UK Health Security Agency

Weekly national Influenza and COVID-19 surveillance report

Week 8 report (up to week 7 data)

23 February 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

This report was updated on 13 April 2023 to address a copying error in the last two columns of Table 9, page 88.

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 7 (between 13 February and 19 February 2023) and for some indicators daily data up to 21 February 2023.

Overall

In week 7, from most indicators, influenza activity **increased slightly** compared to week 6. From most indicators, COVID-19 activity **increased**.

COVID-19

COVID-19 case rates through Pillar 1 **remained fairly stable** with slight increases seen across some age groups, regions, and ethnic groups.

Through Respiratory Datamart, SARS-CoV-2 positivity **increased** to 9.9% compared to 8.6% the previous week.

Through primary care surveillance, COVID-19 indicators **increased slightly** compared to week 6.

The overall number of reported COVID-19 confirmed outbreaks **increased** compared to the previous week. The highest number of incidents continue to be in care homes, with 108 COVID-19 confirmed outbreaks occurring in England in week 7 compared to 82 in week 6.

Overall, COVID-19 hospitalisations and ICU admissions **increased slightly** in week 7 compared to week 6. Hospitalisations were highest in the 85 years and over age group. Through syndromic surveillance indicators, emergency department attendances for covid-like illness increased nationally across all regions, especially in children under 1 year old and adults over 45 years old.

Deaths with COVID-19 **decreased** in week 7.

The COVID-19 Autumn booster vaccination campaign commenced in early September. By the end of week 7, 65.8% of all people aged over 50 years old who are living and resident in England had been vaccinated with an Autumn booster dose.

Influenza

In week 6, influenza positivity **increased slightly** to 2.5% compared to 2.1% in week 6, with the highest positivity seen in those aged 15 to 44 years old at 7.6%, an increase from 5.2% in week 6.

Through primary care surveillance, the influenza-like-illness consultations indicator **remained stable** in week 7 compared to the previous week and within the **baseline activity level range.**

The overall number of reported influenza confirmed outbreaks **remained low** in week 7. Two influenza confirmed outbreaks were reported in England in week 7.

Influenza hospital admissions **increased slightly** in week 7 compared to the previous week**.** Admission rates from week 49 2022 to week 6 2023 were revised retrospectively with the receipt of new data. The rate is slightly above baseline activity range. Admissions data is provisional. Influenza admissions were highest in the 85 years old and over age group. Influenza ICU admissions **remained stable** in week 7 and remained within the **baseline range of activity**.

Emergency department attendances for influenza-like illness **remained stable**.

The majority of influenza detections in the most recent week have been influenza B across a number of surveillance systems.

Monthly influenza vaccine uptake data is published for the fifth time during the 2022 to 2023 season.

RSV

The overall positivity for RSV remained low at 1.6%, with the highest positivity seen in the under 5 year olds at 3.8%. The RSV hospitalisation rate **decreased slightly** overall to 0.52 per 100,000. Emergency department attendances for acute bronchiolitis increased slightly**,** with a noticeable increase in the North East region of England.

Other viruses

Adenovirus positivity **decreased slightly** to 3.4%, with the highest positivity in those aged under 5 years old at 11.8%. Rhinovirus positivity **decreased slightly** to 12.3% overall, with the highest positivity in the under 5 year olds at 26.1%. Parainfluenza increased slightly to 2.1% but remains low. Human metapneumovirus (hMPV) remained stable at 3.9%, with the highest positivity in those aged under 5 years old at 7.8%.

Other indicators

Through NHS 111, calls for cold or flu **increased nationally,** particular in adults over 45years. NHS 111 calls for cough remain stable nationally.

The primary care lower respiratory tract infection rate **remained stable**.

Emergency department attendances for acute respiratory infection **remained stable** nationally.

No excess deaths (from all causes) were observed in week 6.

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 19 February 2023, a total of 2,011,061 episodes have been confirmed for COVID-19 in England under Pillar 1, and 18,586,644 episodes under Pillar 2, since the beginning of the pandemic. COVID-19 case rates through Pillar 1 remained fairly stable in week 7, with slight increases in some age groups, regions, and ethnic groups. The number of Pillar 1 COVID-19 episodes decreased slightly to 6,664 in week 7 compared to 6,835 in week 6.

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.

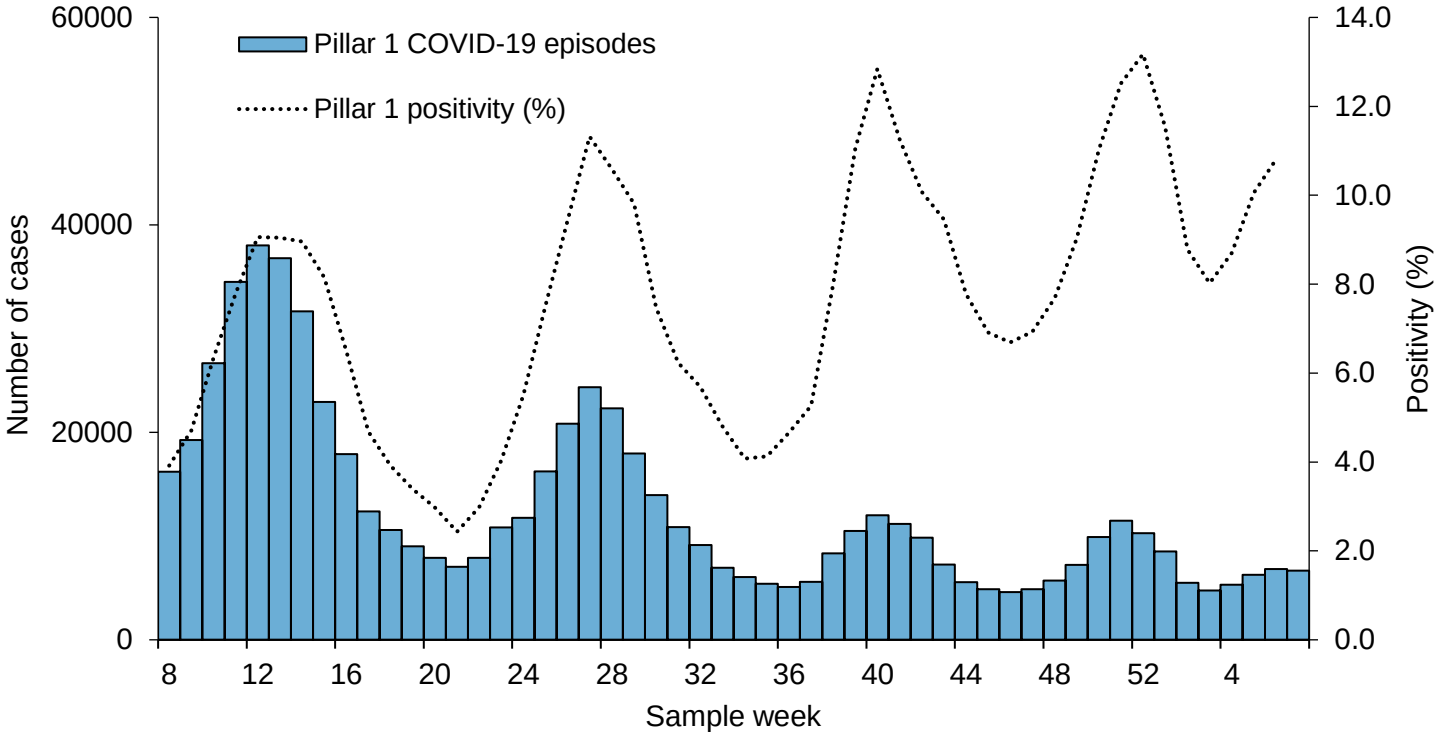
Data is shown by the week the specimen was taken from the person being tested. This gives the most accurate analysis of this time progression, however, for the most recent week results for more samples are expected therefore this should be interpreted with caution.

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

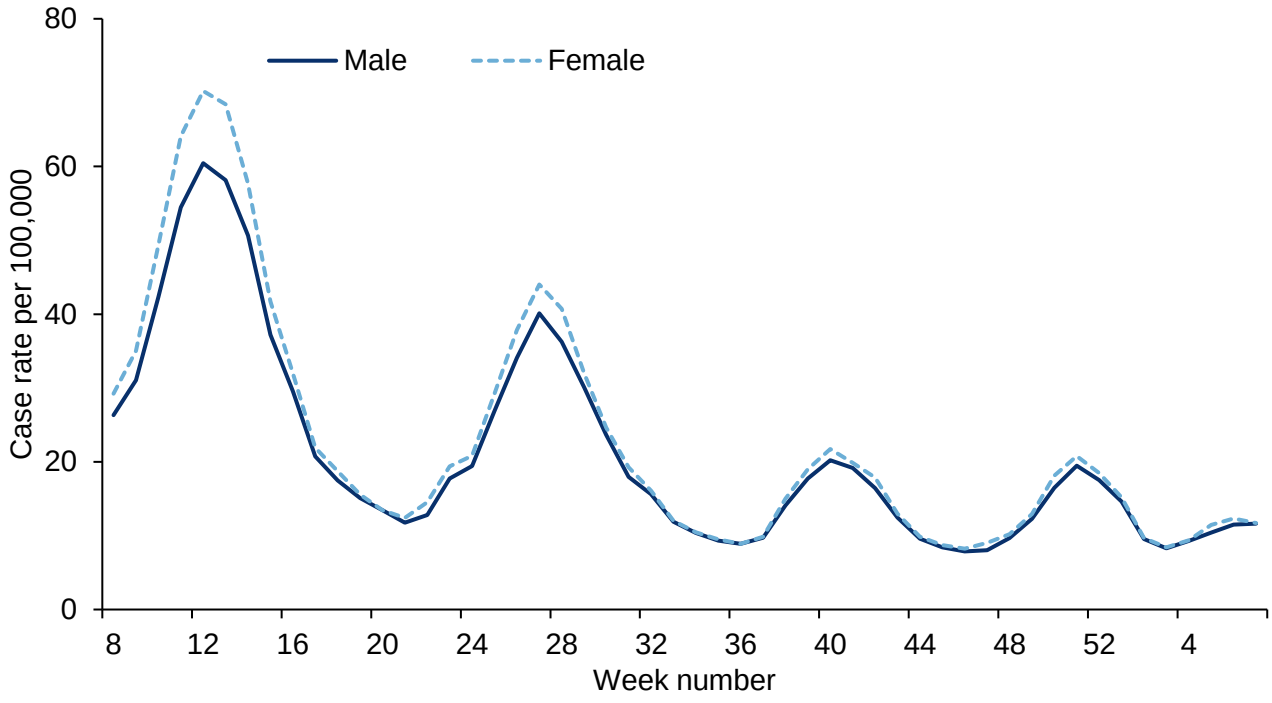


Figure 3: Weekly confirmed COVID-19 case rates per 100,000, by episode, tested under Pillar 1, by age group

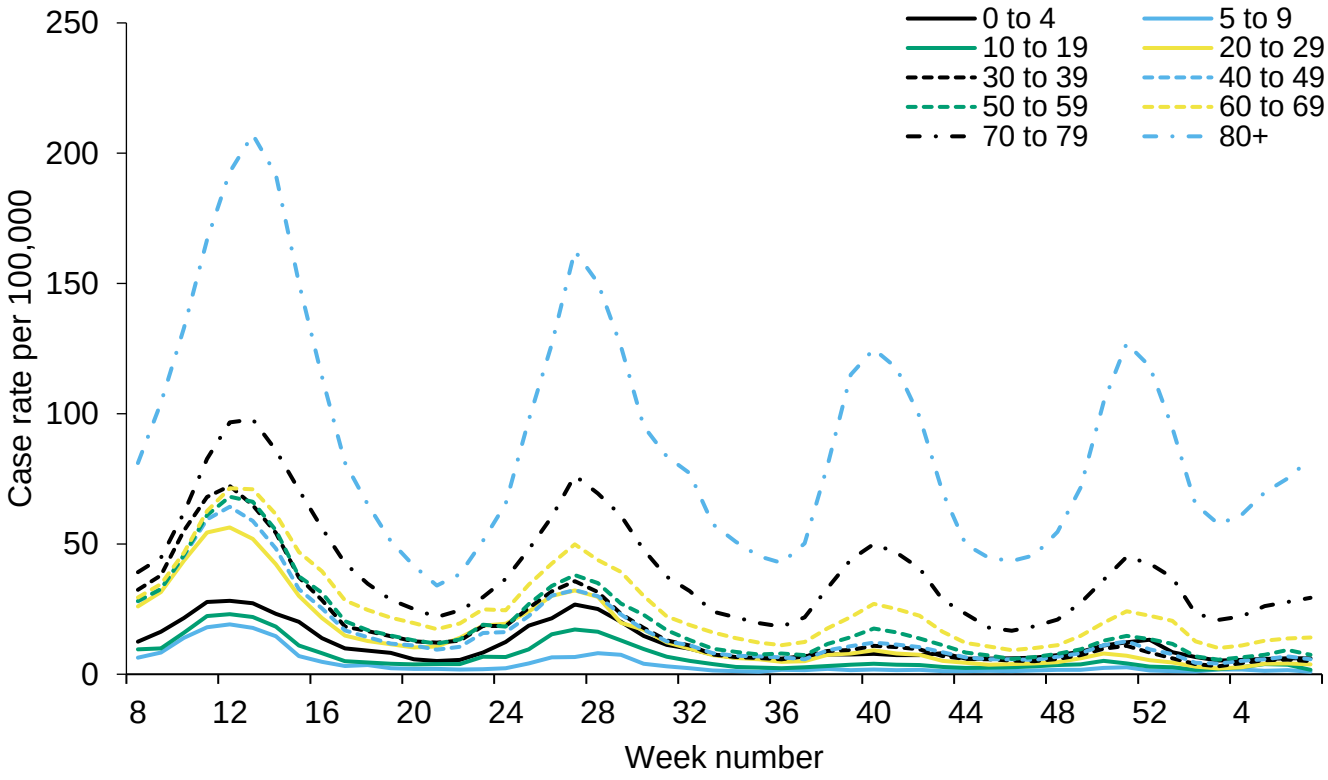


Figure 4: Weekly PCR positivity (%) of confirmed COVID-19 cases tested overall and by sex under Pillar 1

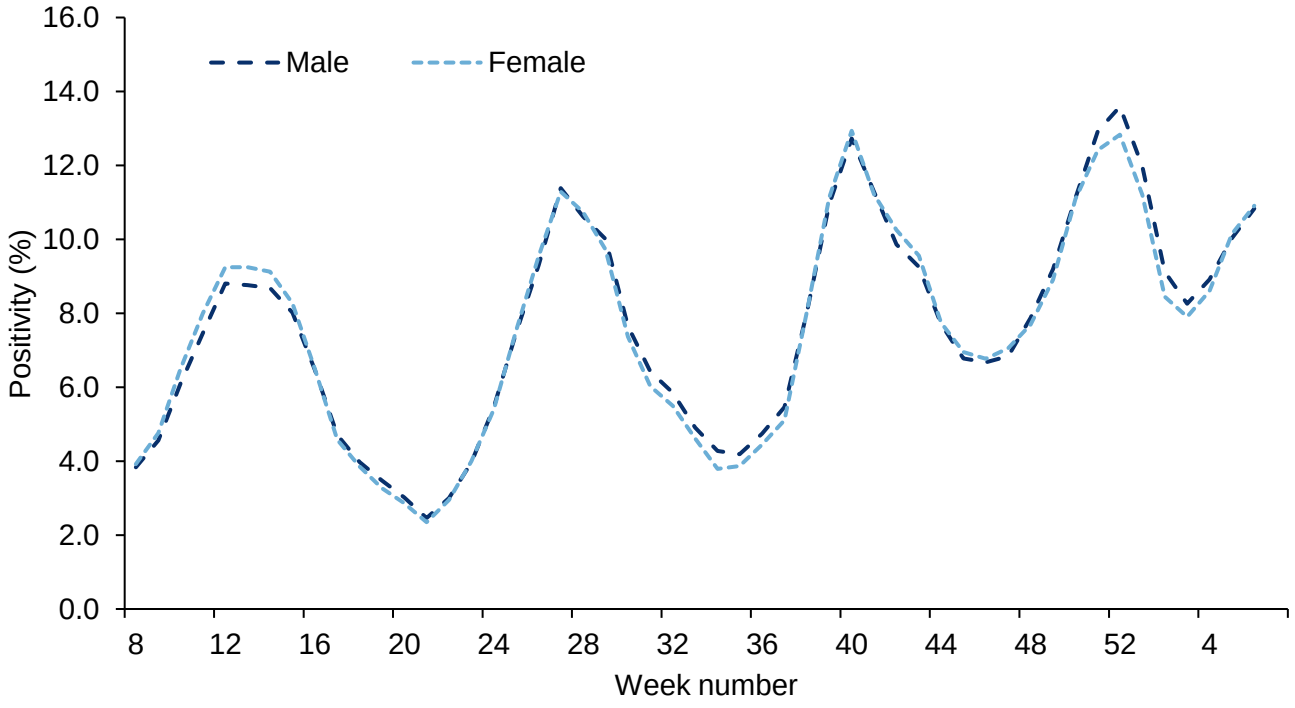
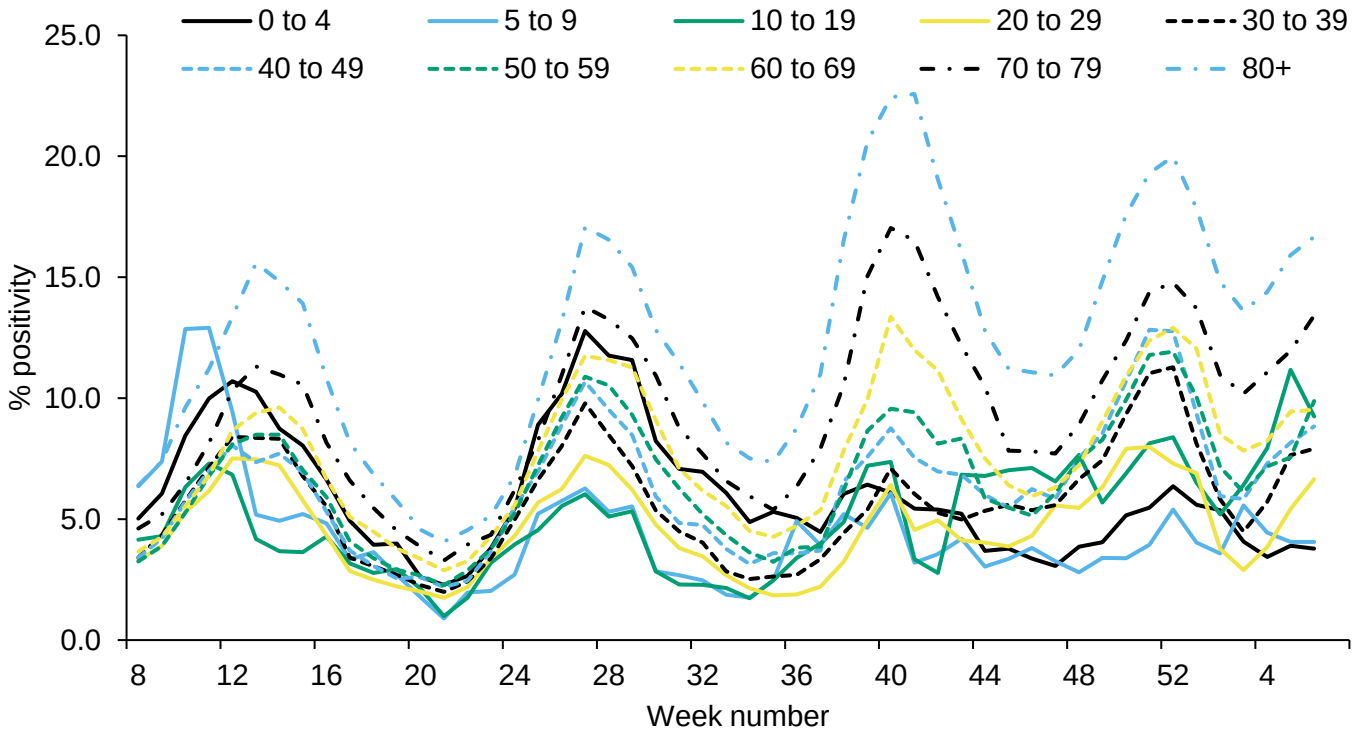
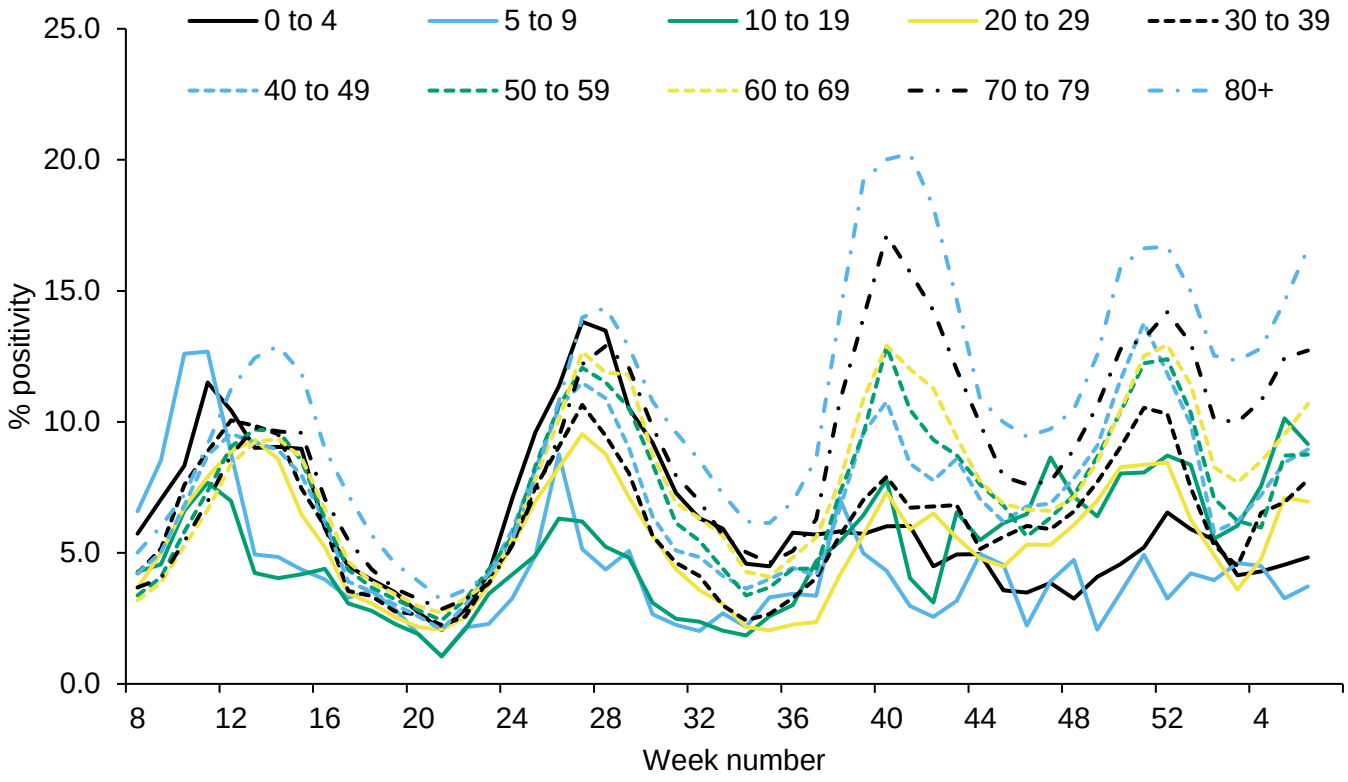


Figure 5: Weekly PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1, (a) by male and age group and (b) by female and age group

(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

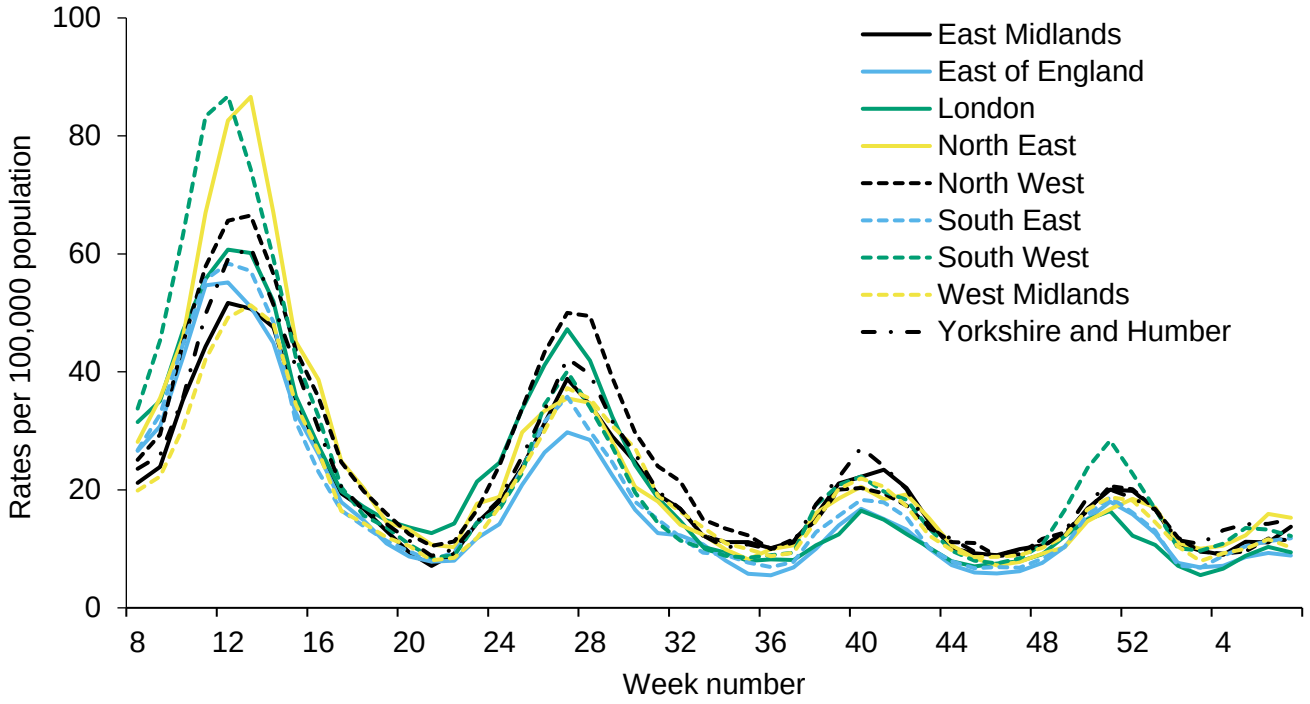


Figure 7: Weekly PCR positivity of confirmed COVID-19 cases tested under Pillar 1 (%) by UKHSA centres and sample week

