulative weekly COVID-19 vaccine uptake by age in those who are living and resident in England for those vaccinated with an Autumn booster since 1 September 2022
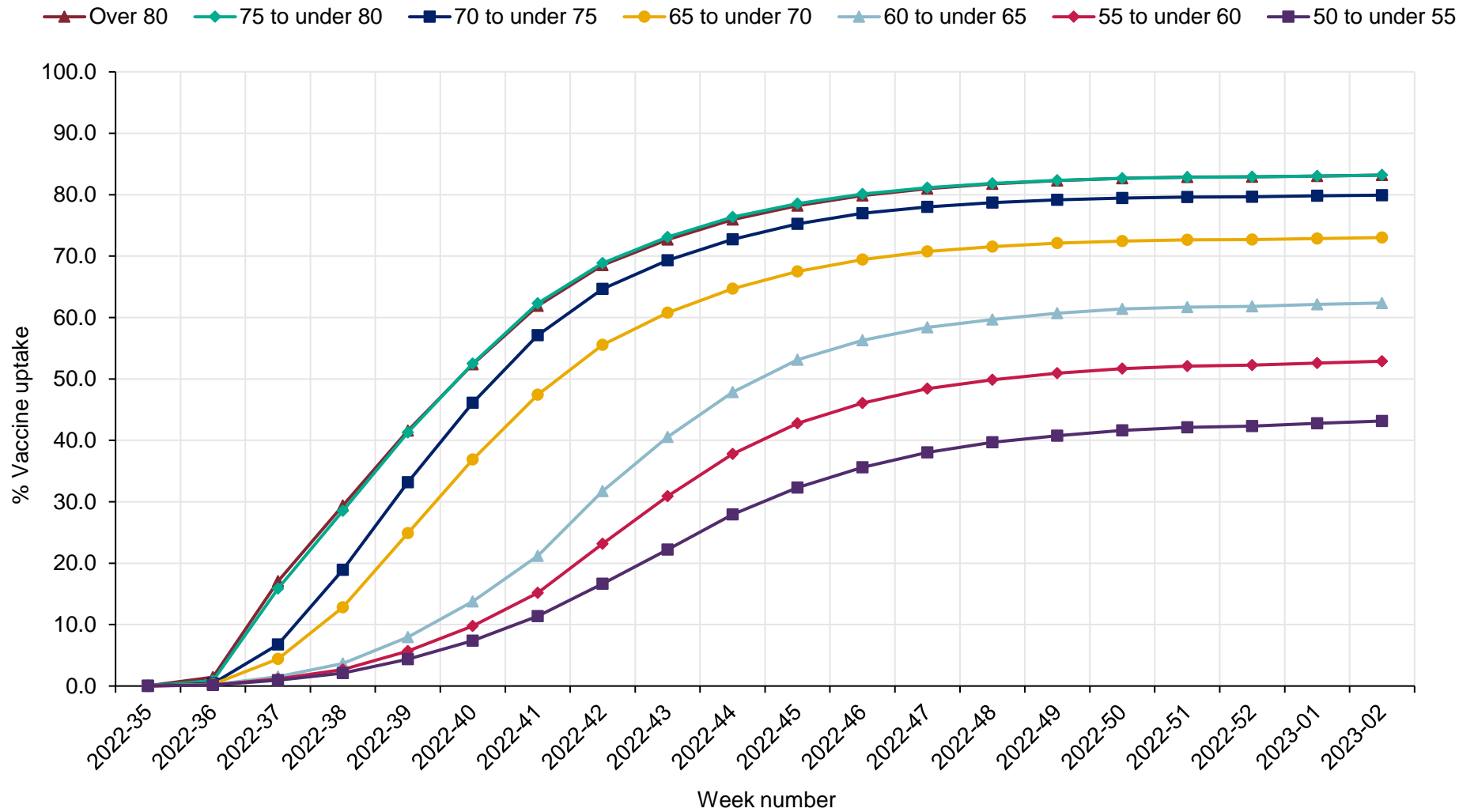
Table 8 presents data by eligibility at the end of December 2022 for the autumn booster campaign if they have completed a primary course of 2 doses and are at least 3 months (84 days) from their previous dose.