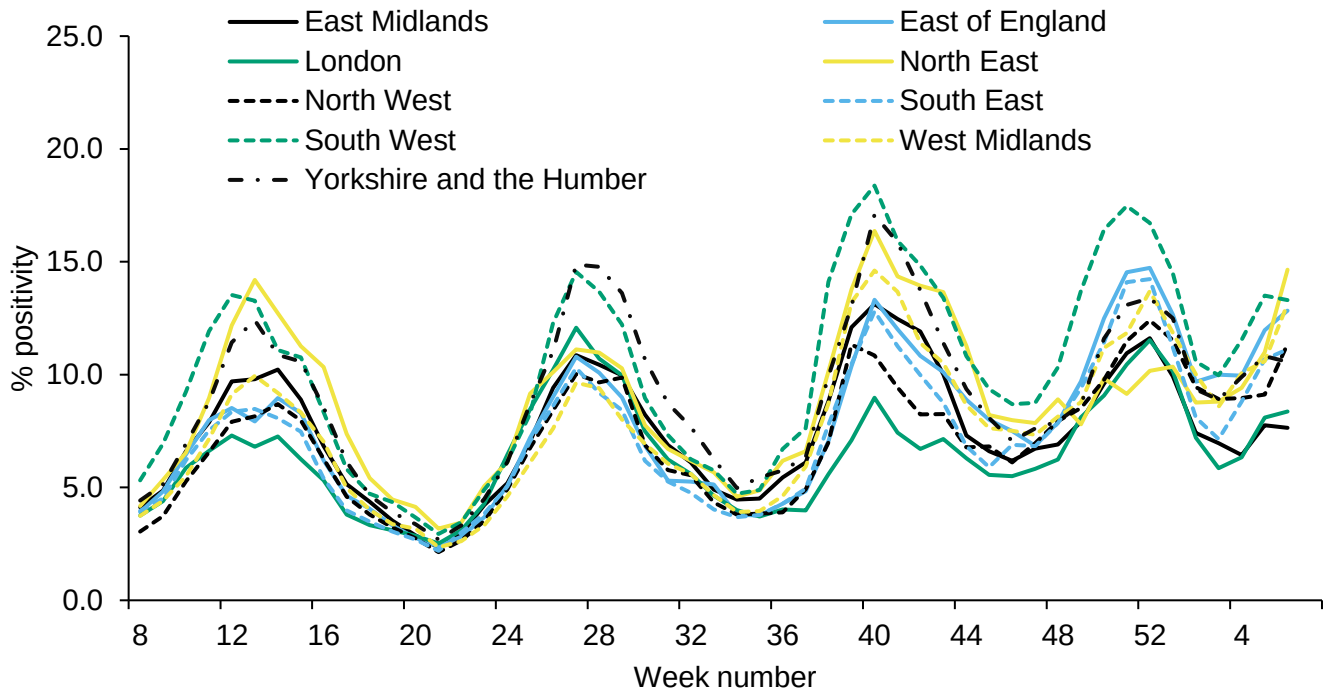
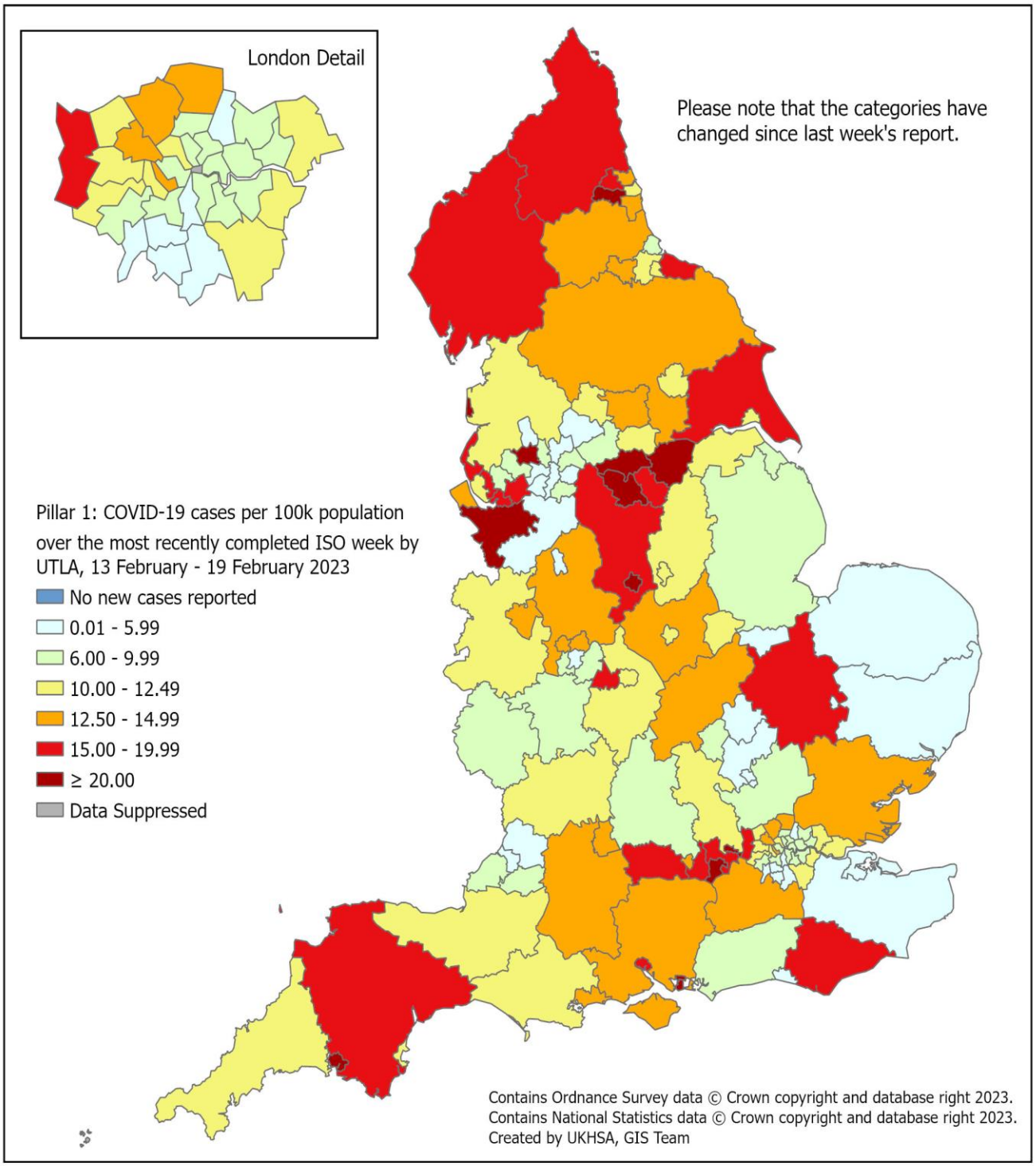
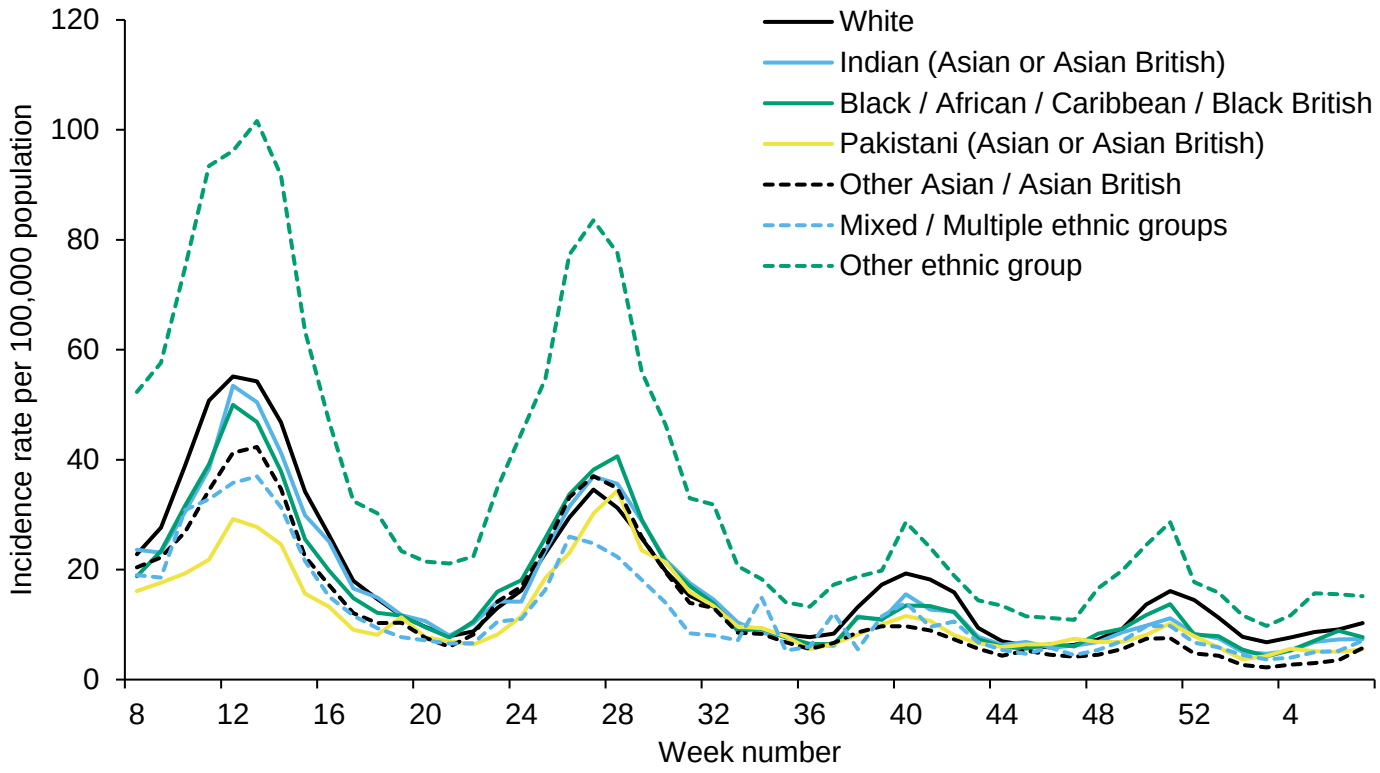


Figure 8: Weekly rate of COVID-19 episodes per 100,000 population (Pillar 1), by upper-tier local authority (UTLA), England (box shows enlarged map of London area)



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 7, data is based on reporting from 13 out of the 16 sentinel laboratories.

In week 7, 12,527 respiratory specimens reported through the Respiratory DataMart System were tested for SARS-CoV-2. 1,244 samples were positive for SARS-CoV-2 with an overall positivity of 9.9%, which increased slightly from 8.6% the previous week. The highest positivity was seen in the 65 year olds and over at 14.1%.

In week 7, 7,176 respiratory specimens reported through the Respiratory DataMart System were tested for influenza. 178 samples tested positive for influenza; 6 influenza A(H3), 0 influenza A(H1N1)pdm09, 46 influenza A(not subtyped) and 126 influenza B (Figure 12). Overall, influenza positivity increased to 2.5% in week 7 compared to 2.1% in week 6, with highest positivity seen in the 15 to 44 year old age group at 7.6%, an increase from 5.2% in week 6. Influenza B positivity slightly increased to 1.8% in week 7 compared to 1.3% in week 6. Influenza A(H3N2) positivity remained stable at 0.6% in week 7 compared to 0.5% in week 6. Influenza A(H1N1)pdm09 positivity remained low at 0.0%.

Adenovirus positivity decreased slightly to 3.4%, with the highest positivity in those aged under 5 years old at 11.8%.

Human metapneumovirus (hMPV) positivity remained stable at 3.9%, with the highest positivity in those aged under 5 years old at 7.8%.

Parainfluenza positivity increased slightly to 2.1%.

Rhinovirus positivity decreased to 12.3% overall, with the highest positivity in those aged under 5 years old at 26.1%.

The overall positivity for RSV remained low at 1.6%, with the highest positivity in those aged under 5 years old at 3.8%.

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

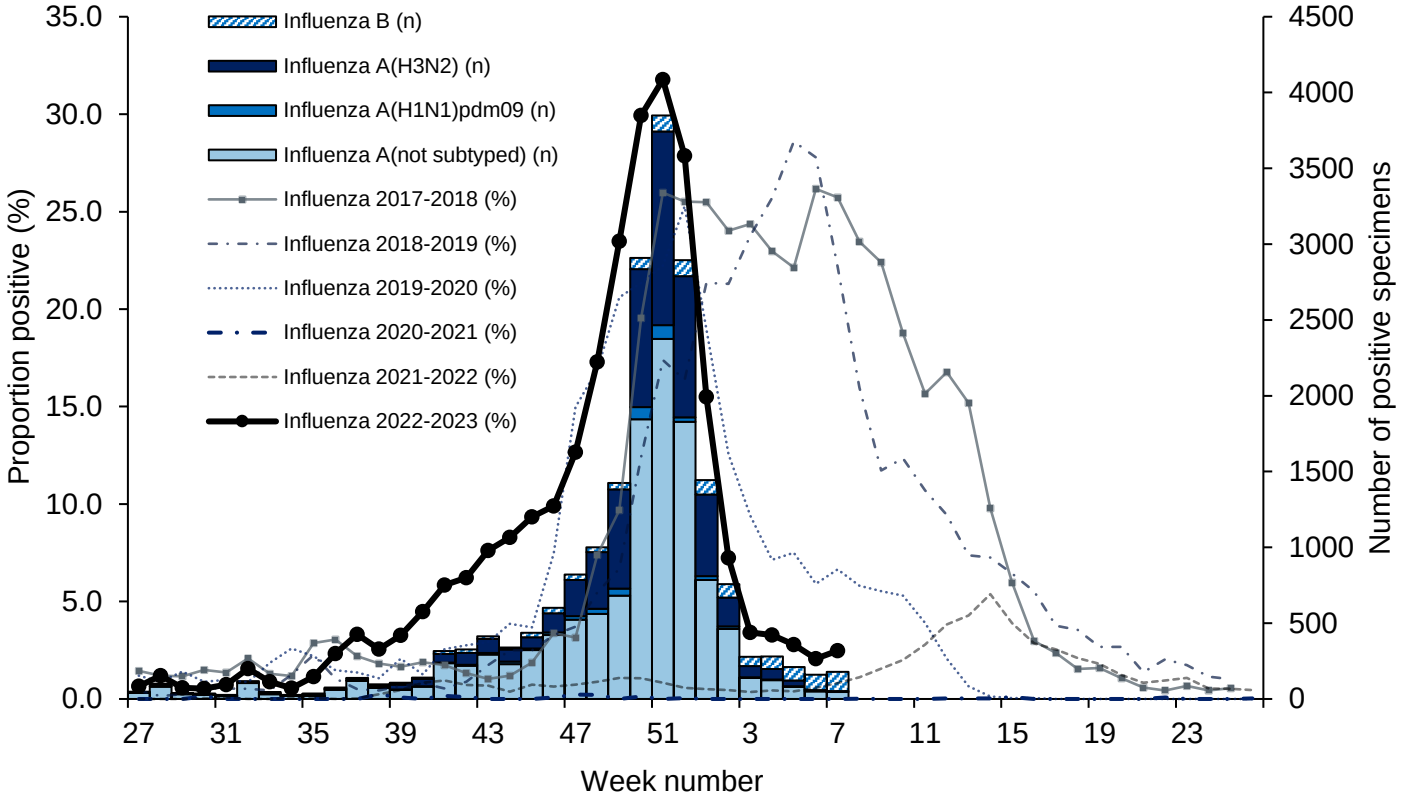


Figure 11: Respiratory DataMart weekly positivity (%) for SARS-CoV-2, England

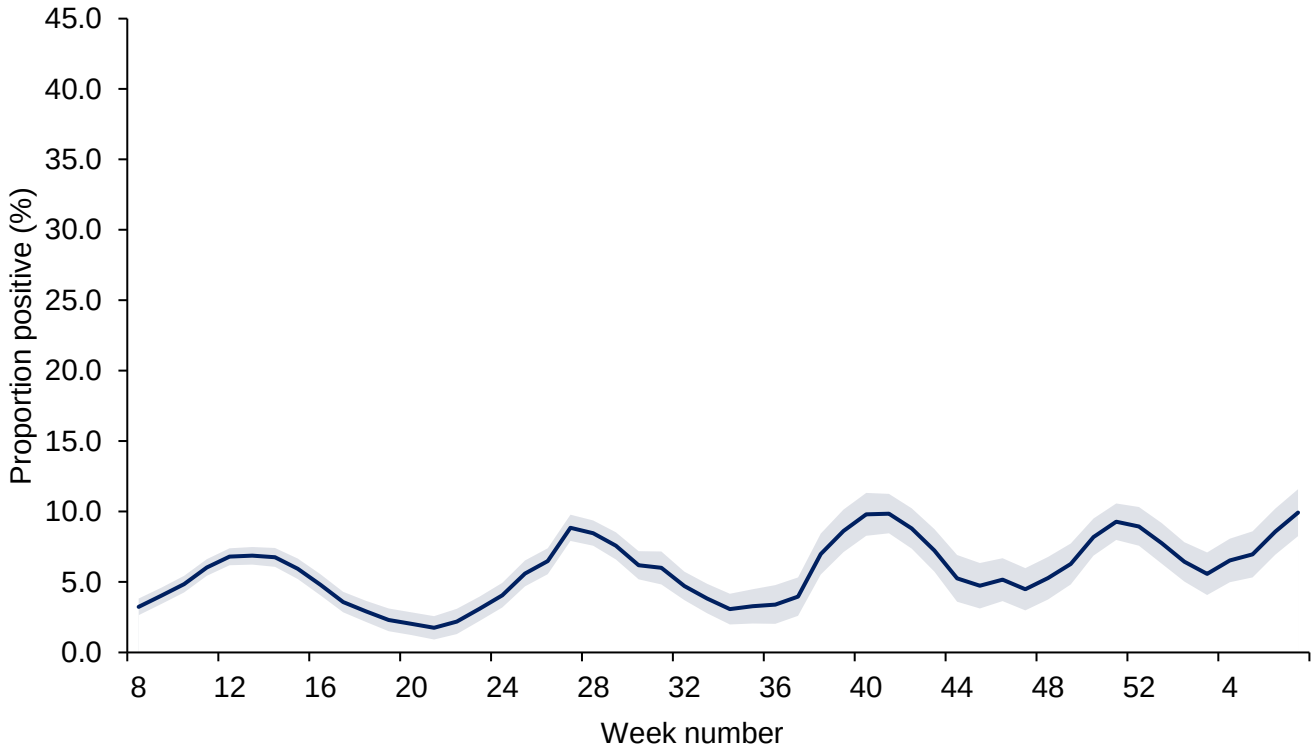


Figure 12: Respiratory DataMart weekly positivity (%) for influenza, England

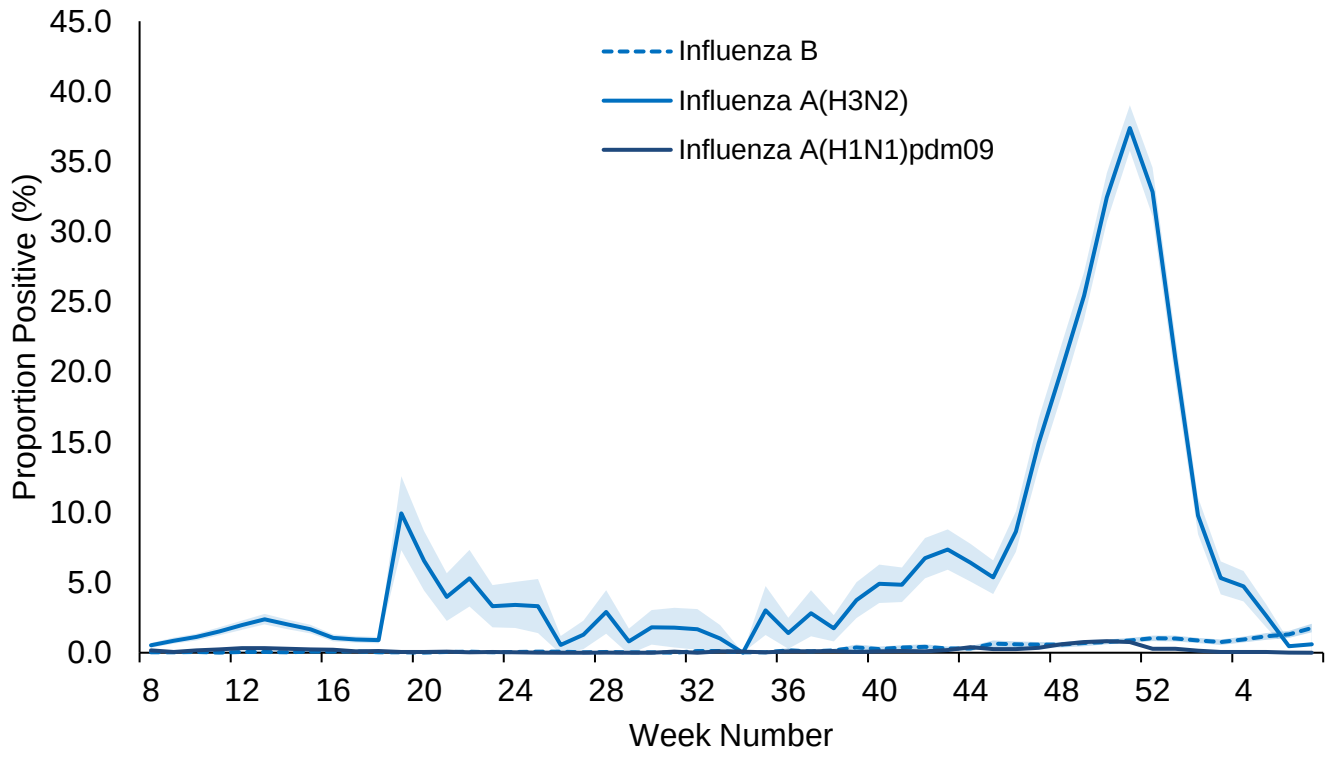


Figure 13: Respiratory DataMart weekly positivity (%) for influenza by age, England

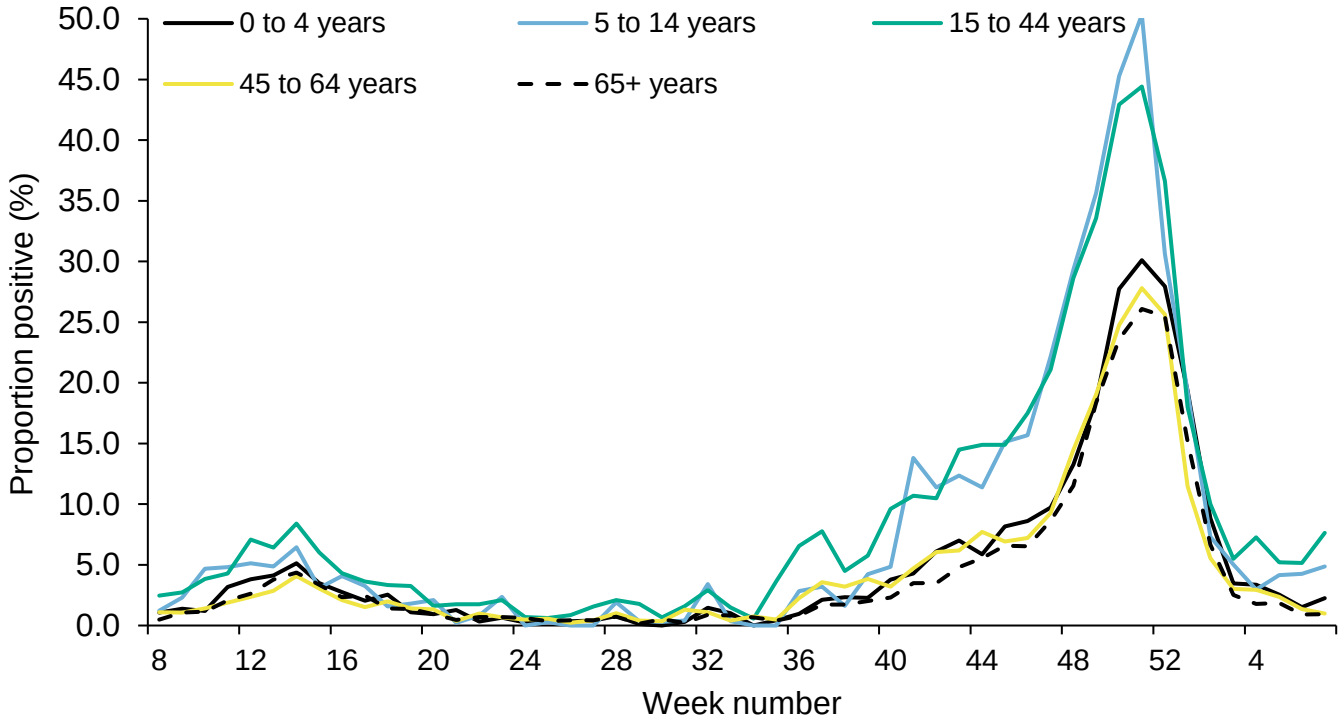


Figure 14: Respiratory DataMart weekly positivity (%) for adenovirus, England

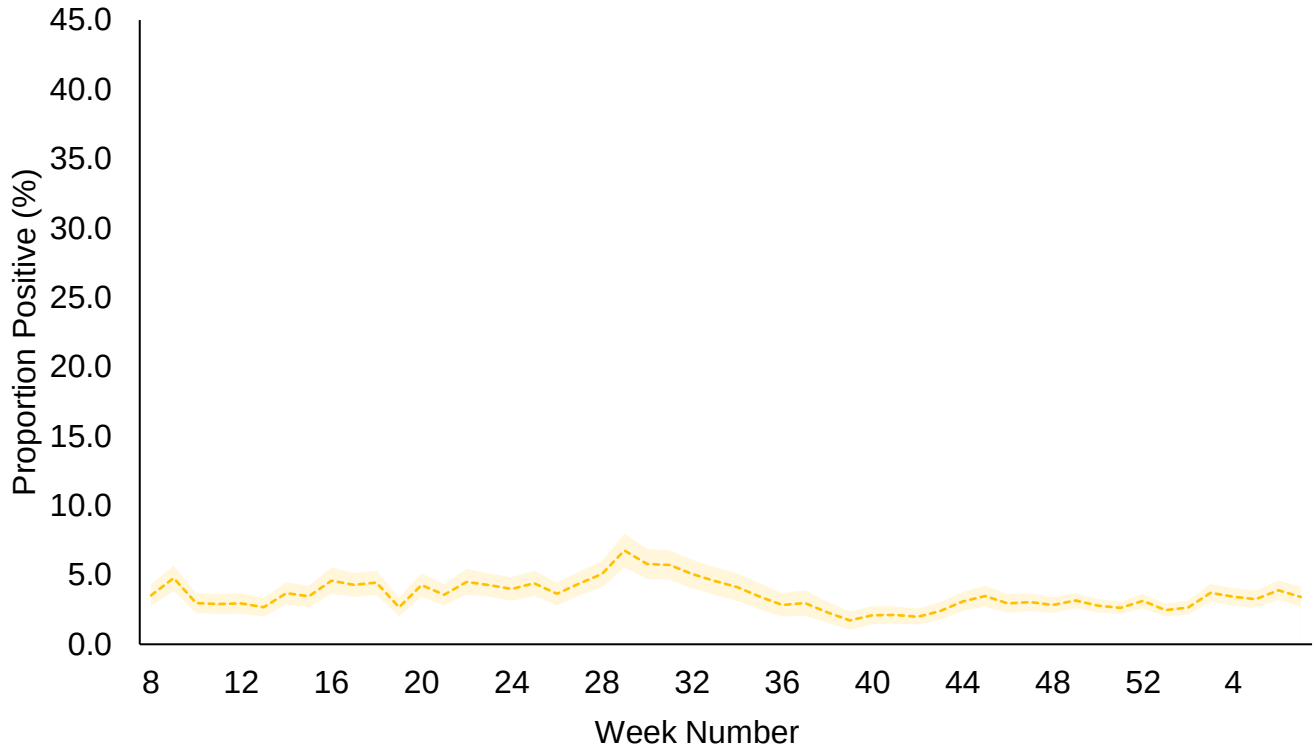


Figure 15: Respiratory DataMart weekly positivity (%) for adenovirus by age, England

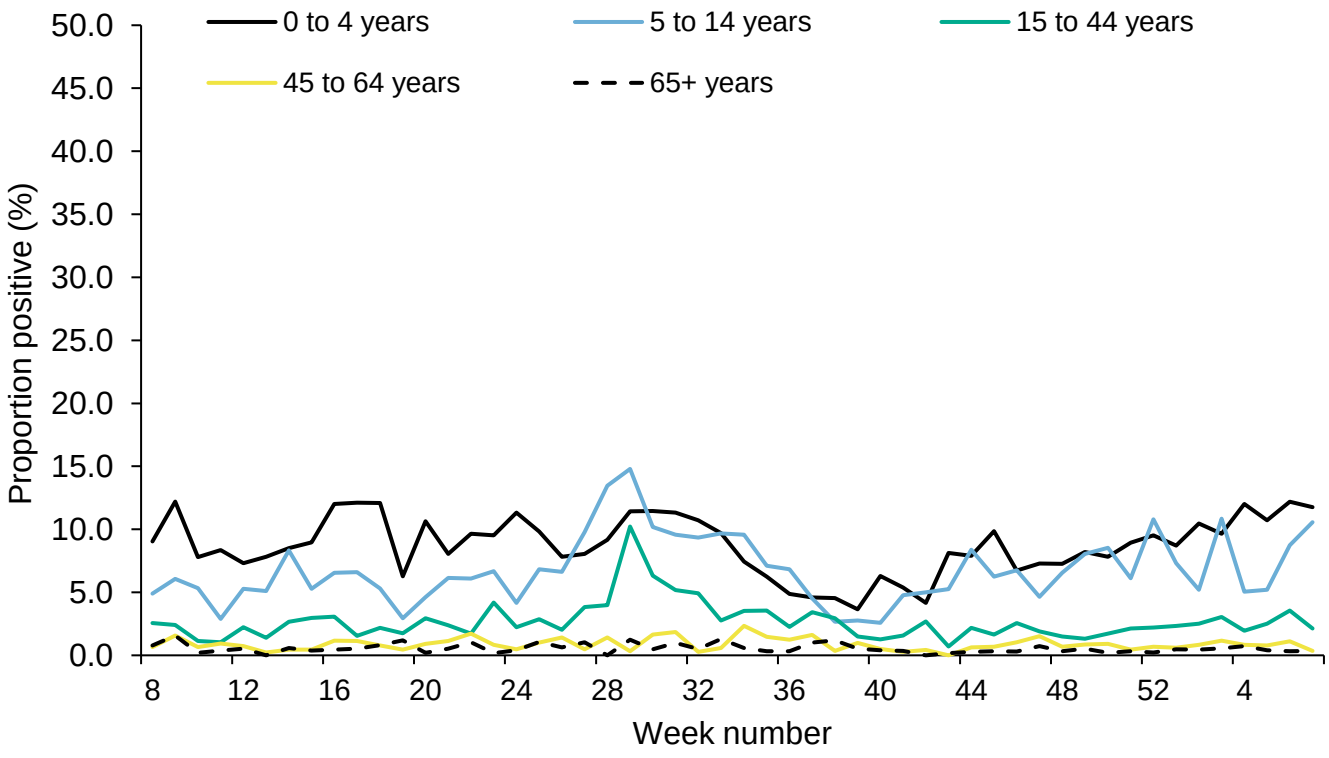


Figure 16: Respiratory DataMart weekly positivity (%) for hMPV, England

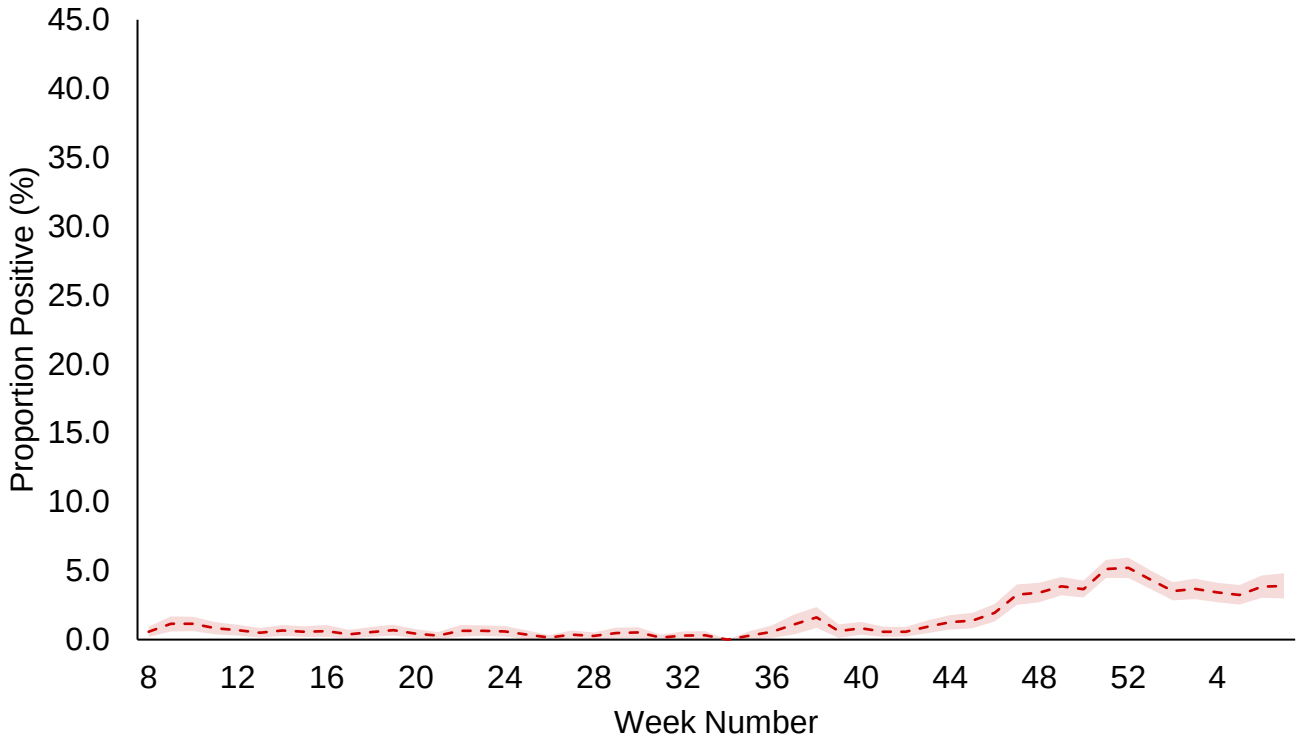


Figure 17: Respiratory DataMart weekly positivity (%) for hMPV by age, England

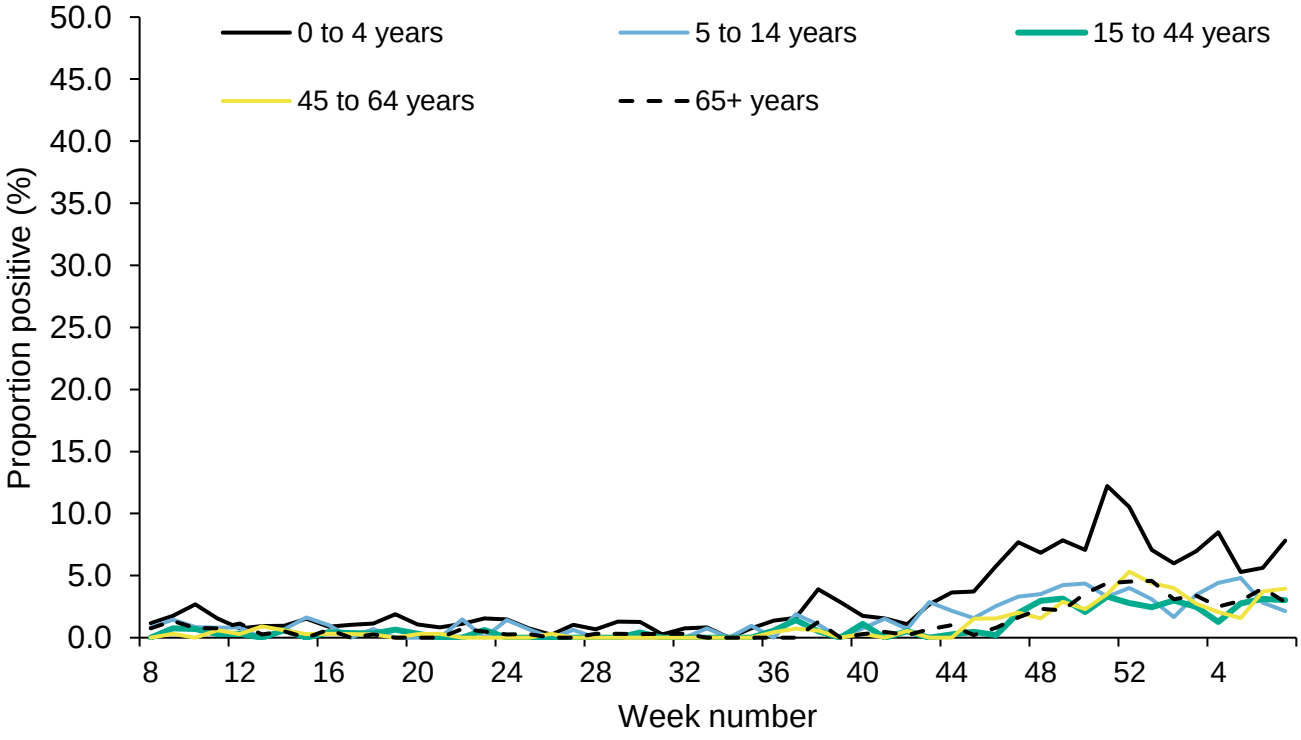


Figure 18: Respiratory DataMart weekly positivity (%) for parainfluenza, England

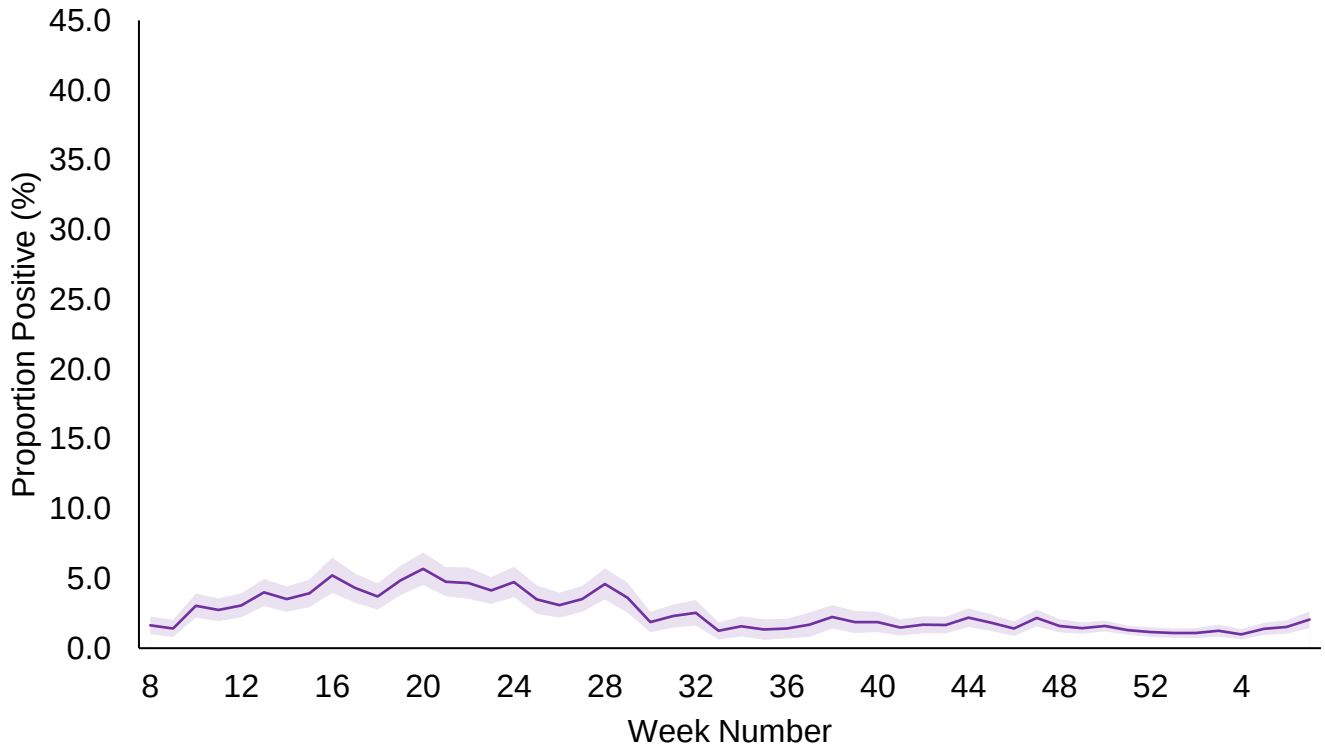


Figure 19: Respiratory DataMart weekly positivity (%) for parainfluenza by age, England

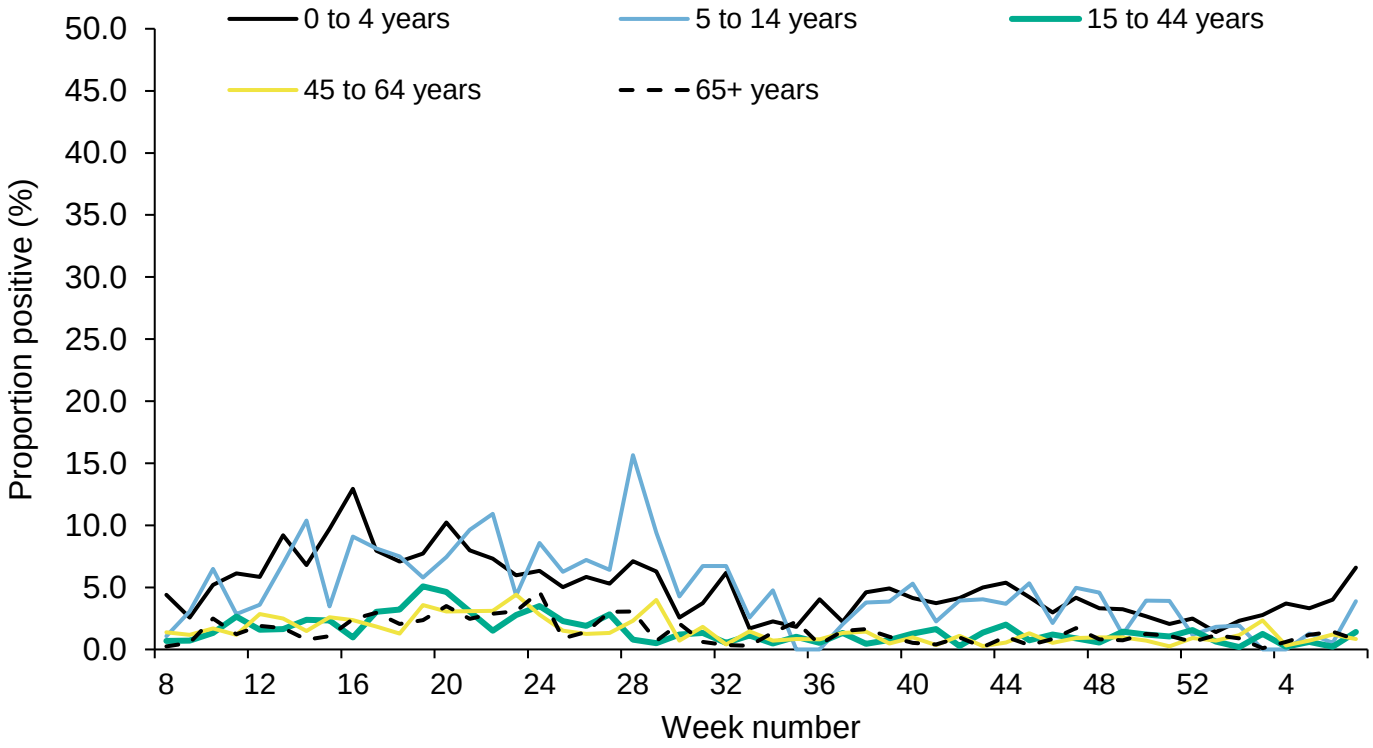


Figure 20: Respiratory DataMart weekly positivity (%) for rhinovirus, England

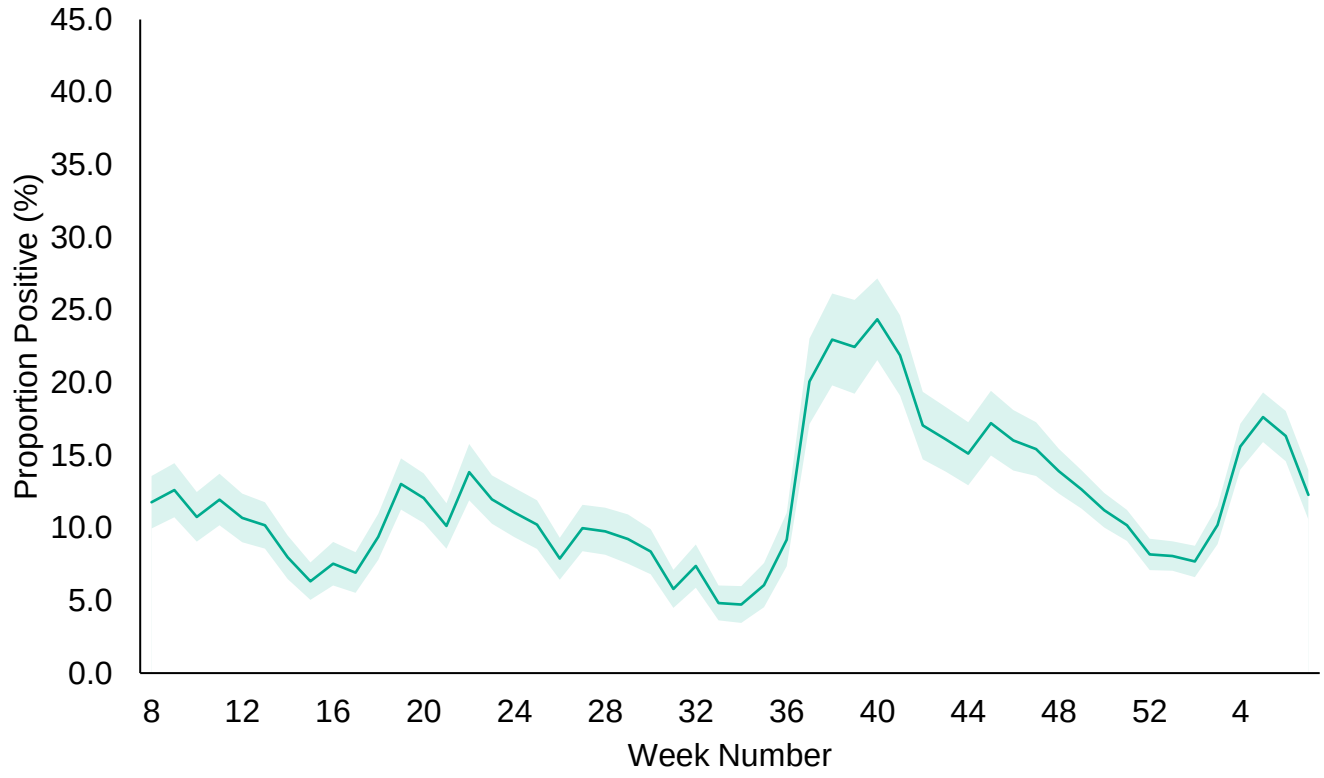


Figure 21: Respiratory DataMart weekly positivity (%) for rhinovirus by age, England