Table 8: Provisional cumulative people vaccinated with an autumn booster COVID-19 vaccine against those eligible by the end of December 2022

Age at end of December	Eligible by the end of December	Of those eligible by the end of December, numbers vaccinated	Percentage vaccine uptake eligible end of December
Over 80	2,808,003	2,433,184	86.7
75 to under 80	2,292,104	1,989,031	86.8
70 to under 75	2,539,799	2,155,270	84.9
65 to under 70	2,756,523	2,181,659	79.1
60 to under 65	3,284,229	2,261,702	68.9
55 to under 60	3,659,543	2,190,535	59.9
50 to under 55	3,580,489	1,814,736	50.7
Total aged 50 and over	20,920,690	15,026,117	71.8

Please note that this uses a different age cut off definition to the rest of the report and is therefore not a subset of other tables.

Eligible population figures in this table do not include those who are aged 50 and over and have not been vaccinated; unvaccinated people are taken into consideration in the coverage tables above. This table is based on those who have been vaccinated and may include those who are no longer resident in England or have an unknown address.

Proportion of people vaccinated by time since last vaccination

Table 9: 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	2,977,127	443,737	14.9	2,023,720	68.0	379,129	12.7
75 to under 80	2,423,320	354,365	14.6	1,658,359	68.4	306,180	12.6
70 to under 75	2,729,400	426,616	15.6	1,739,809	63.7	399,494	14.6
65 to under 70	3,039,710	541,447	17.8	1,655,004	54.4	601,729	19.8
60 to under 65	3,692,501	1,147,524	31.1	1,128,931	30.6	1,063,008	28.8
55 to under 60	4,203,066	1,264,549	30.1	938,638	22.3	1,523,684	36.3
50 to under 55	4,251,261	1,132,946	26.6	686,859	16.2	1,837,181	43.2
45 to under 50	3,962,721	244,218	6.2	330,665	8.3	2,633,901	66.5
40 to under 45	4,457,403	190,094	4.3	265,118	5.9	2,936,166	65.9
35 to under 40	4,791,369	163,137	3.4	225,505	4.7	3,040,653	63.5
30 to under 35	4,970,371	146,779	3.0	195,914	3.9	3,066,972	61.7
25 to under 30	4,648,641	113,101	2.4	156,875	3.4	2,846,628	61.2
20 to under 25	3,955,283	80,501	2.0	118,564	3.0	2,604,817	65.9
18 to under 20	1,427,401	28,338	2.0	40,900	2.9	932,851	65.4
16 to under 18	1,421,960	36,958	2.6	47,566	3.3	811,184	57.0
12 to under 16	2,998,890	51,085	1.7	102,479	3.4	1,293,309	43.1
5 to under 12	5,108,394	88,827	1.7	191,873	3.8	270,255	5.3

Table 9 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, by age can be found in the backing tables.