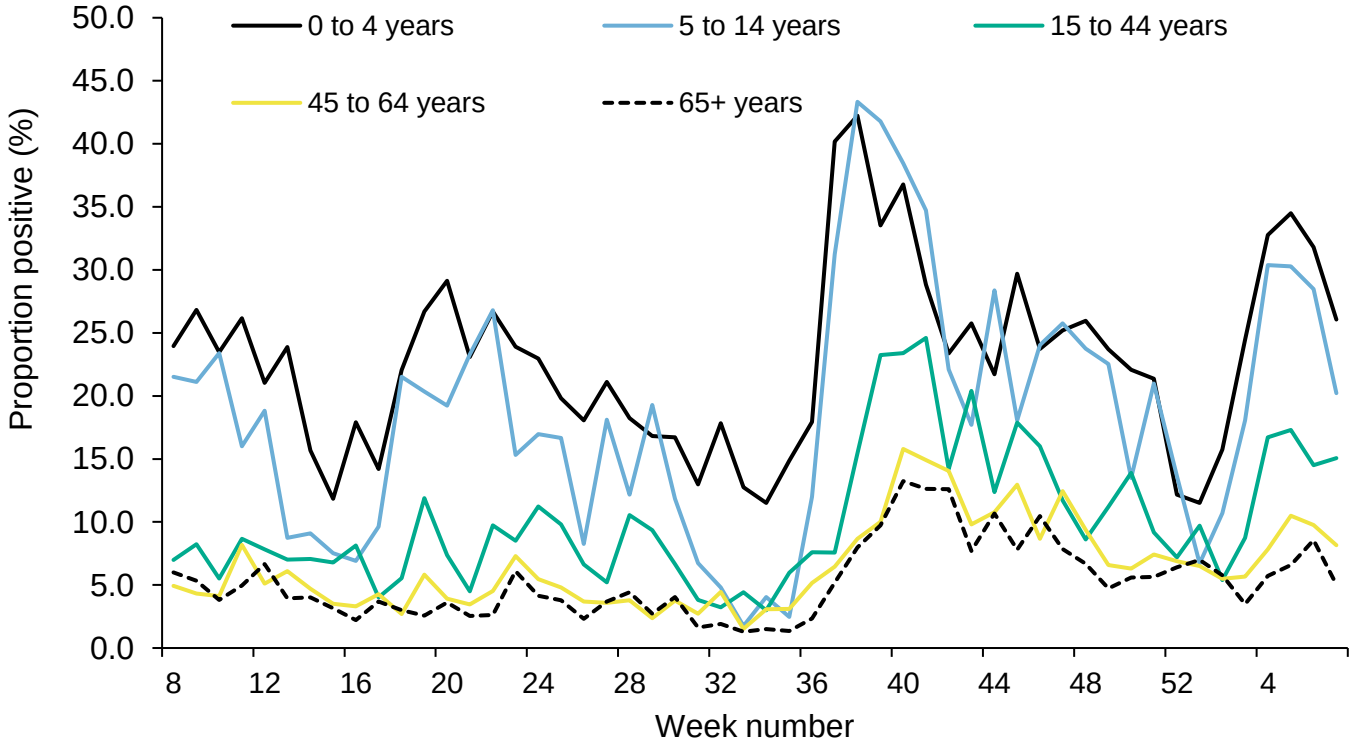


Figure 22: Respiratory DataMart weekly positivity (%) for RSV, England

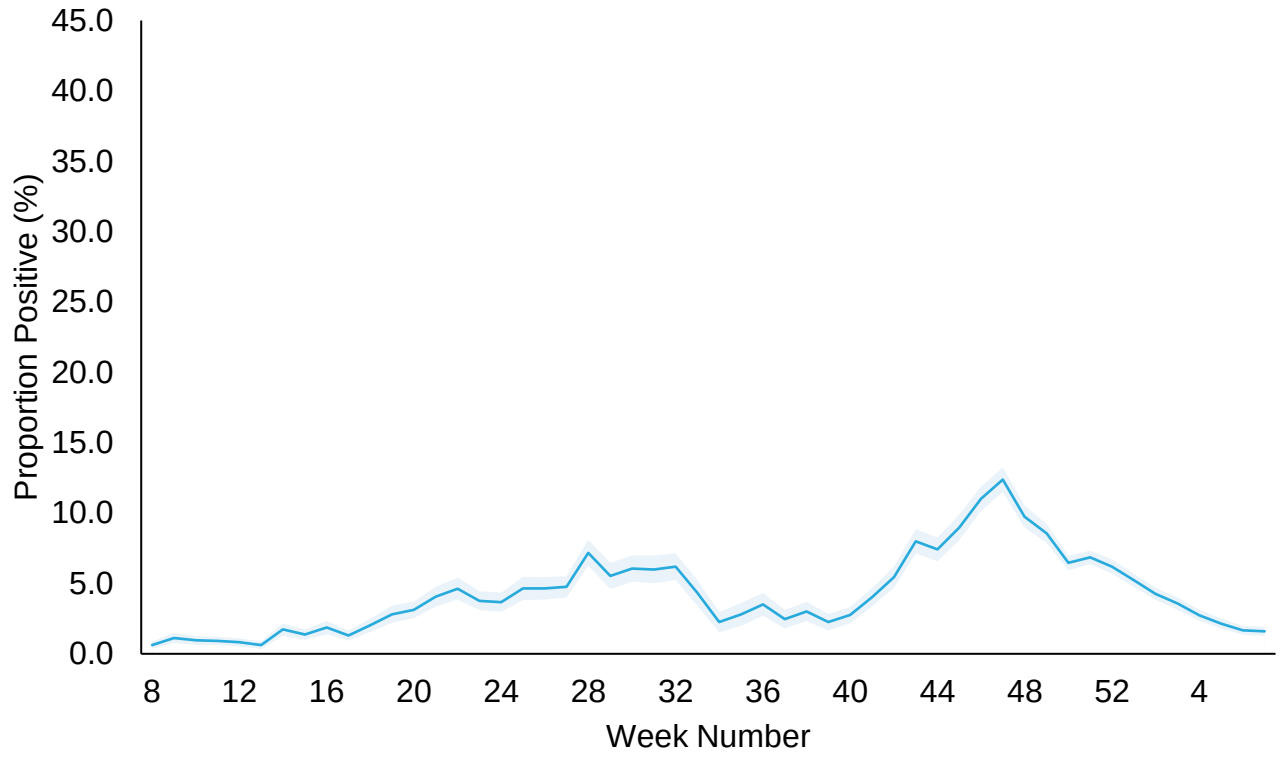
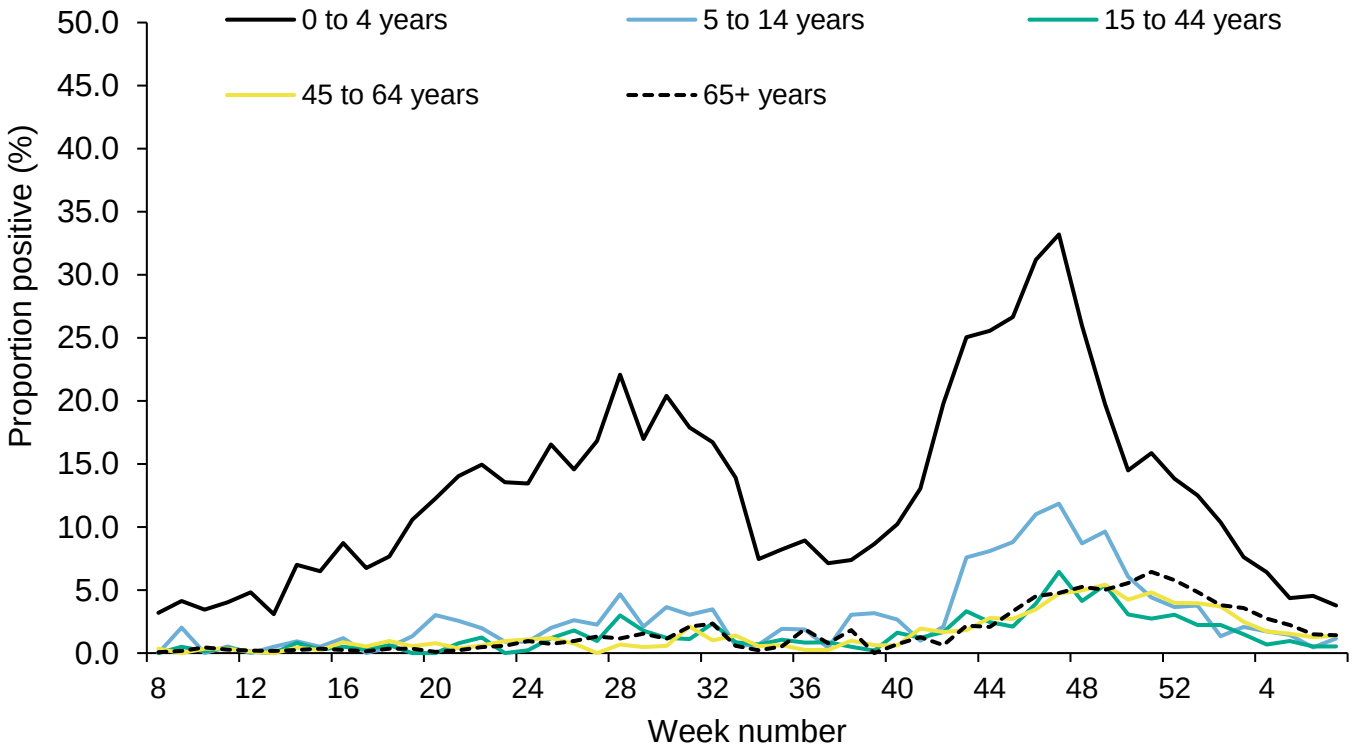


Figure 23: Respiratory DataMart weekly positivity (%) for RSV by age, England



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.

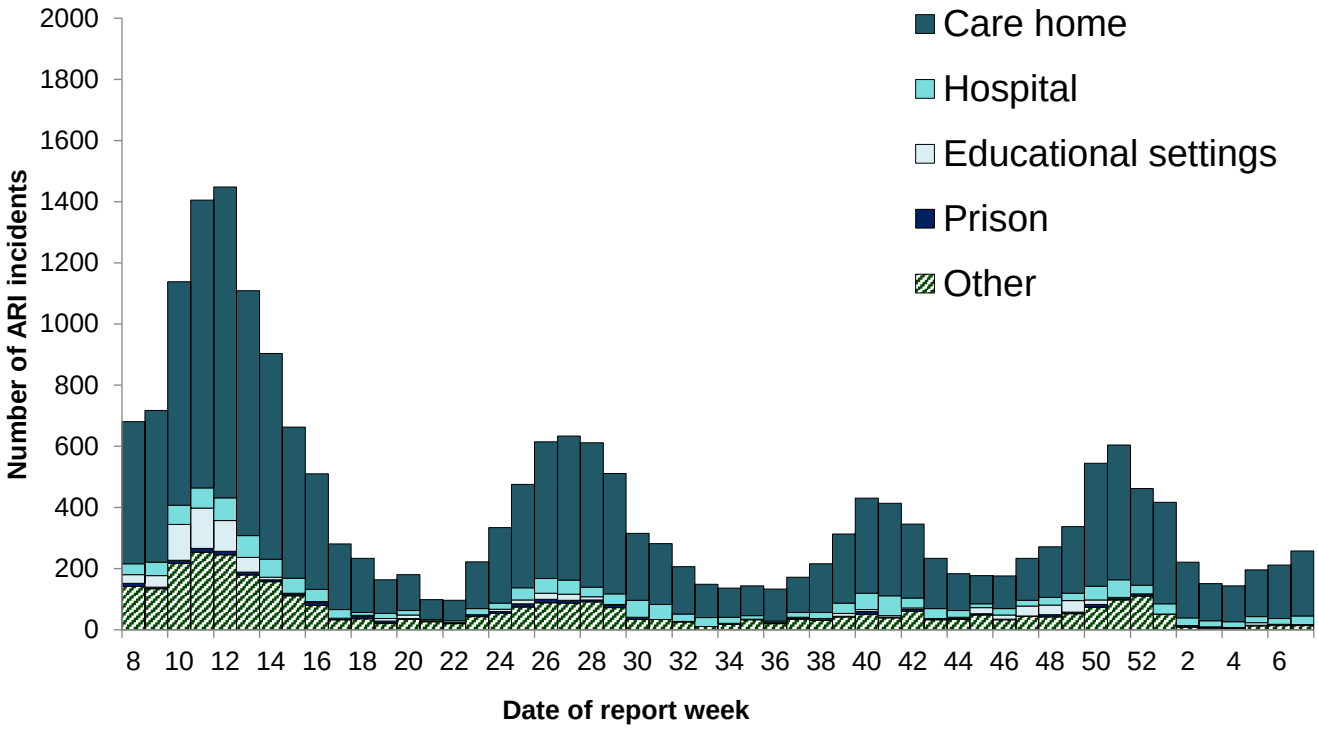
Data caveats:

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-CoV-2 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.

258 new ARI incidents have been reported in week 7 in the UK (Figure 24):

- 213 incidents were from care homes, where 133 had at least one linked case that tested positive for SARS-CoV-2 and 2 for influenza A(not subtyped)
- 28 incidents were from hospitals, where 14 had at least one linked case that tested positive for SARS-CoV-2
- 2 incidents were from prisons, where both had at least one linked case that tested positive for SARS-CoV-2
- 1 incident was from an educational setting, with no test result available
- 14 incidents were from other settings, where 4 had at least one linked case that tested positive for SARS-CoV-2

Figure 24: Number of acute respiratory infection (ARI) incidents by setting, UK



*Excludes data from Wales

Figure 25: Number of acute respiratory infection (ARI) incidents by setting, England

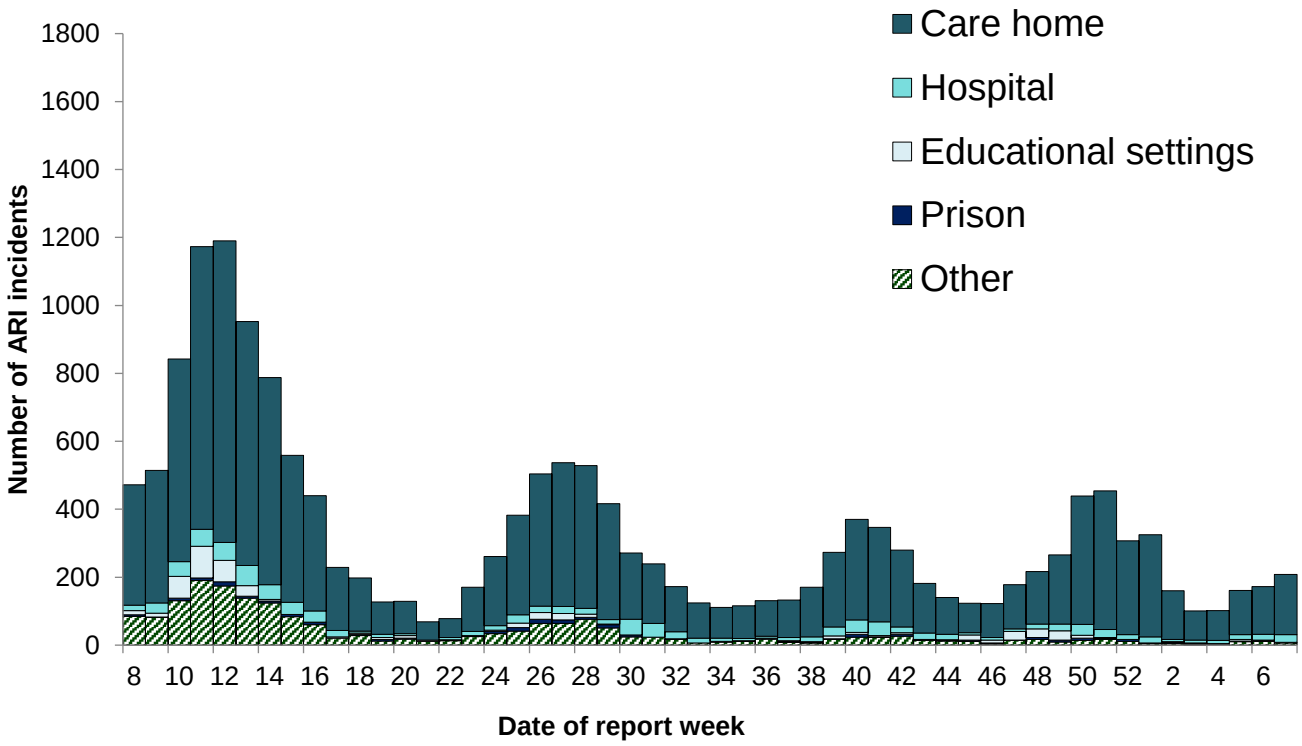


Figure 26: Number of acute respiratory infection (ARI) incidents in care homes by virus type, England

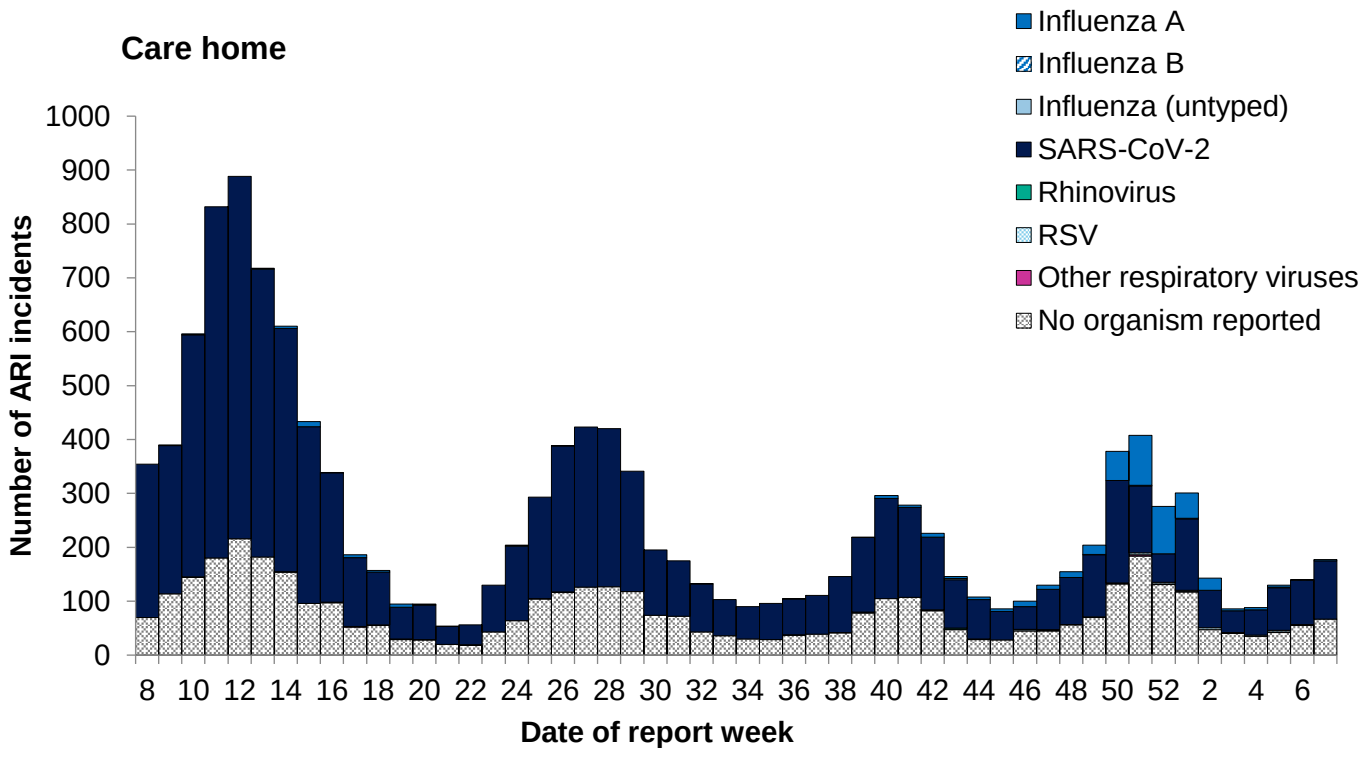


Figure 27: Number of acute respiratory infection (ARI) incidents in hospitals by virus type, England

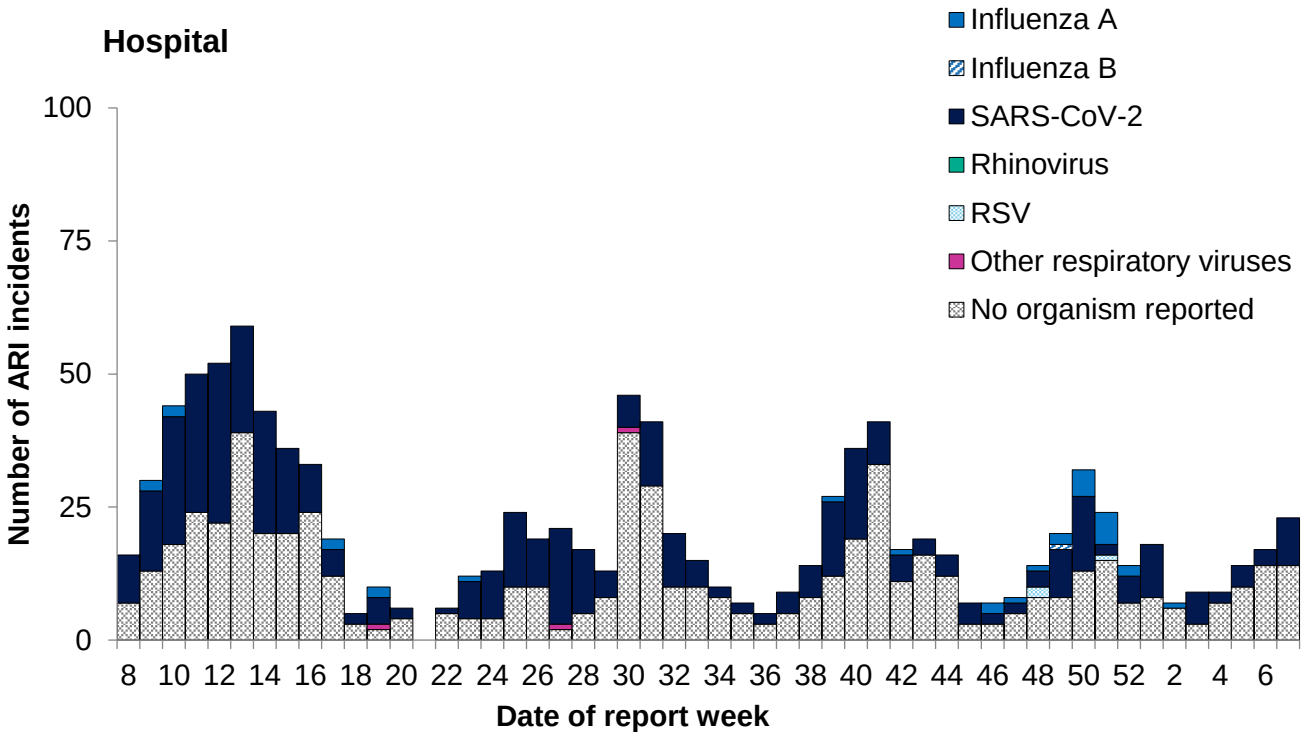
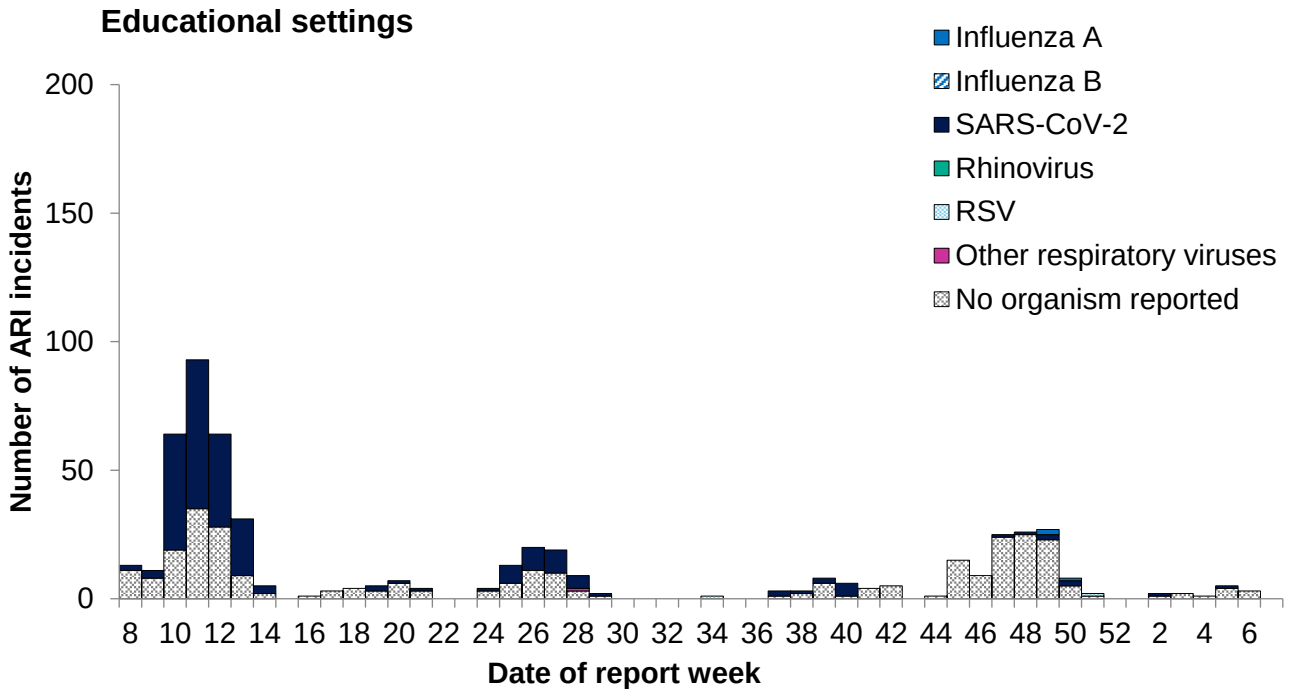


Figure 28: Number of acute respiratory infection (ARI) incidents in educational settings by virus type, England (a) for the weeks 8 2022 to 7 2023 and (b) for the 2022 to 23 academic year

(a)



(b)

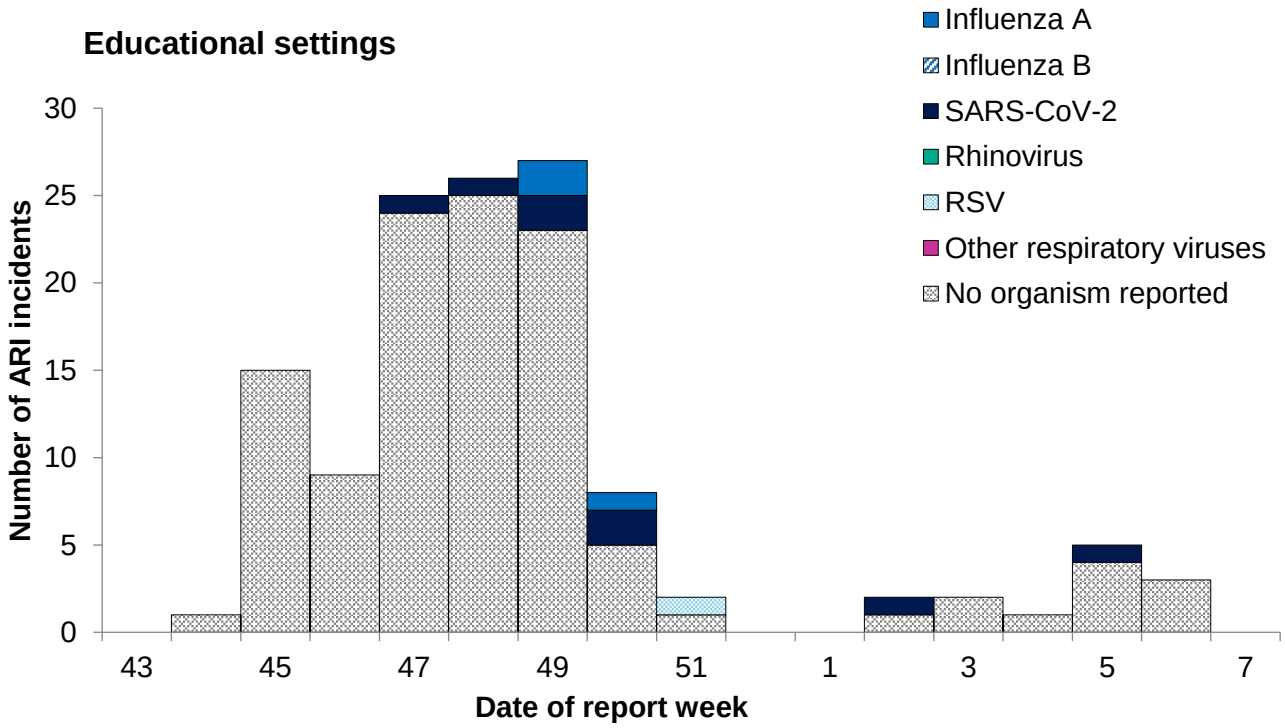


Figure 29: Number of acute respiratory infection (ARI) incidents in prisons by virus type, England

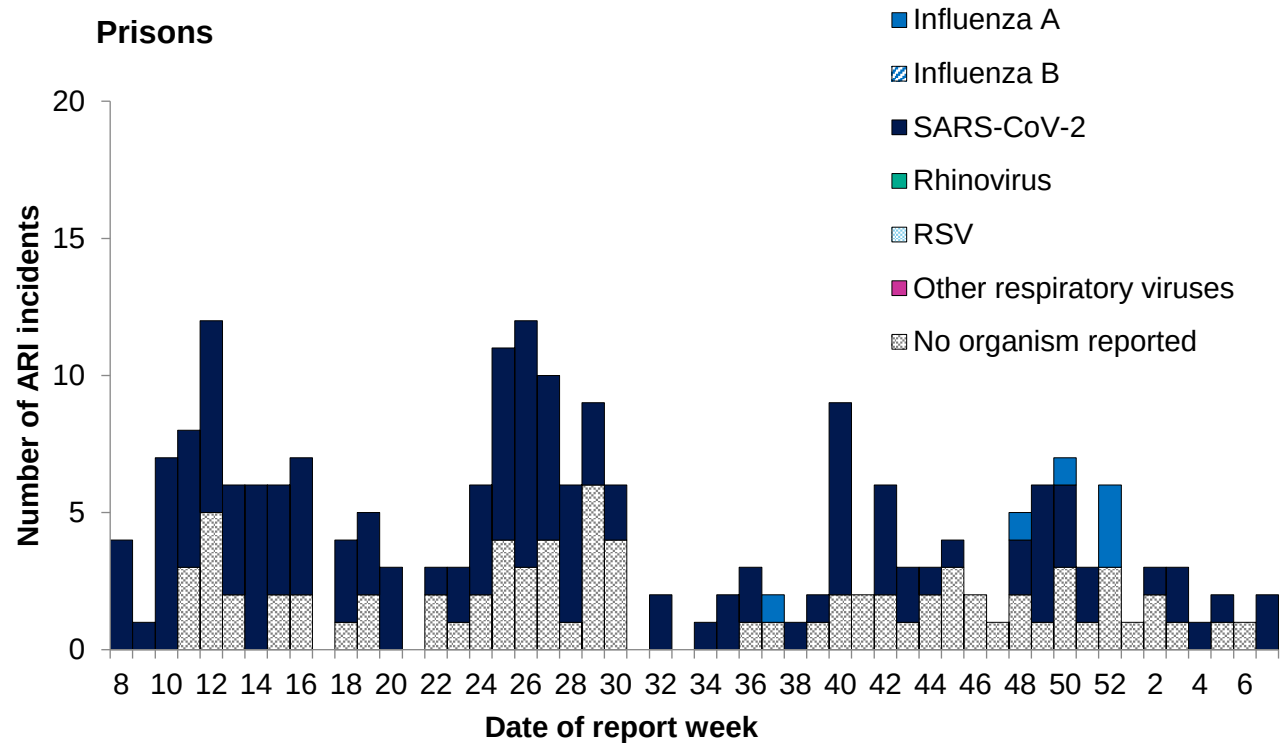


Figure 30: Number of acute respiratory infection (ARI) incidents in other settings by virus type from, England

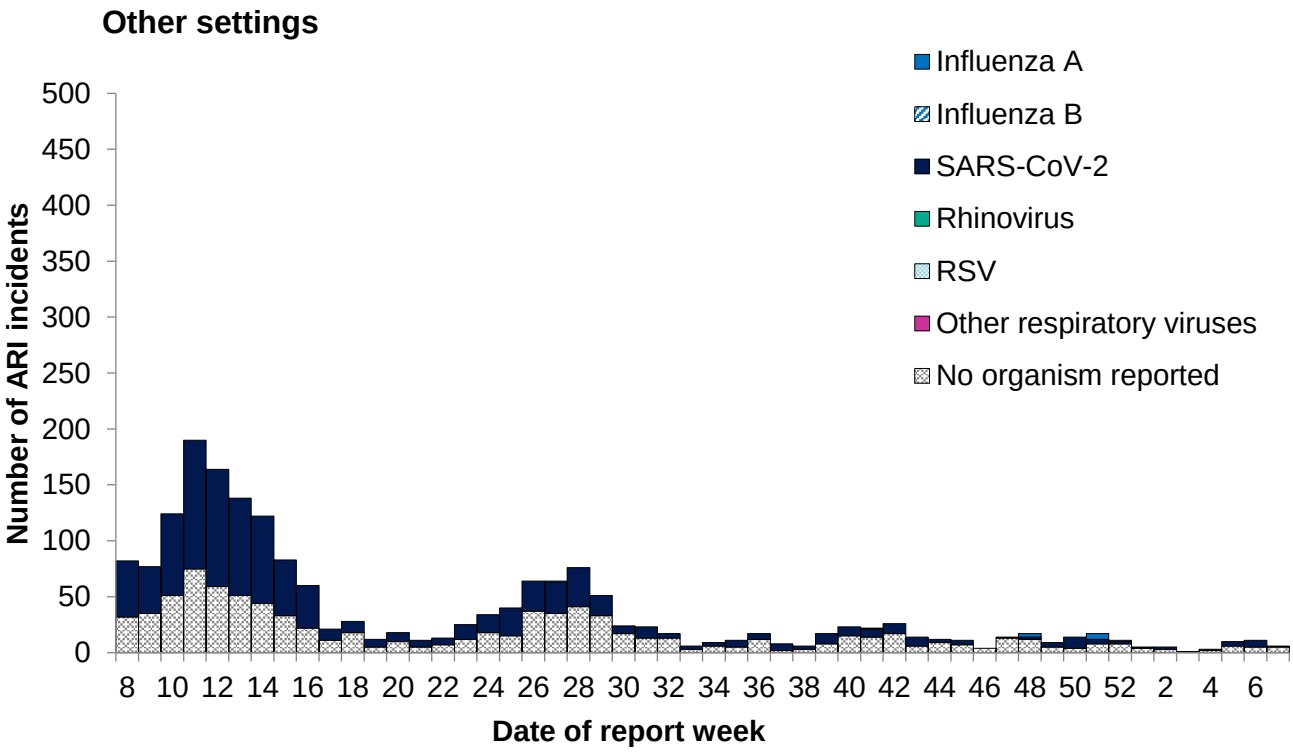


Table 1: Total number of situations and incidents by institution and UKHSA centres over the past 4 weeks with the total number in the last week in brackets

UKHSA Centres	Care home	Hospital	Educational settings	Prisons	Other settings	Total
East of England	32(9)	0(0)	0(0)	1(0)	2(0)	35(9)
East Midlands	13(1)	2(1)	0(0)	0(0)	0(0)	15(2)
London	79(37)	46(15)	5(0)	1(0)	11(1)	142(53)
North East	30(13)	0(0)	0(0)	0(0)	1(0)	31(13)
North West	21(4)	1(1)	0(0)	1(0)	3(0)	26(5)
South East	8(2)	0(0)	0(0)	1(1)	1(0)	10(3)
South West	250(78)	1(0)	0(0)	0(0)	6(2)	257(80)
West Midlands	39(10)	12(5)	3(0)	1(0)	1(0)	56(15)
Yorkshire and Humber	63(23)	1(1)	1(0)	1(1)	5(3)	71(28)
Grand Total	535(177)	63(23)	9(0)	6(2)	30(6)	643(208)

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 7, there were 2,056 participants completing the weekly symptoms questionnaire of which 192 (9.3%) reported fever or cough and 45 (2.2%) reported influenza like illness (ILI).

In participants completing the weekly symptoms survey both COVID-19 and ILI related symptoms decreased slightly compared to week 6.

Healthcare seeking behaviour amongst participants reporting respiratory symptoms relating to COVID-19 (cough, fever or loss of smell) showed that participants reporting symptoms were more likely to telephone their GP provider (Figure 31).

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 32).

Figure 31: FluSurvey participants self-reporting fever or cough and ILI symptoms, and trends in healthcare seeking behaviour among these participants, England

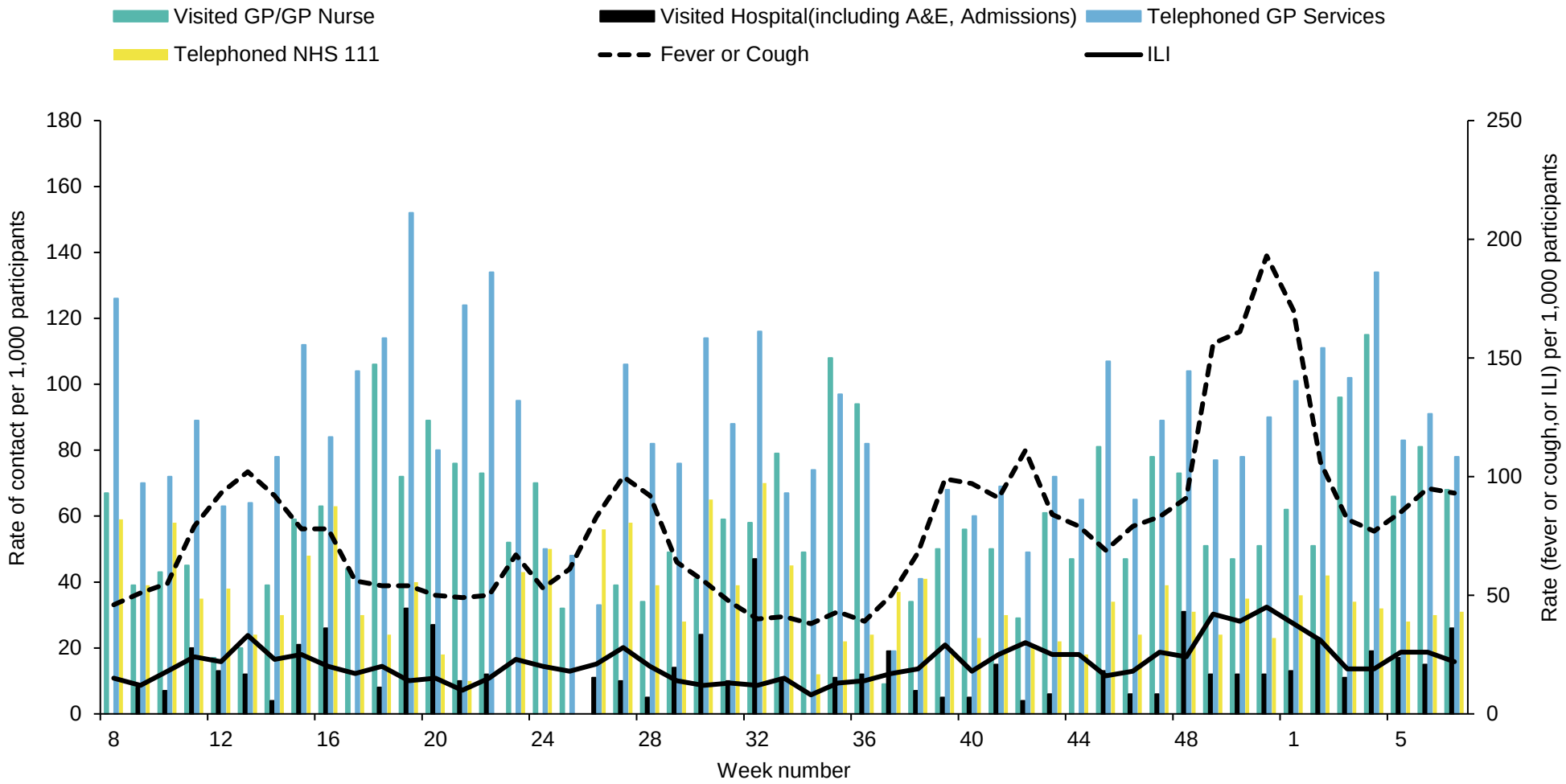
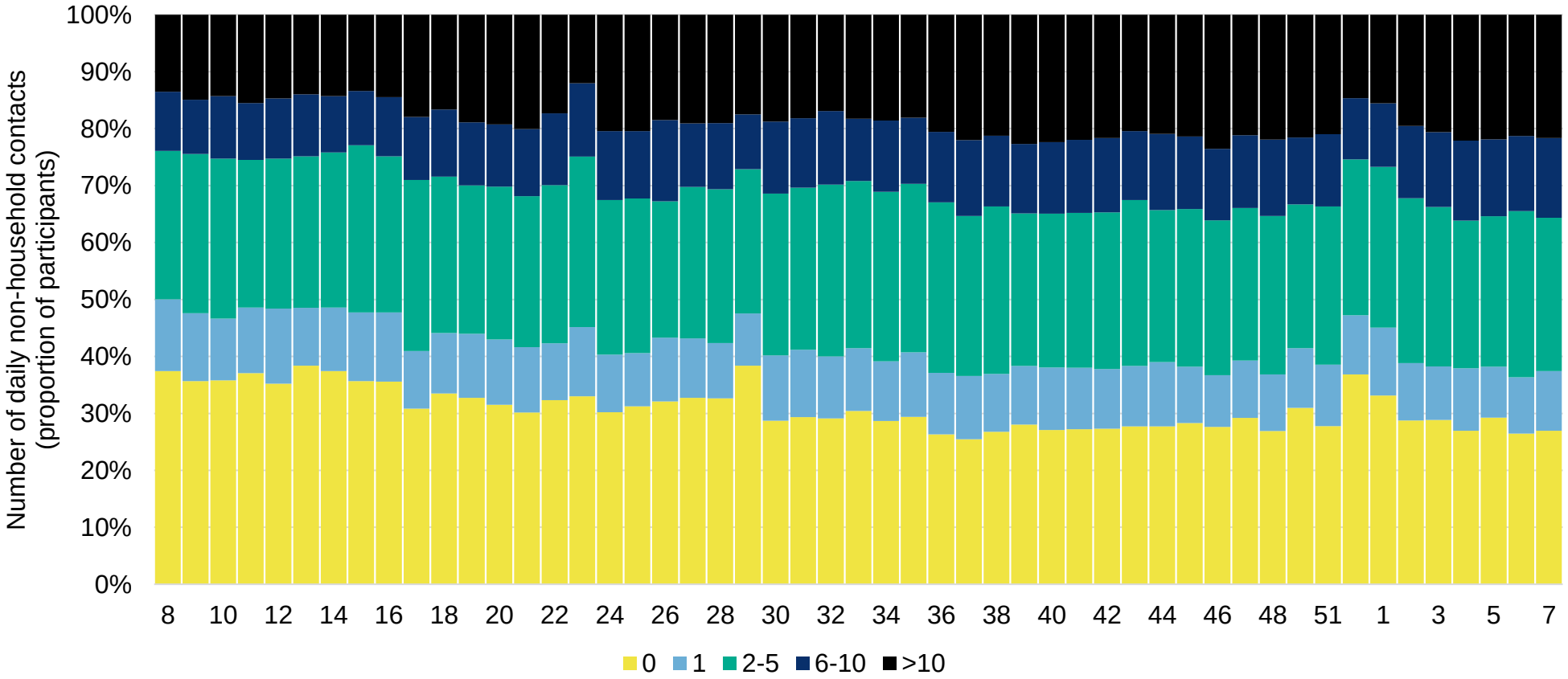


Figure 32: FluSurvey participants' self-reported number of social contacts outside the household

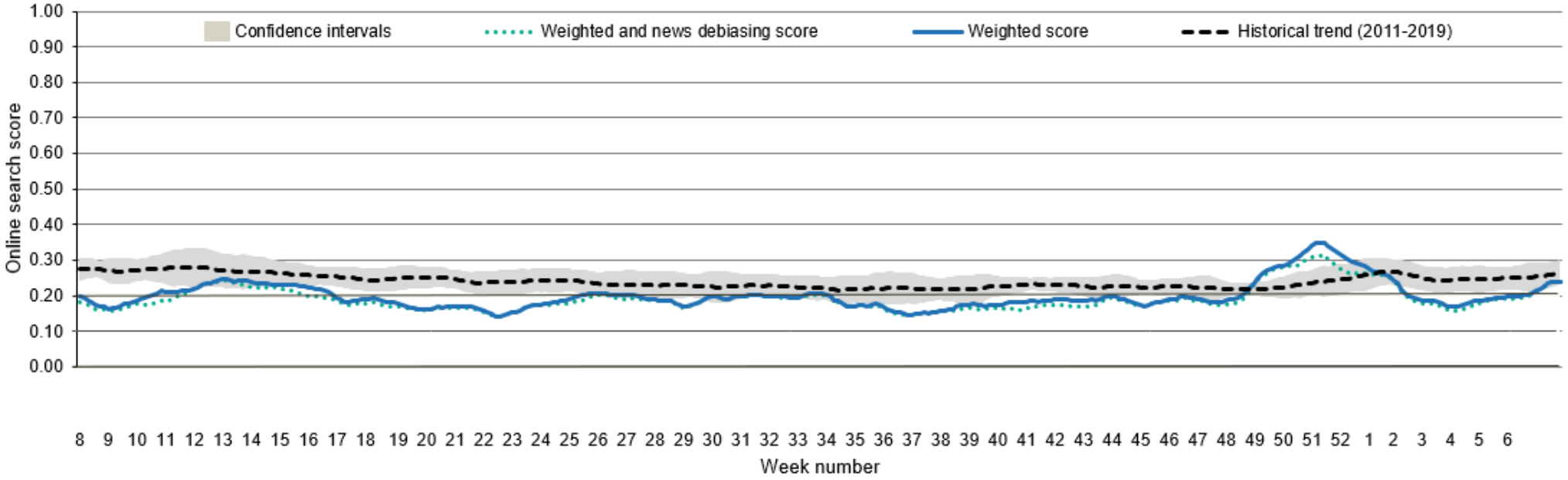


Google search queries

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 7, the overall and media-debiasing weighted Google search scores remained fairly stable compared to week 6 (Figure 27).

Figure 33: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England



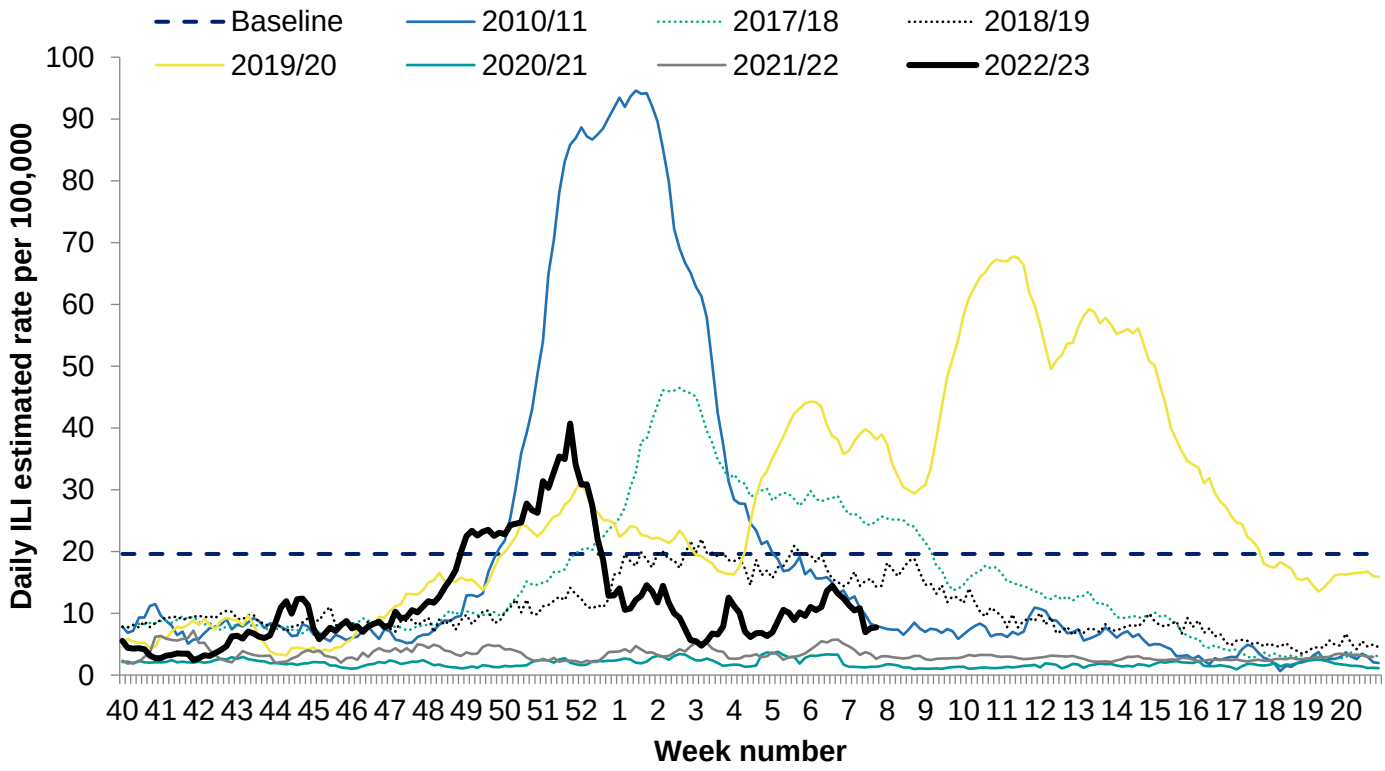
Flu Detector

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 7, the daily ILI rate decreased in week 7 compared to week 6 and remained below the baseline threshold of 19.6 per 100,000 for the 2022 to 2023 season (Figure 28).

Figure 34: Daily estimated ILI Google search query rates per 100,000 population, England



NHS 111

Please note that different syndromic surveillance indicators (NHS 111, GP in hours, GP out of hours and emergency department attendances) presented here have been included in previous versions of this report. All indicators 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.

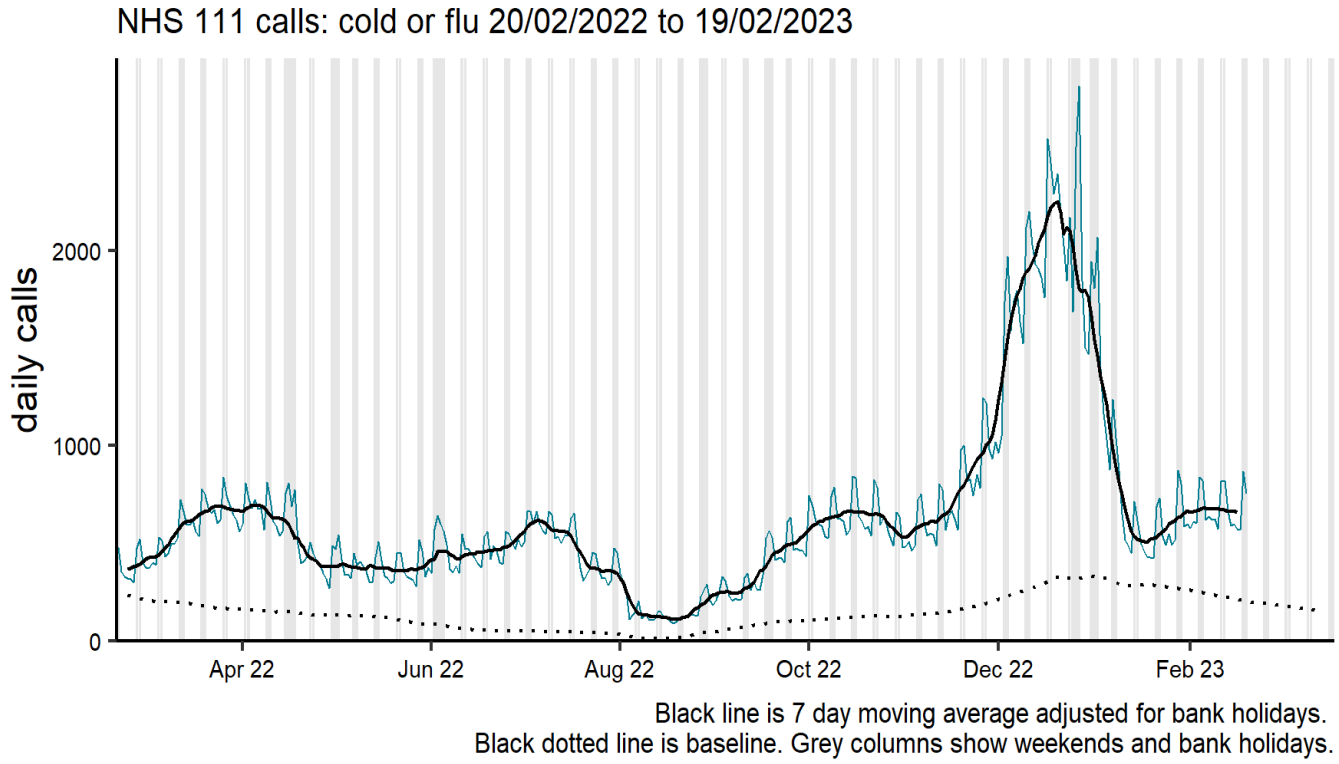
During week 7, NHS 111 calls for cold or flu increased nationally, particular in adults over 45 years old. NHS 111 calls for cough remained stable nationally (Figure 35 and 36).