Figure 61: 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
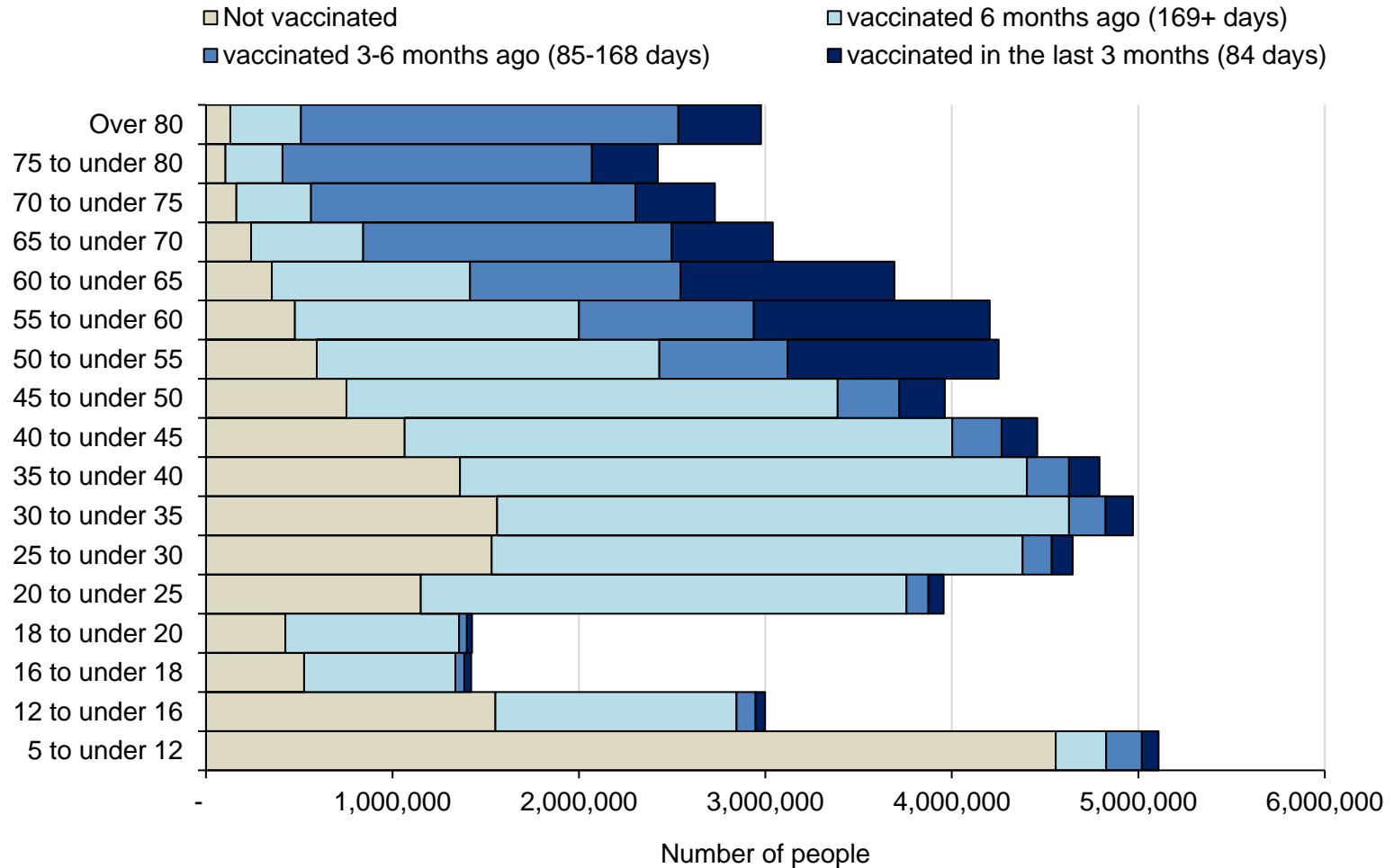
Figure 62: Provisional data on the proportion of people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago by ethnicity in those living and resident in England, aged 50 and over
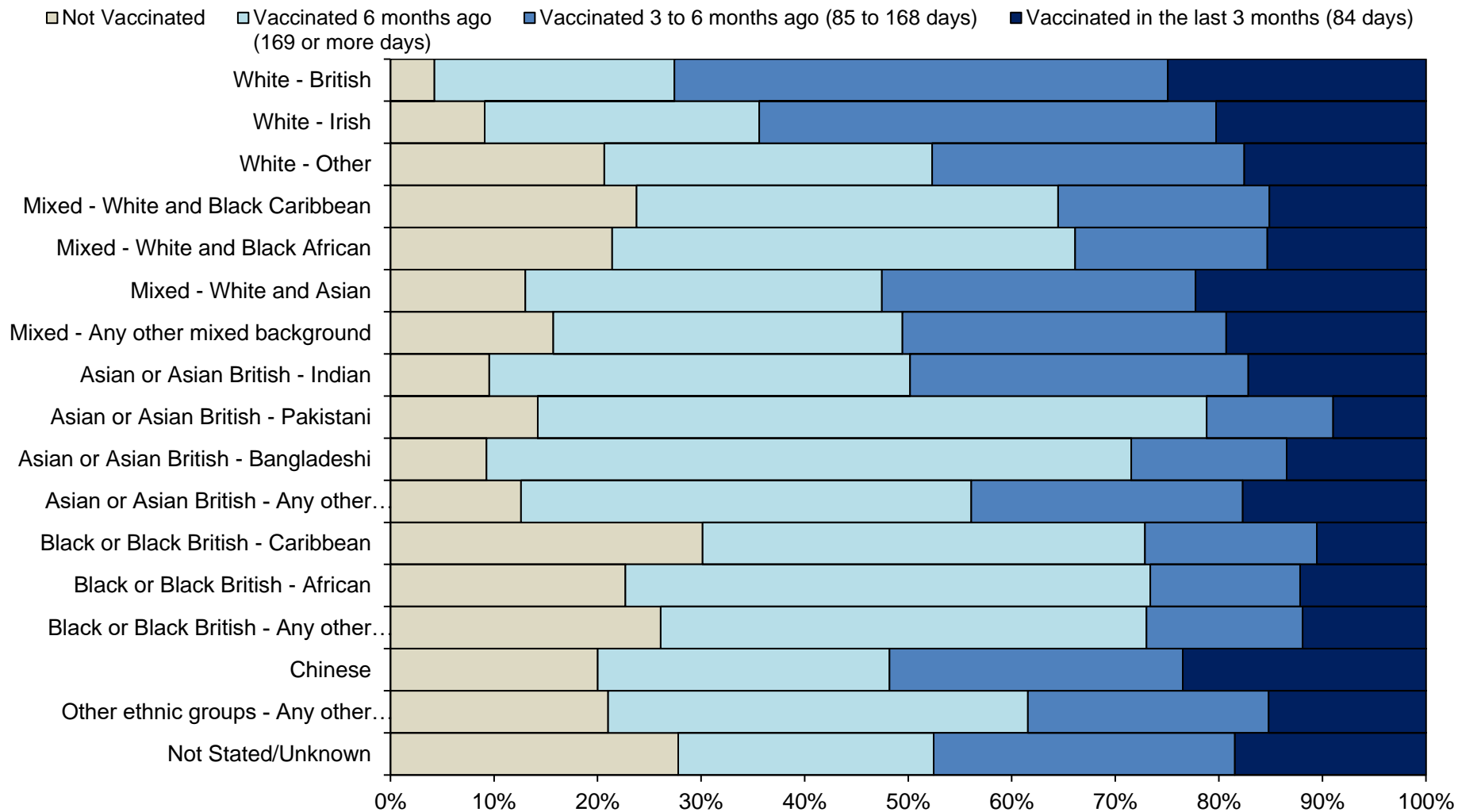
Figure 63: Provisional cumulative people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago by indices of multiple deprivation (IMD)* in those living and resident in England, aged 50 and over
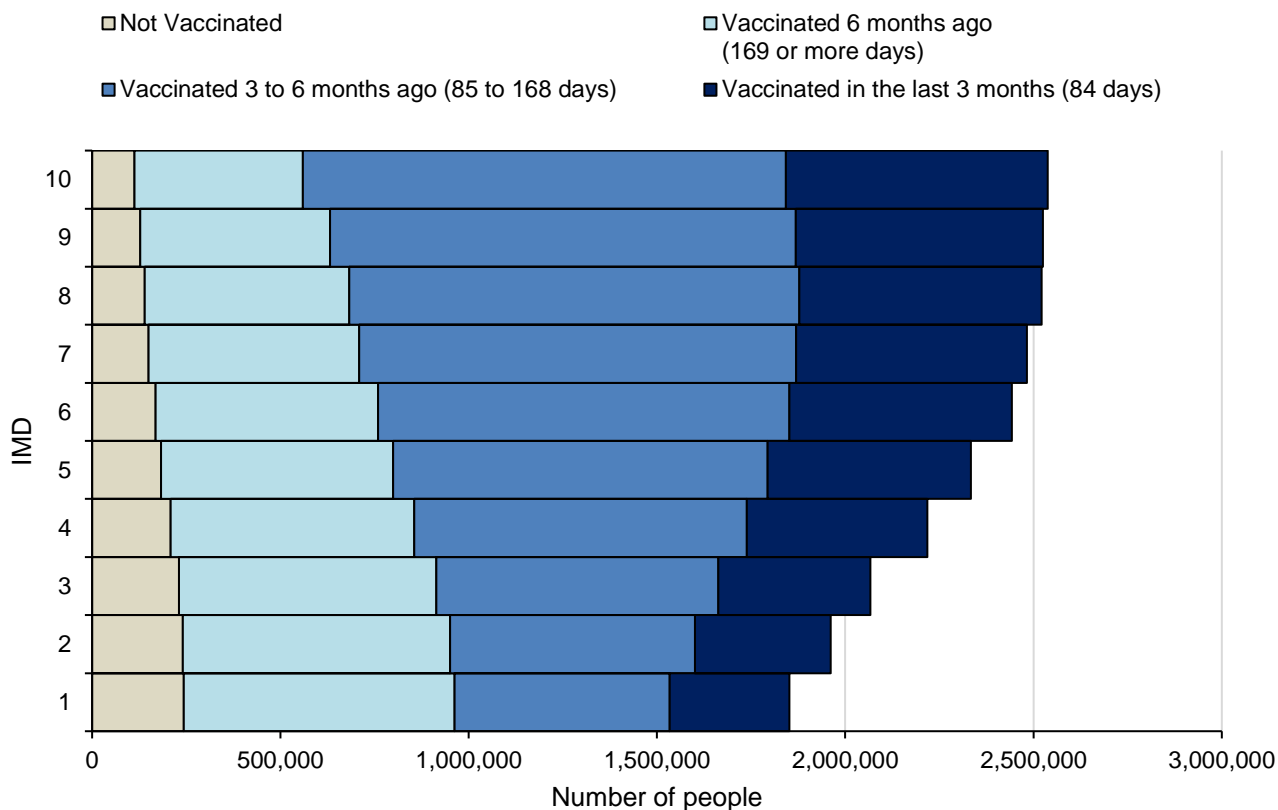
*Decile 1 represents the most deprived 10% (or decile) of small areas in England and Decile 10 represents the least deprived 10% (or decile) of small areas in England.