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 35: 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)



(b)

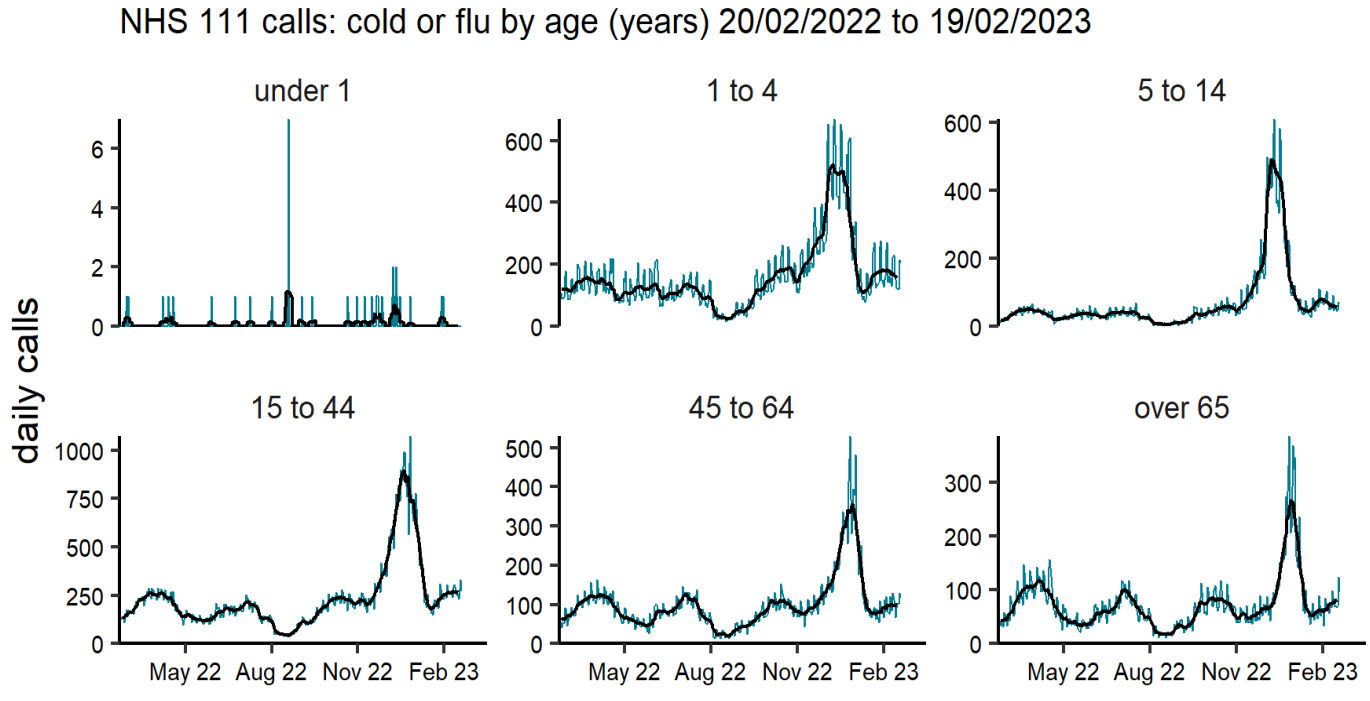
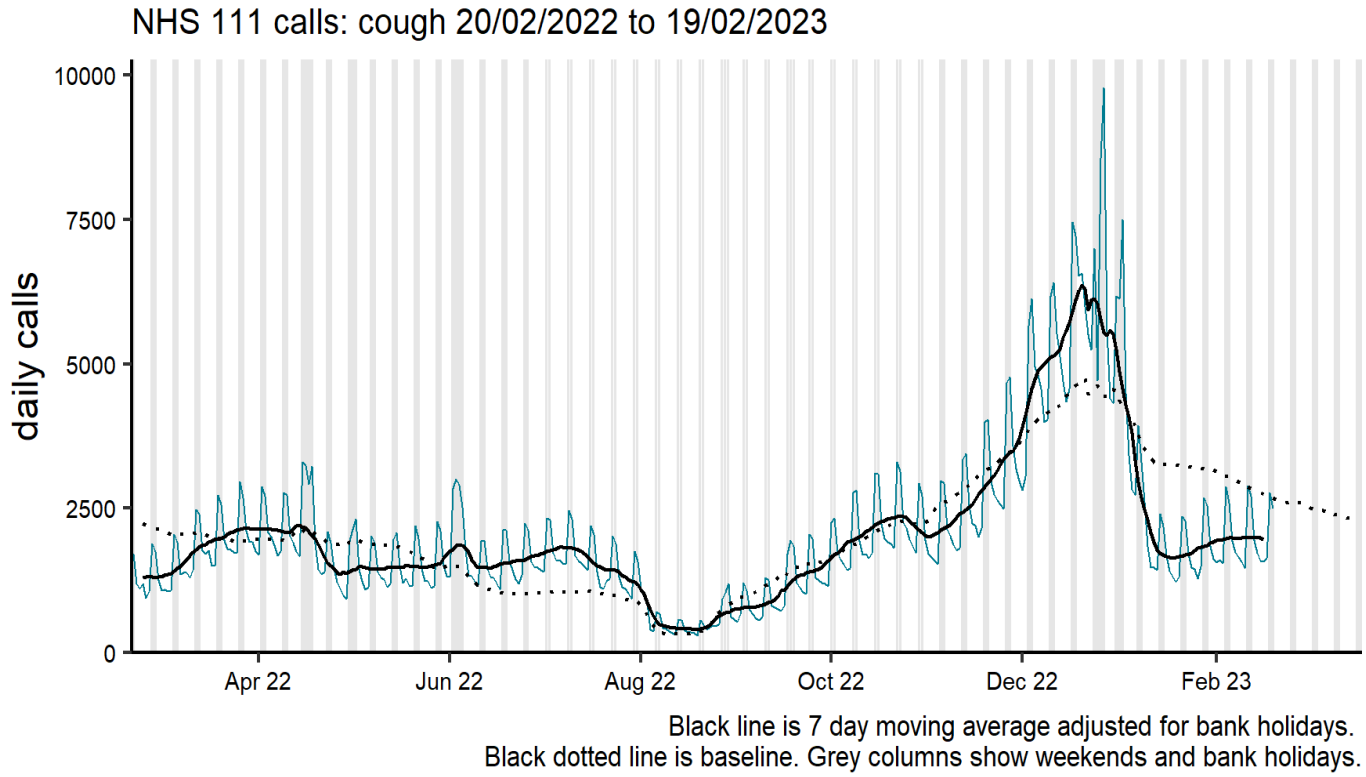
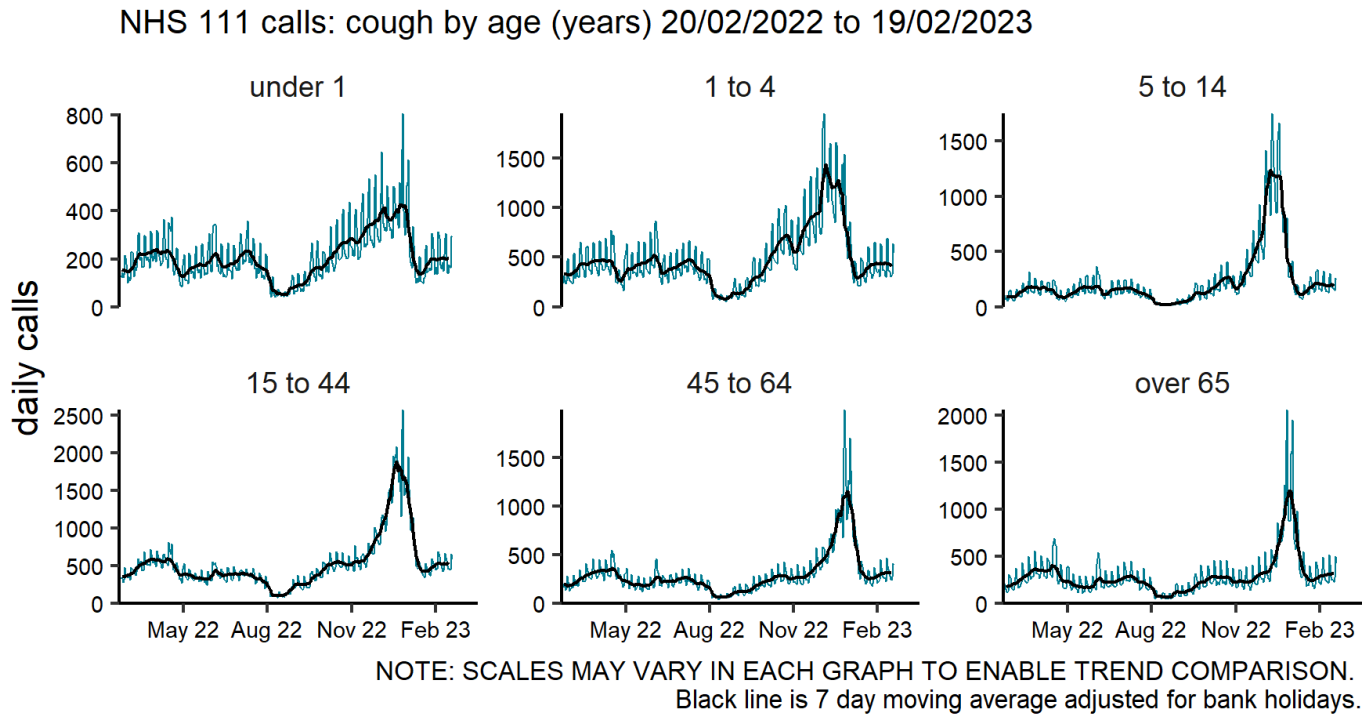


Figure 36: NHS 111 telephony indicators (and 7-day moving average) for number of daily cough calls, England (a) nationally and (b) by age group

(a)



(b)



Primary care surveillance

RCGP (England)

The weekly ILI consultation rate through the RCGP surveillance was 4.5 per 100,000 registered population in participating GP practices in week 7, compared to 5.3 per 100,000 in the previous week and remained within baseline activity levels (less than 11.47 per 100,000) (Figure 31). By age group, the highest rates were seen in 15 to 44 year olds (5.4 per 100,000), followed by the 45 to 64 year olds (4.7 per 100,000). The lower respiratory tract infections (LRTI) consultation rate remained stable at 70.3 per 100,000 in week 7 compared to 71.2 per 100,000 the previous week. The COVID-19 indicator rate increased to 35.2 per 100,000 in week 7 compared to 27.6 per 100,000 in the previous week (Figure 38).

Figure 37: RCGP influenza-like illness (ILI) consultation rates, all ages, England

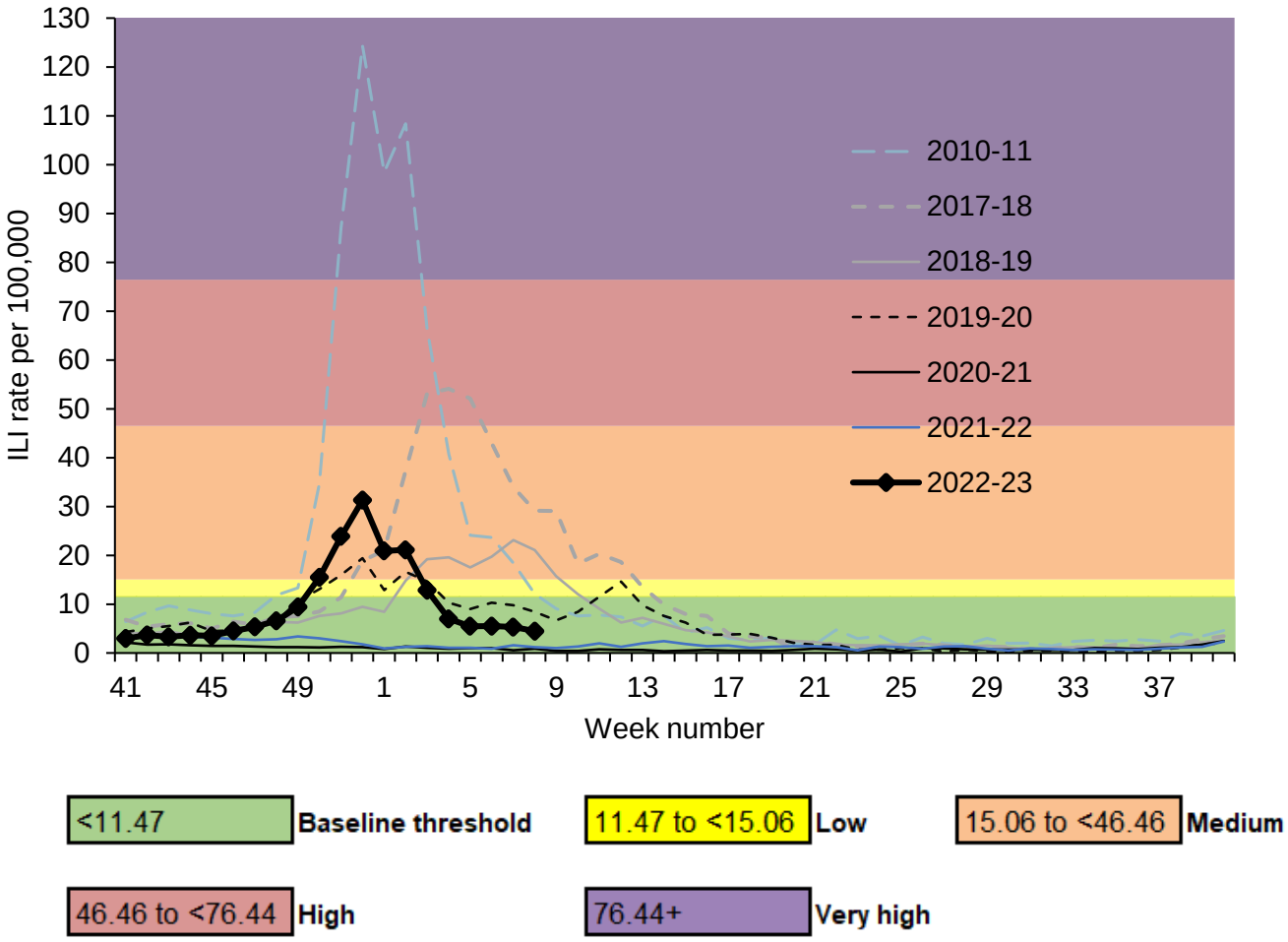
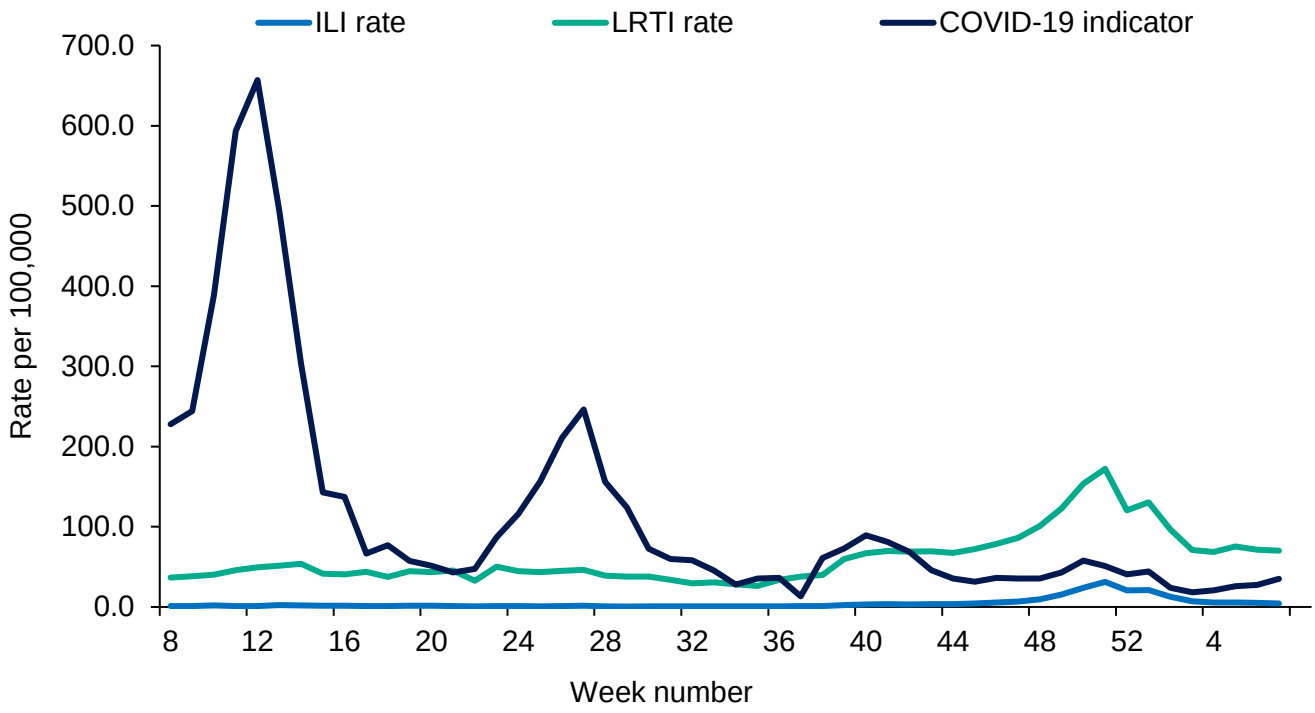


Figure 38: RCGP ILI, LRTI and COVID-19 indicator rates, England



UK

Overall, weekly ILI consultations remained at baseline activity levels in all devolved administrations.

By age group, the highest incidence was in adults aged 15 to 44 years old in England (5.4 per 100,000), in children under 1 year old in Scotland (9.5 per 100,000), in adults aged 15 to 44 years old in Northern Ireland (3.3 per 100,000) and in adults aged 65-74 in Wales (4.5 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	3	4	5	6	7
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	7.0	5.5	5.5	5.3	4.5
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	6.8	3.3	5.2	4.9	4.5
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	9.7	5.7	3.8	6.1	3.9
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	6.4	3.3	4.2	3.4	2.6

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.

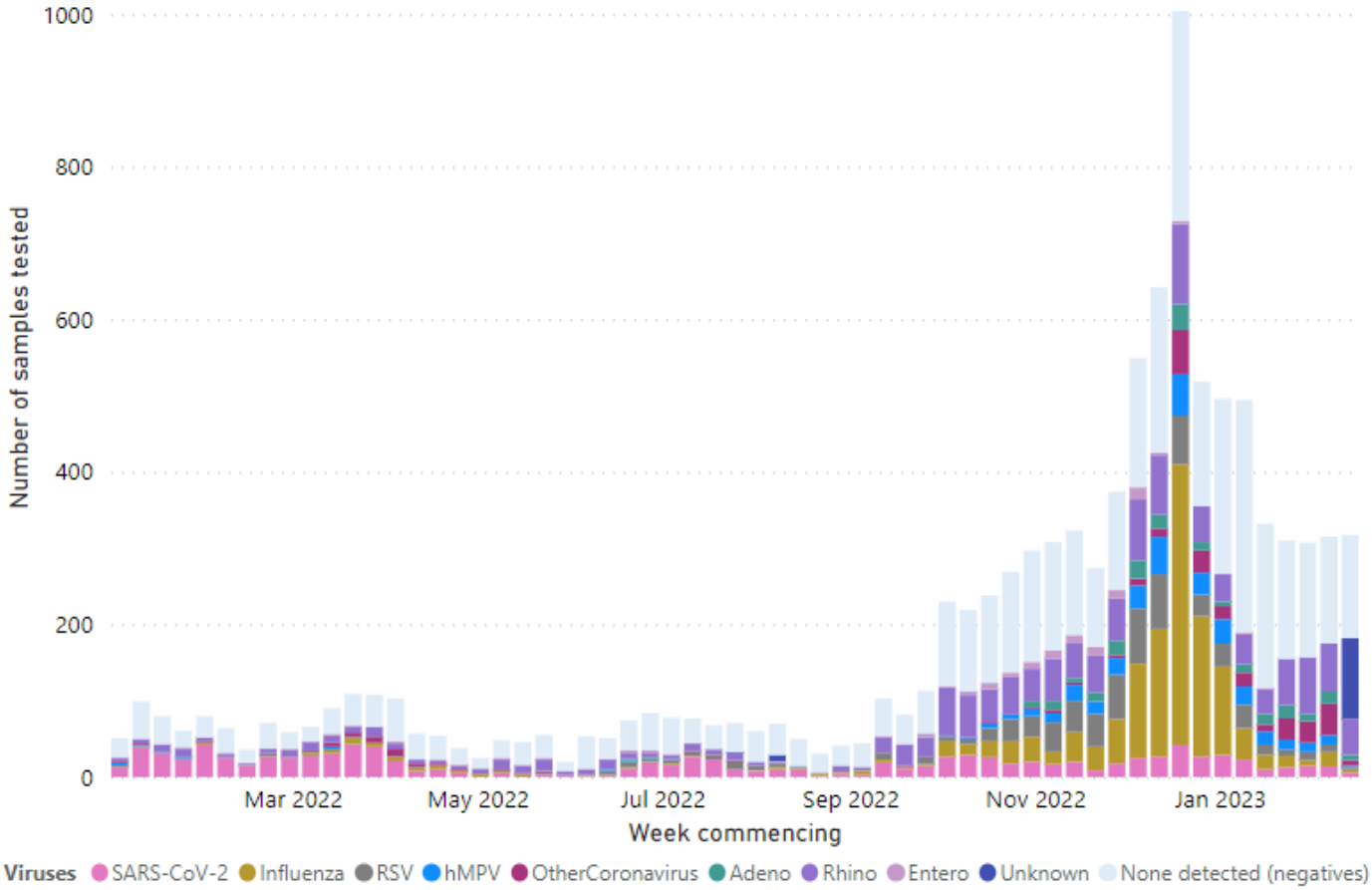
Sentinel swabbing scheme in England

Based on the date samples were received in the reference laboratory, in week 7 2023 (week commencing 13th February 2023) 312 samples were tested through the GP sentinel swabbing scheme in England, of which 76 samples tested positive (Figure 39). Among all positive samples, 61.8% were for rhinovirus, 9.2% for other coronavirus, 9.2% for adenovirus, 7.9% for SARS-CoV-2, 5.2% for influenza, 2.6% for hMPV, and 4.1% for RSV (Figure 40).

Based on the date samples were taken, samples numbers were too low this week to update Figure 41 and Figure 42. Data for the most recent week will be updated retrospectively. Positivity (%) was not calculated as the total number tested based on sample date was less than 20 (Figure 42).

Figure 39: Number of samples tested for SARS-Cov-2, influenza, and other respiratory viruses in England by week, GP sentinel swabbing

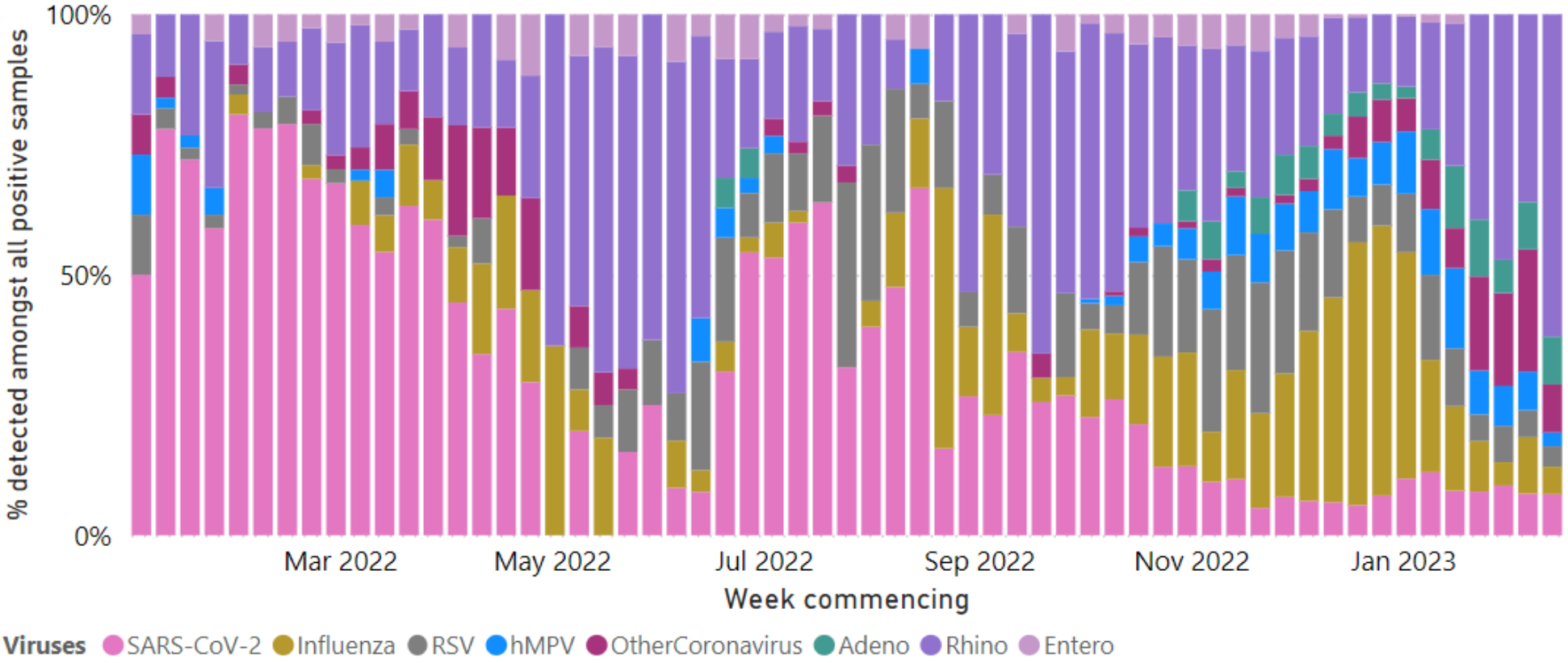
(a)



Unknown category corresponds to samples with no result yet.