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

Immunosuppression

Provisional autumn booster vaccine uptake data in living and resident people identified as immunosuppressed in England to the end of week 2 (week ending 15 January 2023) was 68.4%, Table 10. Many people in this group have been vaccinated more recently and are still becoming eligible for their autumn booster. Table 11 is presented to provide an overview of how recently a person identified as immunosuppressed has been vaccinated either through the primary vaccination campaign or a subsequent booster campaign. This helps us understand the data in the context of vaccine waning across the whole COVID-19 programme and shows that most people identified as immunosuppressed have been recently vaccinated. This can be seen in Table 11, in which 69.6% of people identified as immunosuppressed are covered by a vaccine given in the last 6 months.

Table 10: Vaccine uptake in people identified as immunosuppressed in England with a booster of COVID-19 vaccine from the 1 September 2022 as part of the Autumn booster campaign*

Immuno-suppression	People in NIMS cohort who are living and resident in England	Vaccinated with an autumn booster since 1 September 2022*	Percentage vaccine uptake
England	488,526	334,003	68.4

*Autumn booster defined as any additional dose of vaccine after a 2 dose primary course provided there is an interval of at least 3 months, and it is given since the 1 September 2022

Table 11: People identified as immunosuppressed in England vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago

| People in NIMS Immuno-suppression 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
489,443	107,686	22.0	232,166	47.5	127,564	26.1

Detailed information on the NHS Digital characterisation of the immunosuppressed group can be found on the NHS Digital website.

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.

For a summary of the differences in denominators used to present administrative vaccine uptake by NHS England and vaccine coverage by UKHSA since the start of the COVID-19 programme, please see explainer [here](#). Please note that some administrative vaccine uptake data uses an ONS mid-year estimate as a denominator because not all devolved administrations have a national vaccine register. Please note that not everyone in the numerator will be in the denominator for administrative vaccine uptake where ONS mid-year estimates are used.

International update

Global COVID-19 update

For further information on the global COVID-19 situation please see the World Health Organisation (WHO) COVID-19 situation reports.

Global influenza update

Updated 9 January 2023 (based on data up to 25 December 2022) (WHO website).

Globally, influenza activity remained elevated due to activity in the northern hemisphere. Where subtyped, influenza A viruses predominated with a slightly larger proportion of A(H3N2) viruses detected among the subtyped influenza A viruses.

In the countries of North America, most indicators of influenza activity decreased while others were stable or continued to increase. Many indicators were at, or above, levels typically observed at this time of year, and some were near or above levels observed at the peak of previous severe epidemics. Influenza A(H3N2) was the predominant virus detected.

In Europe, overall influenza activity continued to increase with influenza positivity from sentinel sites remaining above the epidemic threshold at the regional level. Overall, influenza A viruses predominated with A(H3N2) viruses accounting for the majority of subtyped influenza viruses from primary care sentinel sites but with regional differences. Half of reporting countries signalled high or very high intensity. In central Asia, influenza activity increased with influenza A(H1N1)pdm09 viruses predominant followed by influenza B viruses.

In Northern Africa, influenza detections increased among reporting countries with all seasonal subtypes detected.

In Western Asia, influenza activity decreased overall with all seasonal influenza subtypes detected, though increased activity was reported in some countries.

In East Asia, influenza activity of predominantly influenza A(H3N2) viruses remained low overall among reporting countries but with increases reported in Mongolia and the Republic of Korea.

In the Caribbean and Central American countries, influenza activity of predominantly influenza A(H3N2) viruses decreased overall but remained elevated in Mexico.

In the tropical countries of South America, influenza detections were generally low, and A(H3N2) viruses predominated. Influenza positivity was at a moderate level in Ecuador.

In tropical Africa, influenza activity remained low with detections of all seasonal influenza subtypes reported. Activity increased in some countries in Eastern Africa.

In Southern Asia, influenza activity remained at a low level, mainly due to decreased activity reported in Iran. Influenza A(H1N1)pdm09 was the most frequently detected subtype in the subregion.

In South-East Asia, detections of predominantly influenza B remained elevated due to continued detections reported in Malaysia.

In the temperate zones of the southern hemisphere, influenza activity decreased in Argentina and Chile to low levels and remained low elsewhere.

The WHO GISRS laboratories tested more than 604,408 specimens during that time period. 121,935 were positive for influenza viruses, of which 117,840 (96.6%) were typed as influenza A and 4095 (3.4%) as influenza B. Of the subtyped influenza A viruses, 10,108 (43.5%) were influenza A(H1N1)pdm09 and 13,123 (56.5%) were influenza A(H3N2). Of the type B viruses for which lineage was determined, all 525 (100%) belonged to the B/Victoria lineage.

Influenza in Europe

Updated for data for week 1 2023 ([Joint ECDC-WHO Europe Influenza weekly update](#)).

The percentage of sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus remained above the epidemic threshold (10%) and slightly decreased to 25% from 30% in the previous week which might still be due to the impact of the festive period with lower testing and reporting in some countries and areas.

For week 1 2023, of 37 countries and areas reporting on intensity of influenza activity, 2 reported baseline intensity (Tajikistan and Ukraine), 8 reported low intensity (Azerbaijan, Croatia, France, Hungary, Iceland, Serbia, United Kingdom (Northern Ireland) and United Kingdom (Scotland)), 13 reported medium intensity (across the Region), 12 reported high intensity (across the Region) and 2 reported very high intensity (Finland and Latvia).