Source: RCGP Research and Surveillance Centre sentinel primary care practices (RCGP Virology Dashboard)

Figure 40. Proportion of detections of SARS-CoV-2, influenza, and other respiratory viruses amongst virologically positive respiratory surveillance samples in England by week, GP sentinel swabbing scheme



Source: RCGP Research and Surveillance Centre sentinel primary care practices (RCGP Virology Dashboard)

Figure 41: Number of positives samples for influenza A and B in England by week, GP sentinel swabbing

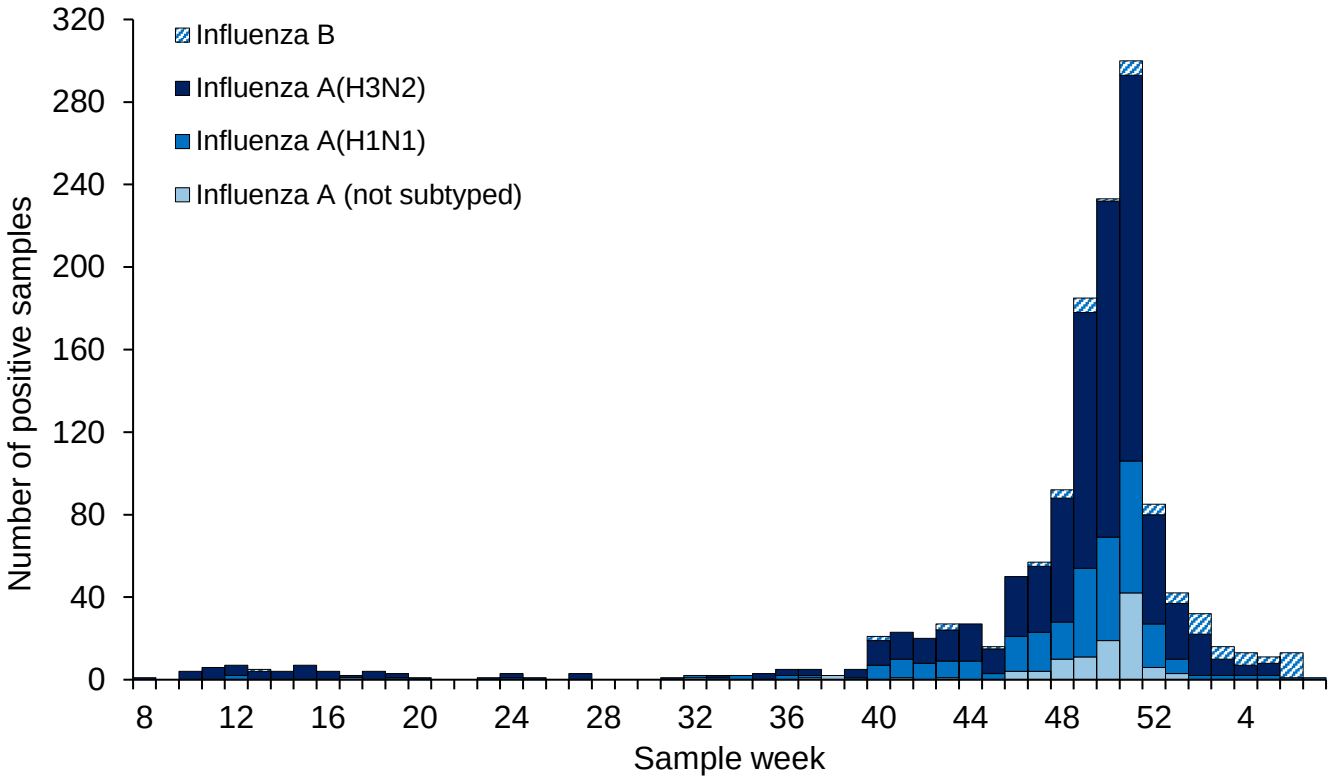
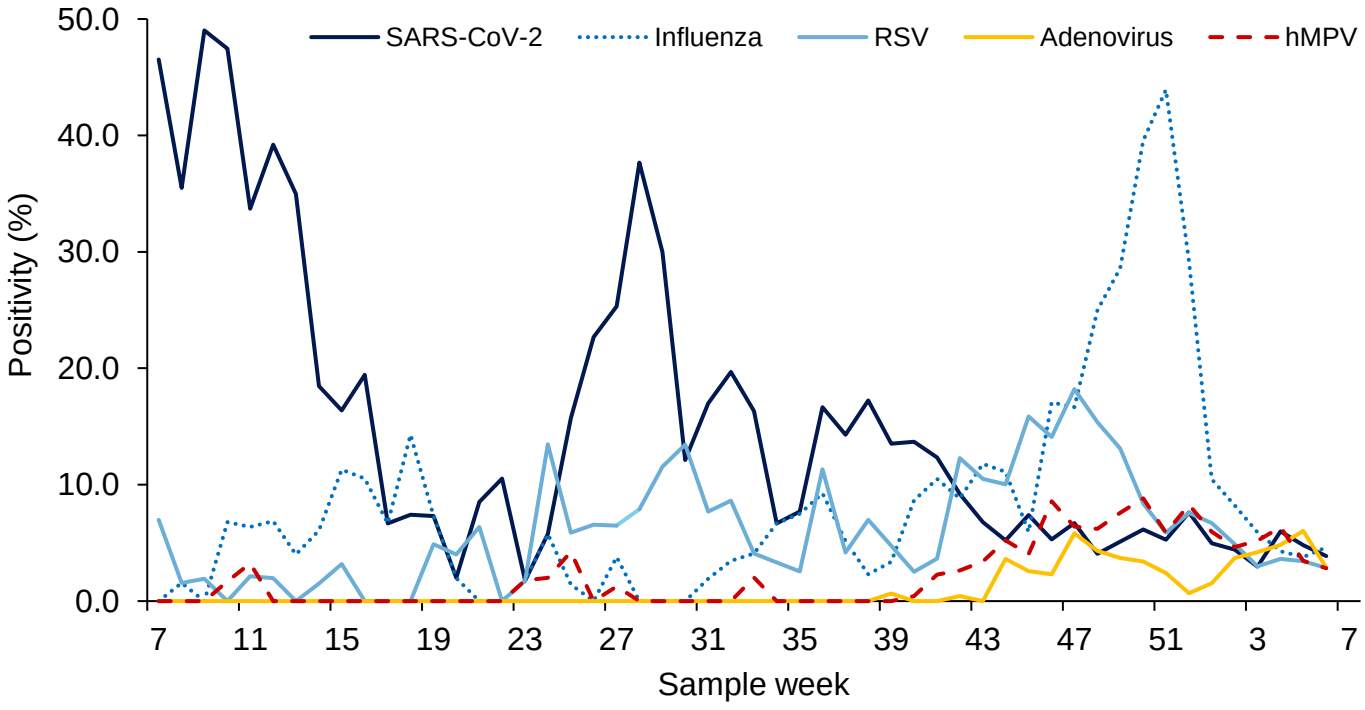


Figure 42: Weekly positivity (%) for COVID-19, Influenza and RSV, type in England by week, GP sentinel swabbing



GP In Hours, Syndromic Surveillance

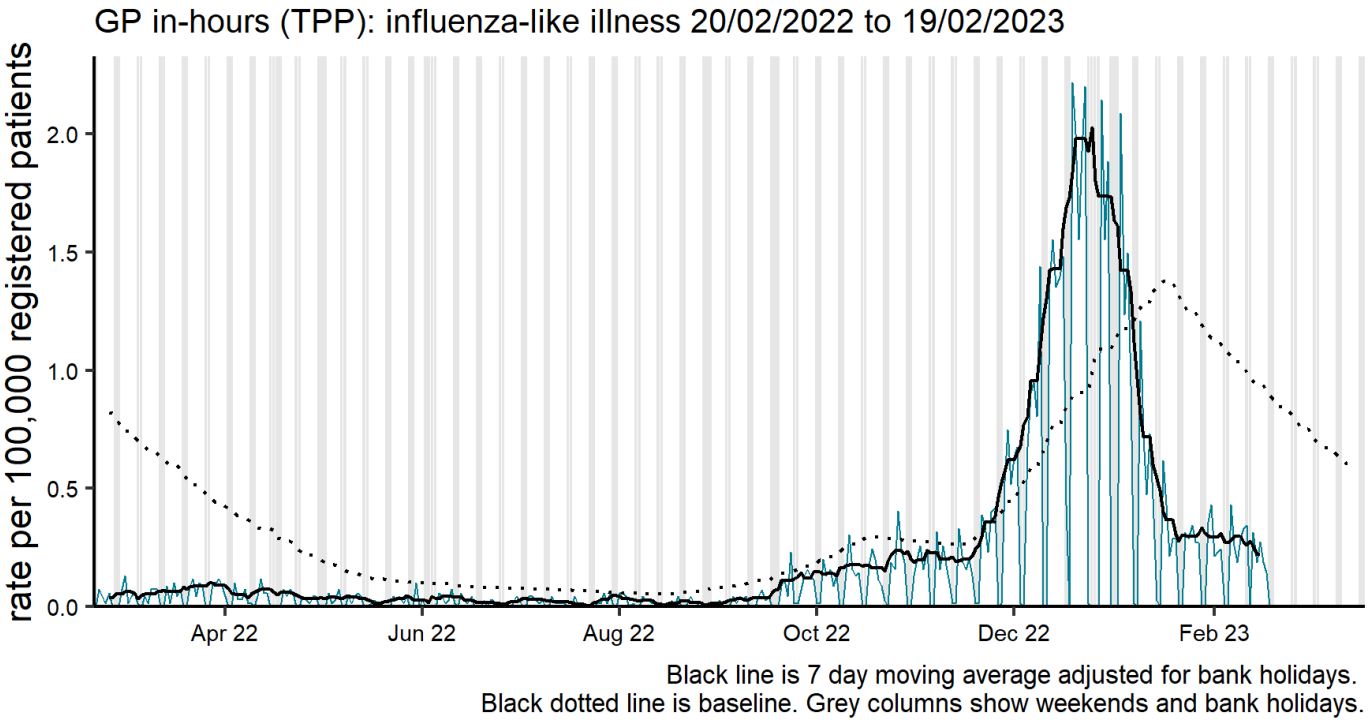
The GP In Hours (GPIH) syndromic surveillance system monitors the number of GP visits during regular hours of known clinical indicators.

During week 7, the rate of GP in hours consultations for influenza-like illness decreased nationally (Figure 37).

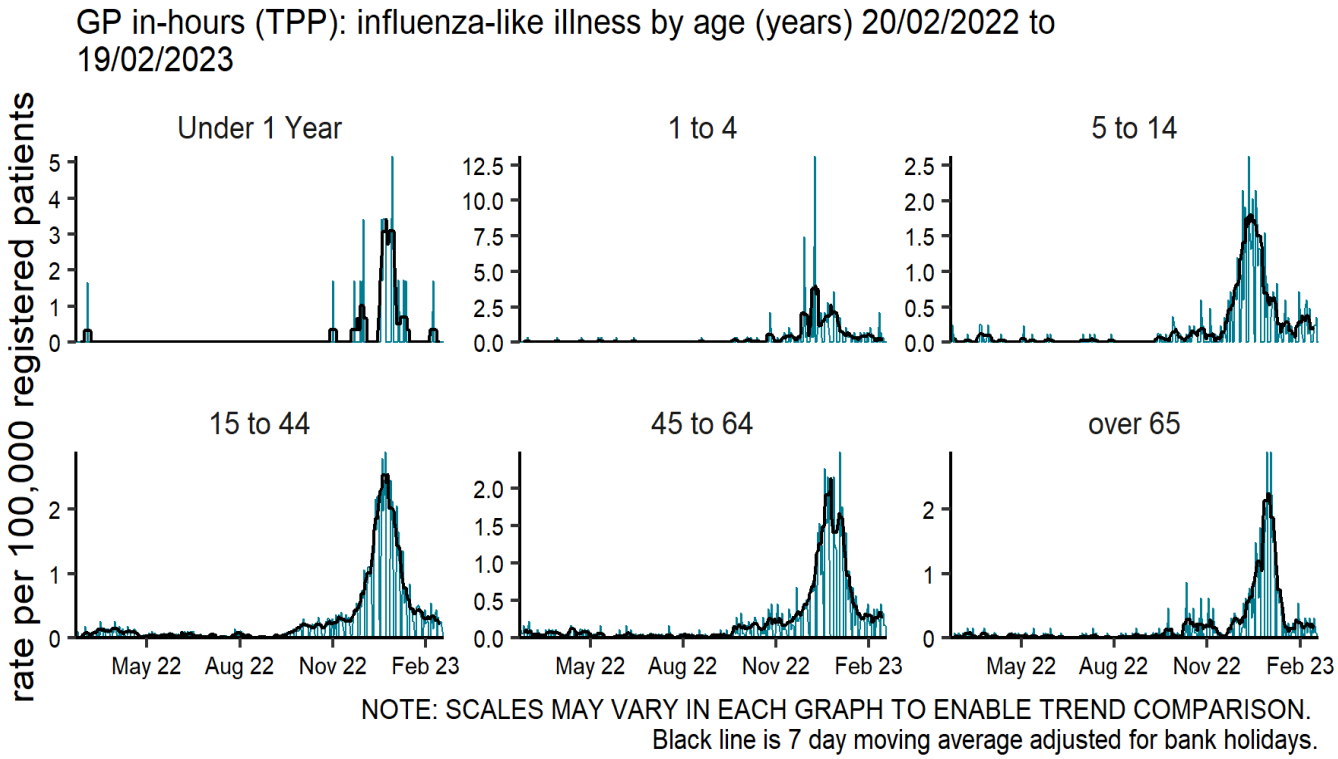
Further indicators and information about caveats are available from the GP In Hours Syndromic Surveillance bulletin.

Figure 43: GPIH clinical indicators for influenza-like illness GP consultations, England (a) nationally, (b) by age group and (c) by UKHSA centre

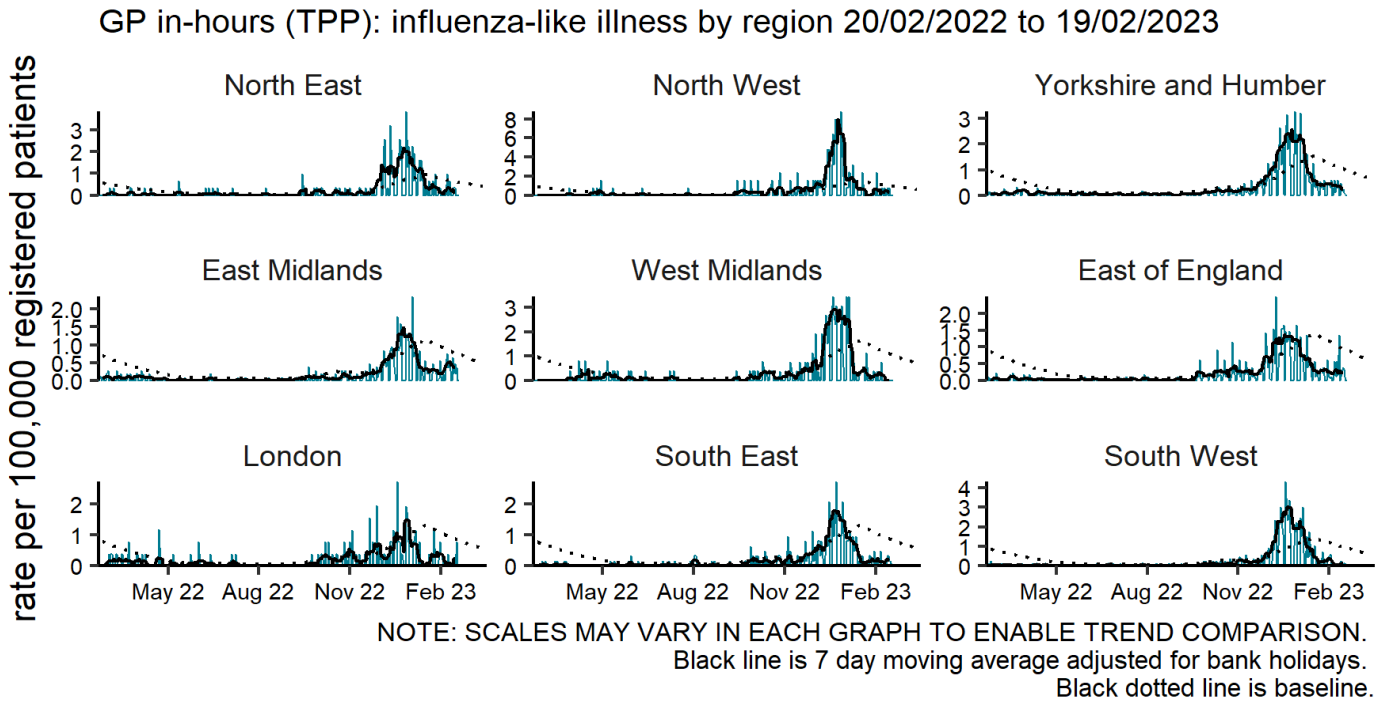
(a)



(b)



(c)



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.

Similarly trends in influenza hospitalisation and critical care admission should be interpreted in the context of testing practices. In recent years there has been wider implementation of rapid molecular point of care tests for influenza in hospital settings. From a public health surveillance perspective it is important to consider a step change in influenza case ascertainment in more recent years.

On 16 February 2023, UKHSA issued a reminder to acute Trusts that influenza A samples from critical care should be subtyped in line with existing guidance. This may impact on the ratio of subtyped to unsubtyped in surveillance data.

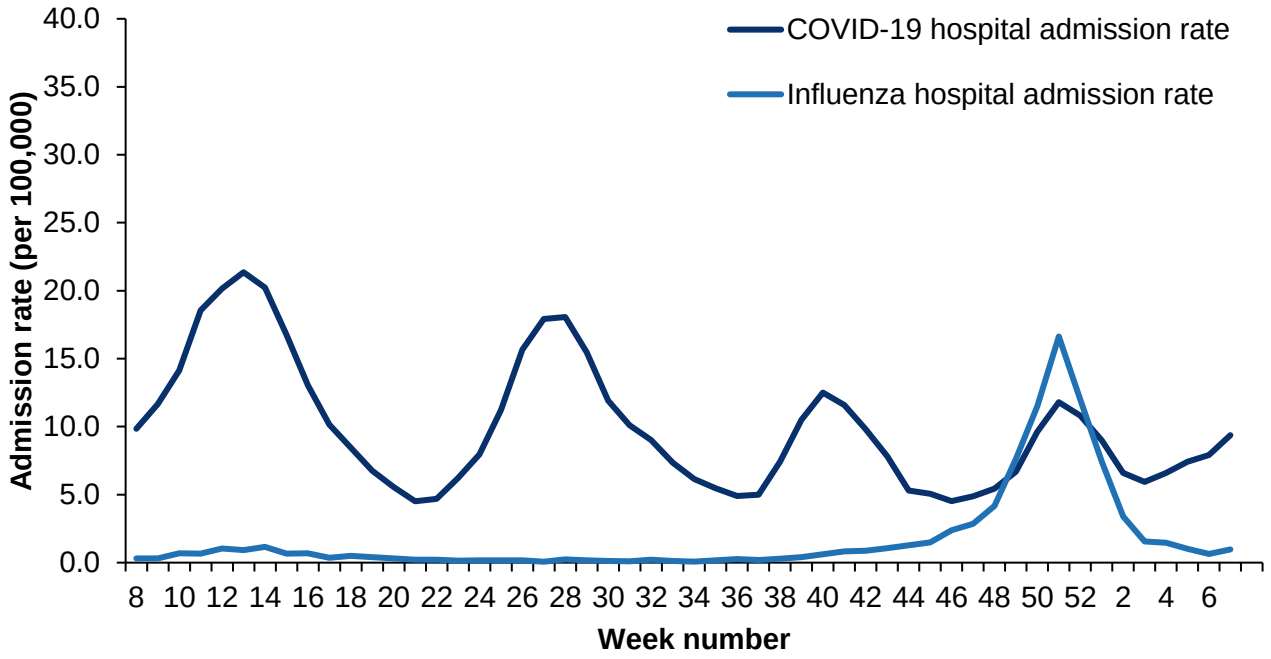
Hospitalisations, SARI Watch

In week 7 (ending 19 February 2023), the overall weekly hospital admission rate for COVID-19 increased slightly to 9.38 per 100,000 compared to 7.92 per 100,000 in the previous week.

By UKHSA centre, the highest hospital admission rate for COVID-19 was observed in the South East. By age group, the highest hospital admission rate for confirmed COVID-19 continues to be in the 85 year olds and over (with an increase in almost all age groups in week 7).

In week 7 (ending 19 February 2023), the overall weekly hospital admission rate for influenza increased to 0.96 per 100,000 compared to 0.64 per 100,000 in the previous week. The rates from week 49 2022 to week 6 2023 were revised due to further retrospective updates from trusts. The rate in the latest week is now above the baseline threshold. By UKHSA Centre, the highest hospitalisation rate was observed in the East Midlands (2.54 per 100,000). By age group, the highest hospital admission rate for influenza was in the 85 years and over age group (4.40 per 100,000). There were 76 new hospital admissions to sentinel Trusts for influenza (1 influenza A(H1N1)pdm09, 0 influenza A(H3N2), 17 influenza A(not subtyped) and 58 influenza B) in week 7.

Figure 44: Weekly overall hospital admission rates of new COVID-19 and influenza positive cases per 100,000 population reported through SARI Watch, England

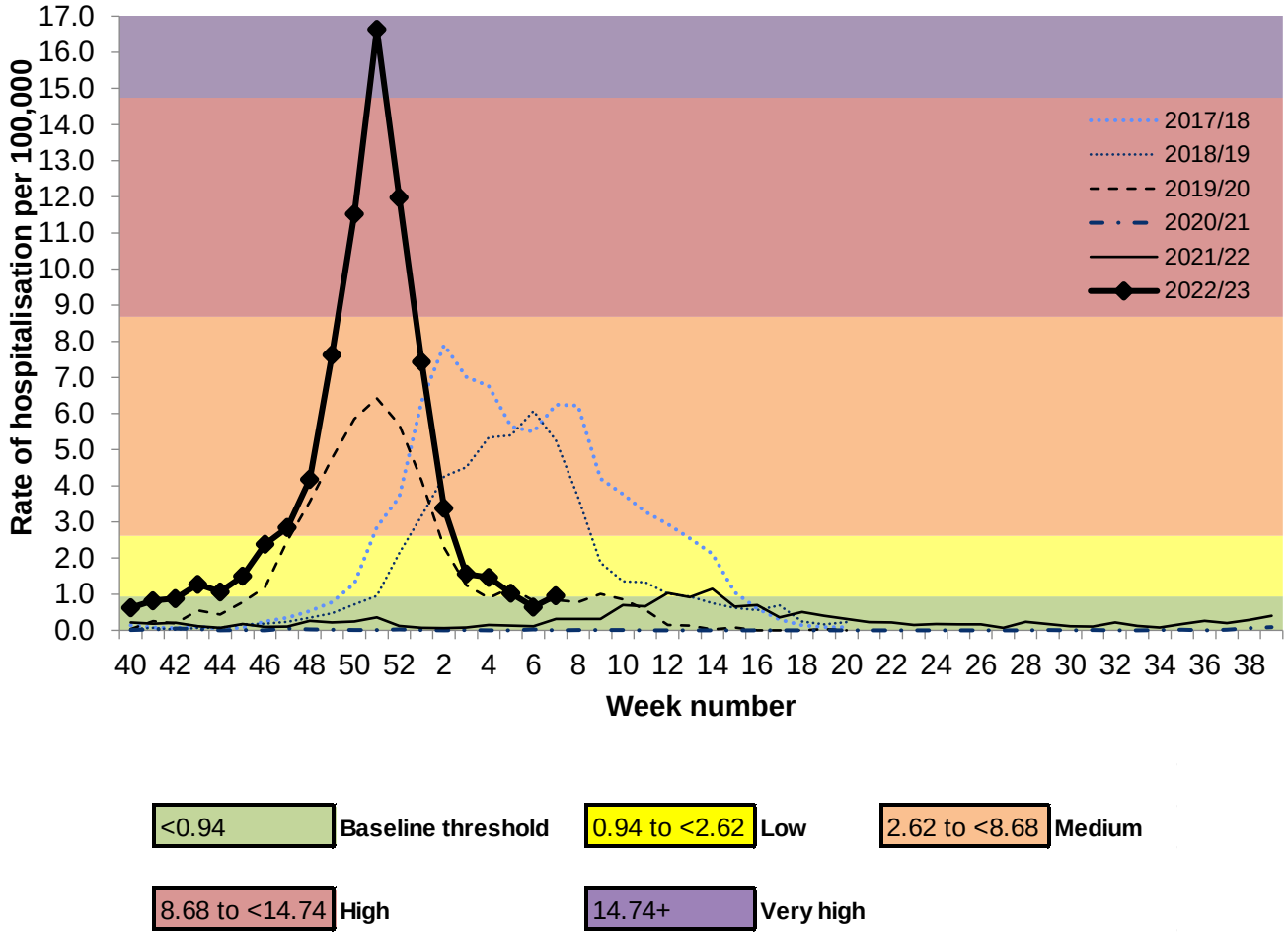


* Influenza hospital admission rate based on 19 sentinel NHS trusts for week 7

* COVID-19 hospital admission rate based on 84 NHS trusts for week 7

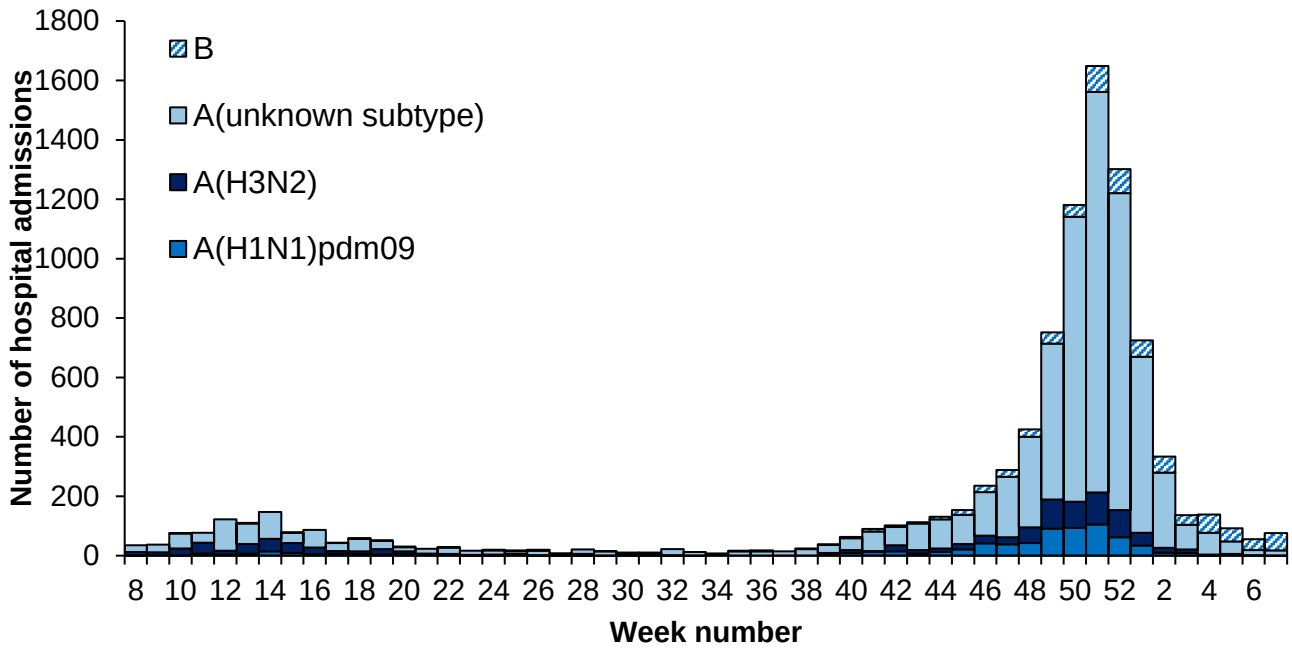
* SARI Watch data is provisional

Figure 45: 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).