Of 37 countries and areas reporting on geographic spread of influenza viruses, 2 reported no activity (Azerbaijan and Tajikistan), 1 reported sporadic spread (United Kingdom (Northern Ireland)), 3 reported local spread (Belarus, Bosnia and Herzegovina and Malta), 4 reported regional spread (Bulgaria, Serbia, Slovakia, and Kosovo) and 27 reported widespread activity (across the Region).

For week 1 2023, 852 (25%) of 3,424 sentinel specimens tested positive for an influenza virus; 88% were type A and 12% were type B. Of 459 subtyped A viruses, 52% were A(H3) and 48% A(H1)pdm09. All 21 type B viruses ascribed to a lineage were B/Victoria.

Of 35 countries and areas across the Region that each tested at least 10 sentinel specimens in week 1 2023, 30 reported a positivity rate above 10% (median 38%; range 15% 65%), of which 13 reported positivity at or above 40%: Republic of Moldova (65%), Finland (62%), Slovenia (60%), Slovakia (59%), Poland (56%), Armenia (49%), Switzerland (47%), United Kingdom (Northern Ireland) (47%), Netherlands (47%), Israel (40%), Belgium (40%), Bulgaria (40%) and Lithuania (40%).

For the season to date, 11,569 (22%) of 53,910 sentinel specimens tested positive for an influenza virus. More influenza type A (n=10,776, 93%) than type B (n=793, 7%) viruses have been detected. Of 8,523 subtyped A viruses, 6,522 (77%) were A(H3) and 2,001 (23%) were A(H1)pdm09. All 256 influenza type B viruses ascribed to a lineage were B/Victoria (68% of type B viruses were reported without a lineage).

For week 1 2023,12,652 of 67,248 specimens from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions) tested positive for an influenza virus; 11,122 (88%) were type A and 1,530 (12%) were type B. Of 2,966 subtyped A viruses, 1,855 (63%) were

A(H1)pdm09 and 1,111 (37%) A(H3). All 22 type B viruses ascribed to a lineage were B/Victoria.

For the season to date, more influenza type A (n=118,644, 93%) than type B (n=8,452, 7%) viruses have been detected. Of 38,504 subtyped A viruses, 20,354 (53%) were A(H1)pdm09 and 18,150 (47%) were A(H3). All 553 influenza type B viruses ascribed to a lineage were B/Victoria (93% of type B viruses were reported without a lineage).

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

Latest WHO update on 5 January 2023

From 12 November 2022 to 5 January 2023, one human case of infection with an influenza A(H5N6) virus, three human cases of infection with avian influenza A(H9N2) viruses, and one human case of infection with an influenza A(H1N2) variant virus were reported officially.

The overall public health risk from currently known influenza viruses at the human-animal interface has not changed, and the likelihood of sustained human-to-human transmission of these viruses remains low. Human infections with viruses of animal origin are expected at the human-animal interface wherever these viruses circulate in animals.

Middle East respiratory syndrome coronavirus (MERS-CoV)

From April 2012 to October 2022, a total of 2,600 laboratory-confirmed cases of MERS-CoV and 935 associated deaths were reported globally to WHO under the International Health Regulations (IHR 2005).

Between 29 December 2021 and 31 October 2022, four laboratory-confirmed cases of MERS-CoV were reported to WHO by the Ministry of Health of the Kingdom of Saudi Arabia. No deaths were reported (WHO website).

On 28 April 2022, the National IHR Focal point of Oman notified WHO of one case of MERS-CoV in Oman (WHO website).

Between 22 March and 3 April 2022, the National IHR Focal Point of Qatar reported 2 laboratory-confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection to the WHO (WHO website).

A total of 5 cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (3 imported and 2 linked cases) have been confirmed in the UK through ongoing surveillance since September 2012.

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

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.

About the UK Health Security Agency

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: 19 January 2023

OGL

Corporate member of
Plain English Campaign
Committed to clearer
communication
339

UKHSA supports the UN
Sustainable Development Goals

SUSTAINABLE DEVELOPMENT GOALS