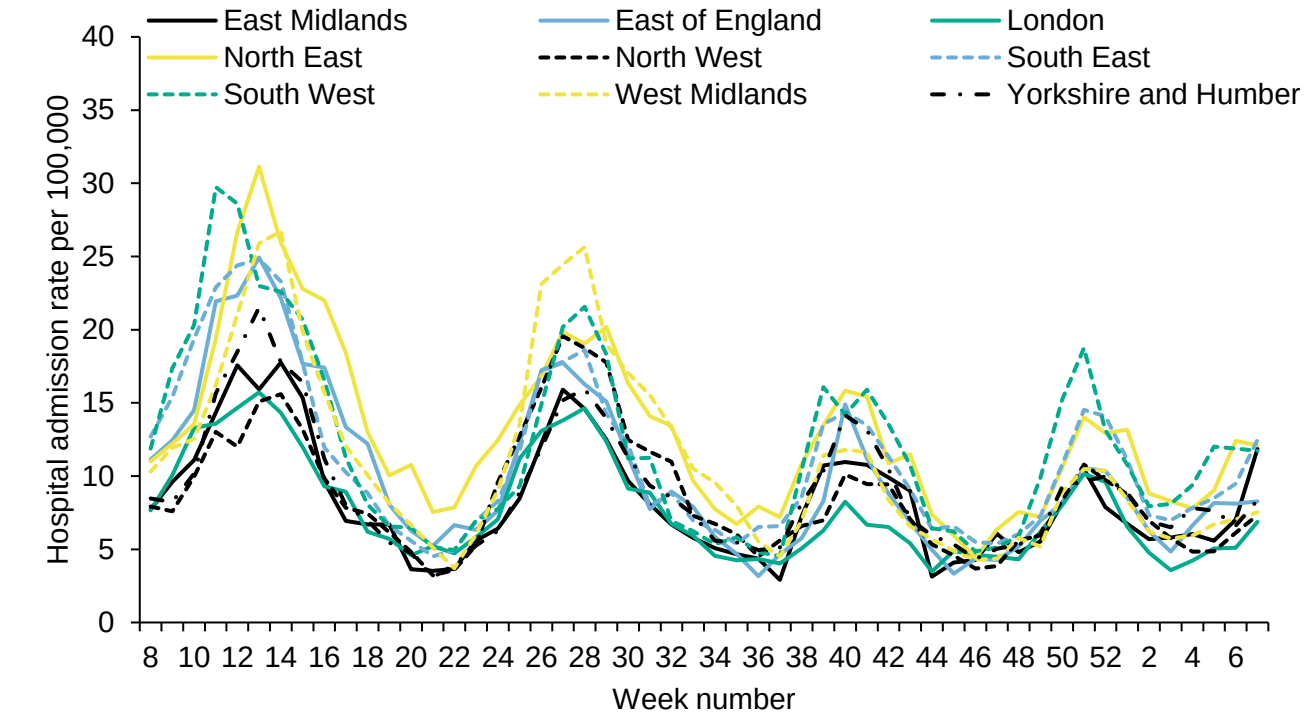
Figure 46: Weekly influenza hospital admissions by influenza type, SARI Watch, England



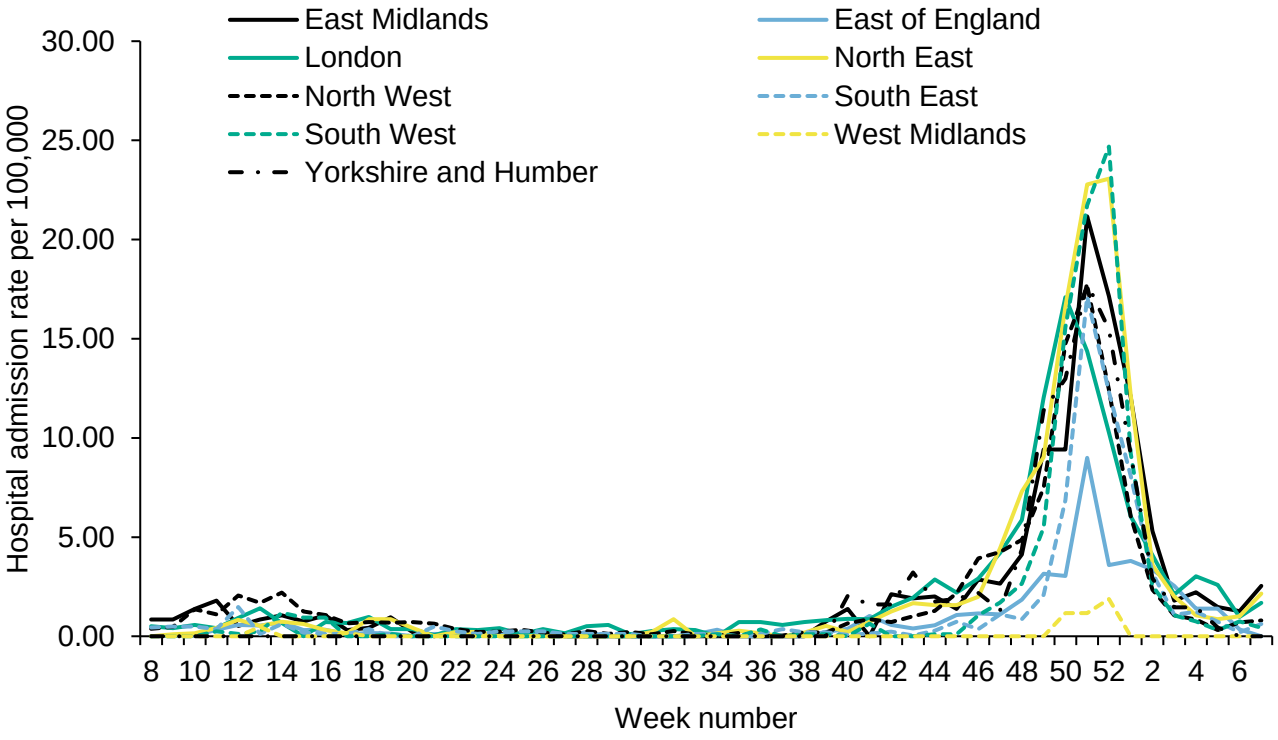
*Number of influenza hospital admissions based on sentinel NHS trusts

Figure 47: Weekly hospital admission rate by UKHSA centre for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch*

(a)



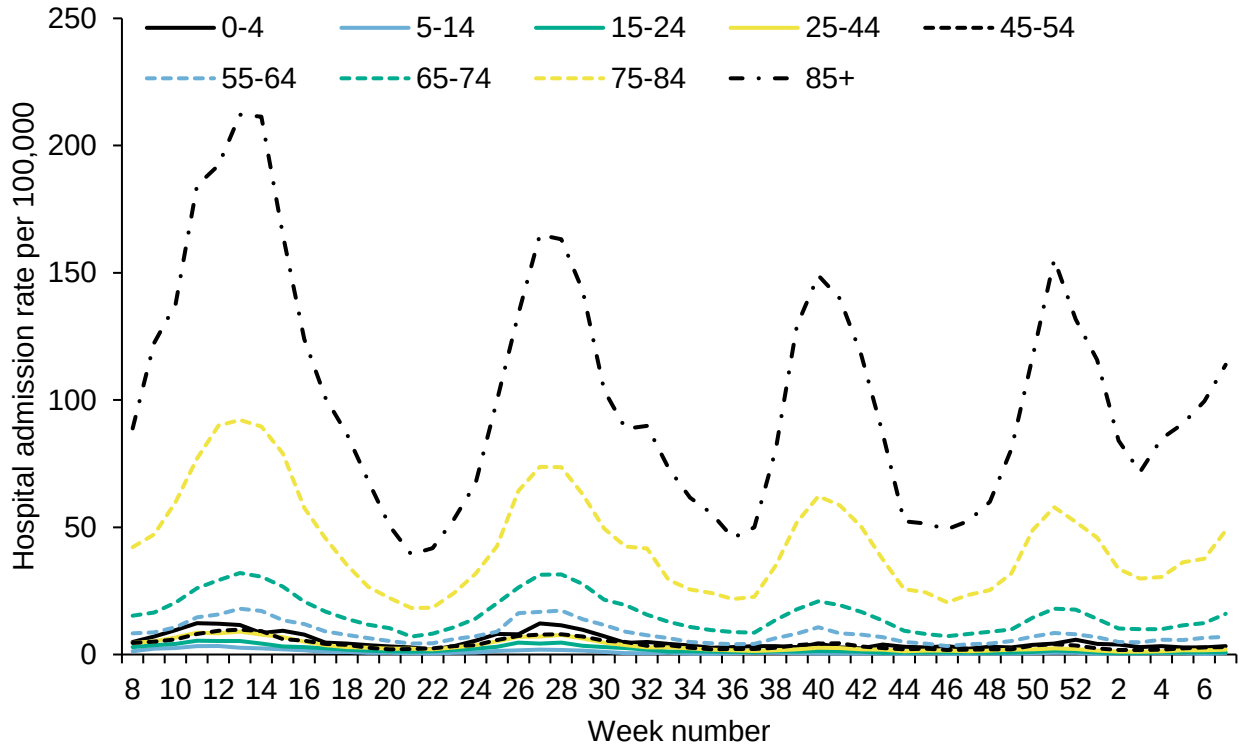
(b)



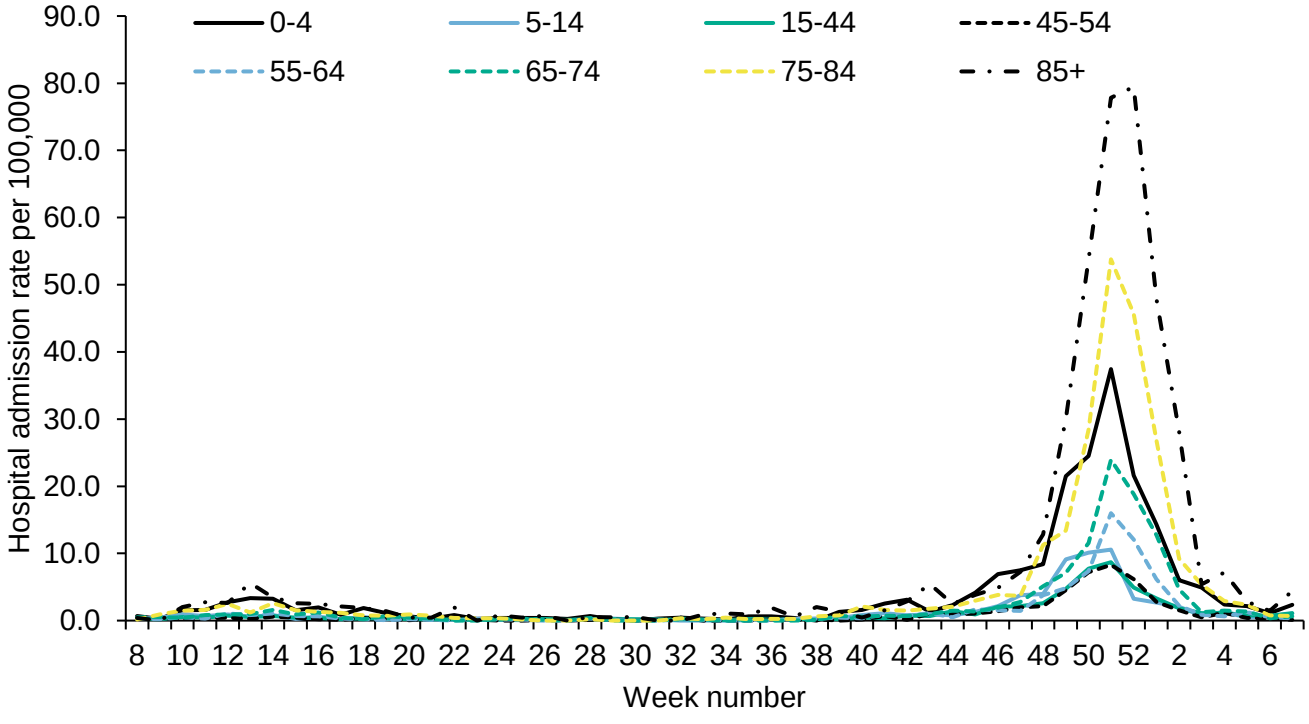
** Rates in some regions may not include all influenza surveillance sentinel sites from week to week*

Figure 48: Weekly hospital admission rate by age group for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch

(a)



(b)



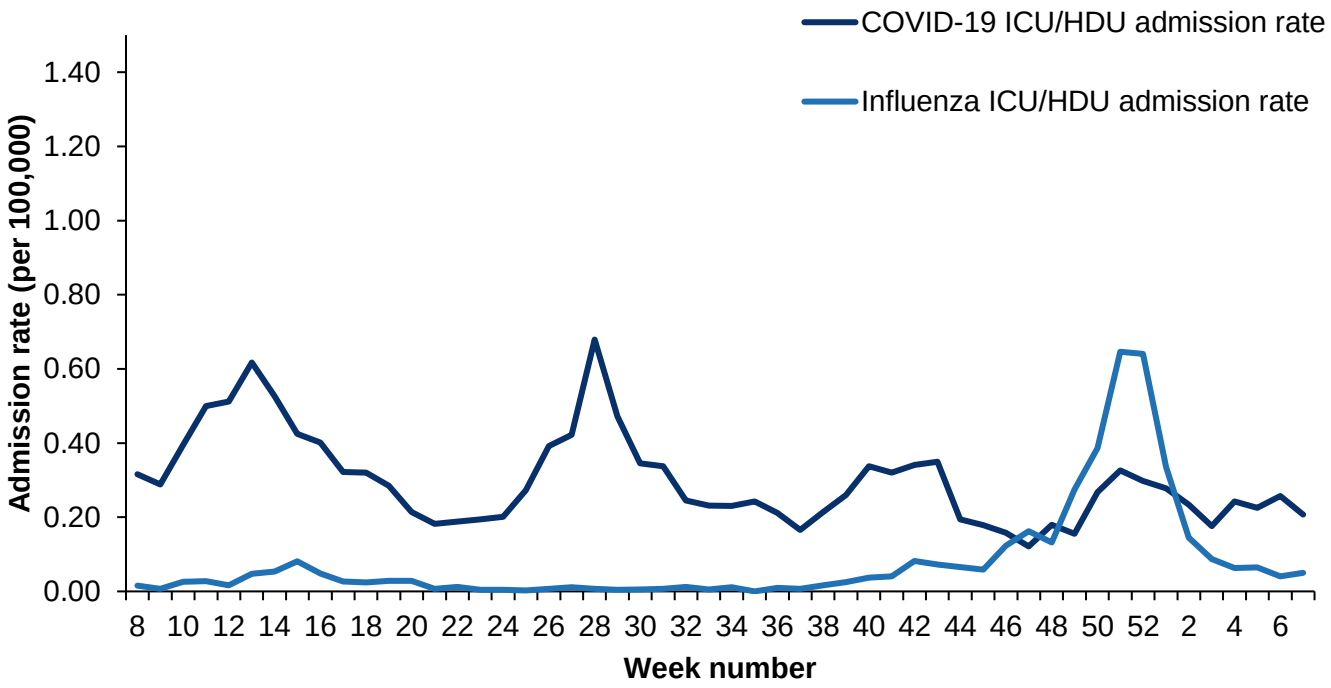
ICU or HDU admissions, SARI Watch

In week 7 (ending 19 February 2023), the overall weekly ICU or HDU admission rates for COVID-19 remained low and decreased slightly to 0.21 per 100,000 and compared to 0.26 per 100,000 in 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 the London. By age group, the highest ICU or HDU admission rates for COVID-19 were observed in the 75 to 84 year olds.

In week 7, the overall ICU or HDU rate for influenza was 0.05 per 100,000 compared to 0.04 per 100,000 in the previous week. The rate in the latest week remained at baseline activity levels. There were 19 new case reports of an ICU or HDU admission for influenza in week 7 (3 influenza A(H1N1)pdm09, 1 influenza A(H3N2), 6 influenza A(not subtyped) and 9 influenza B).

Figure 49: 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 91 NHS trusts for week 7

* COVID-19 ICU or HDU admission rate based on 78 NHS trusts for week 7

* SARI Watch data is provisional

Figure 50: Weekly overall influenza ICU or HDU admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England

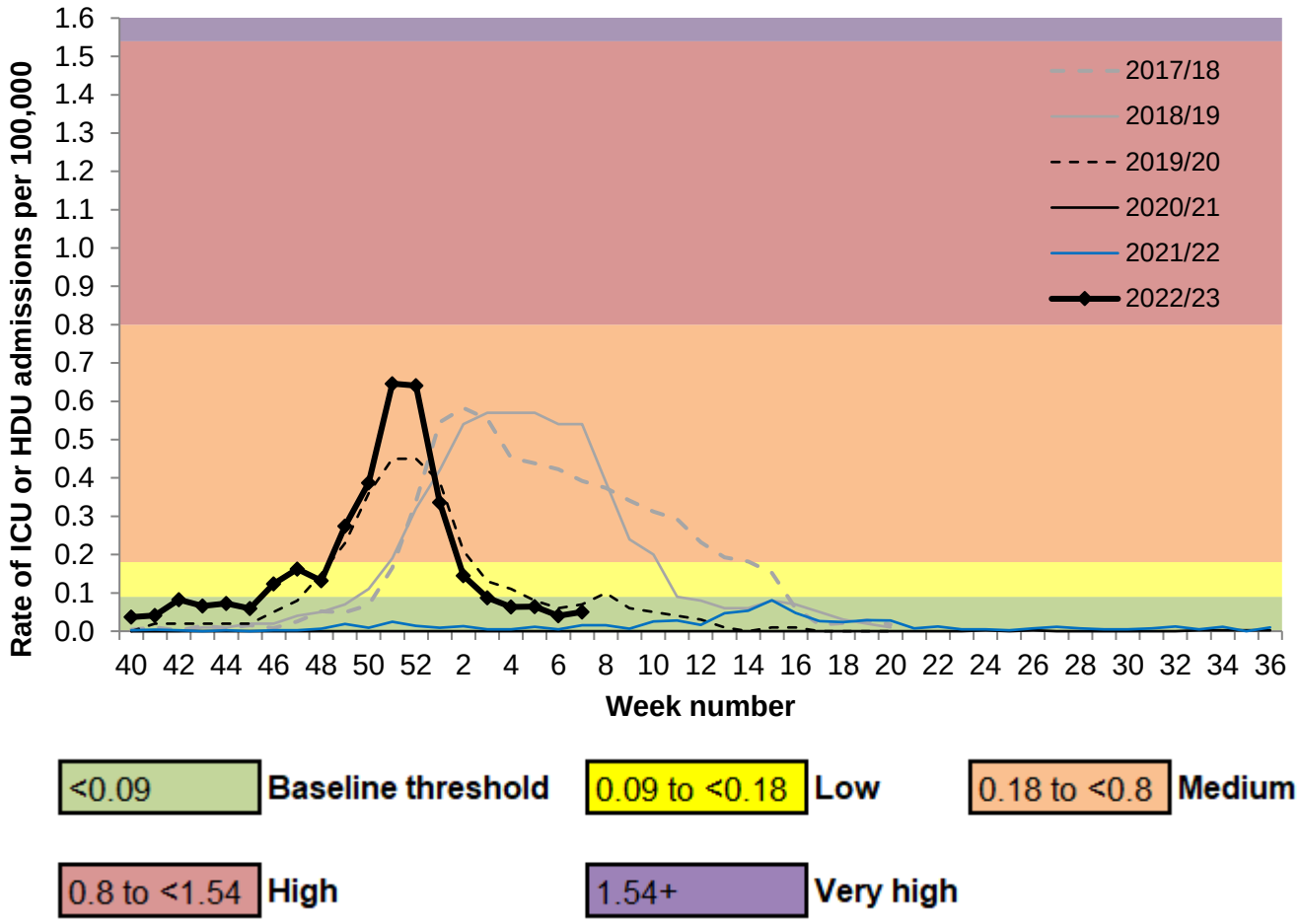


Figure 51: Weekly influenza ICU or HDU admissions by influenza type, SARI Watch, England

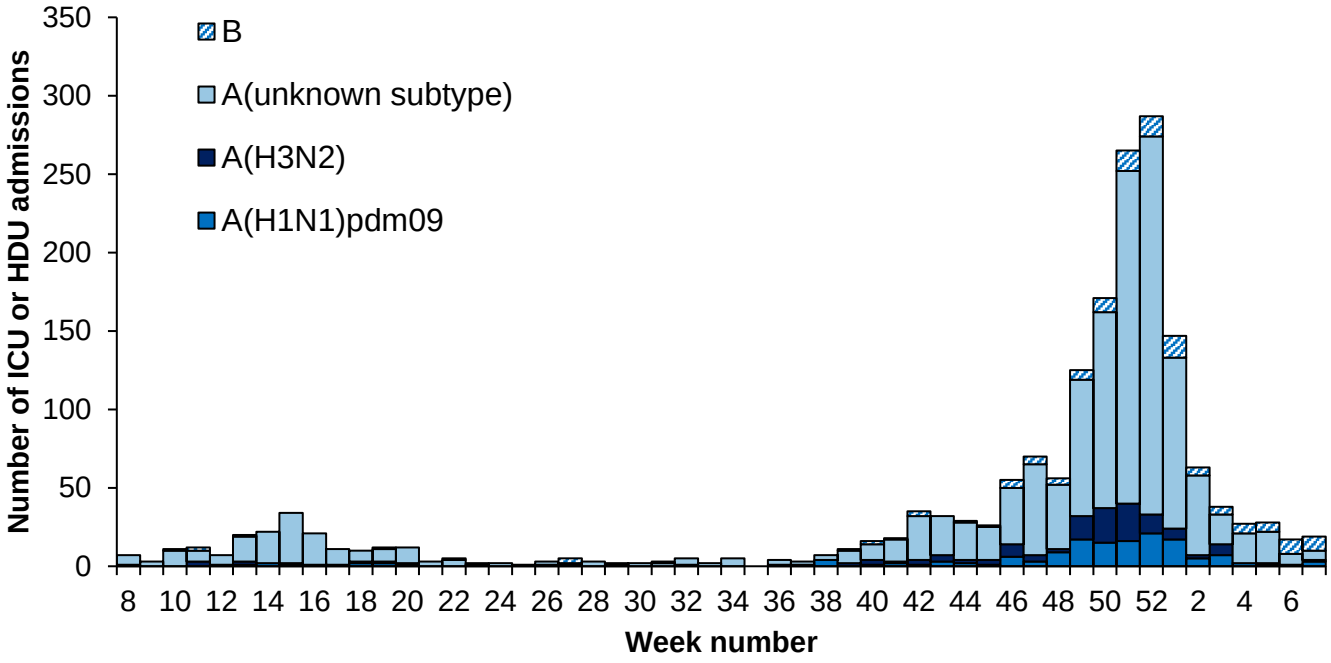
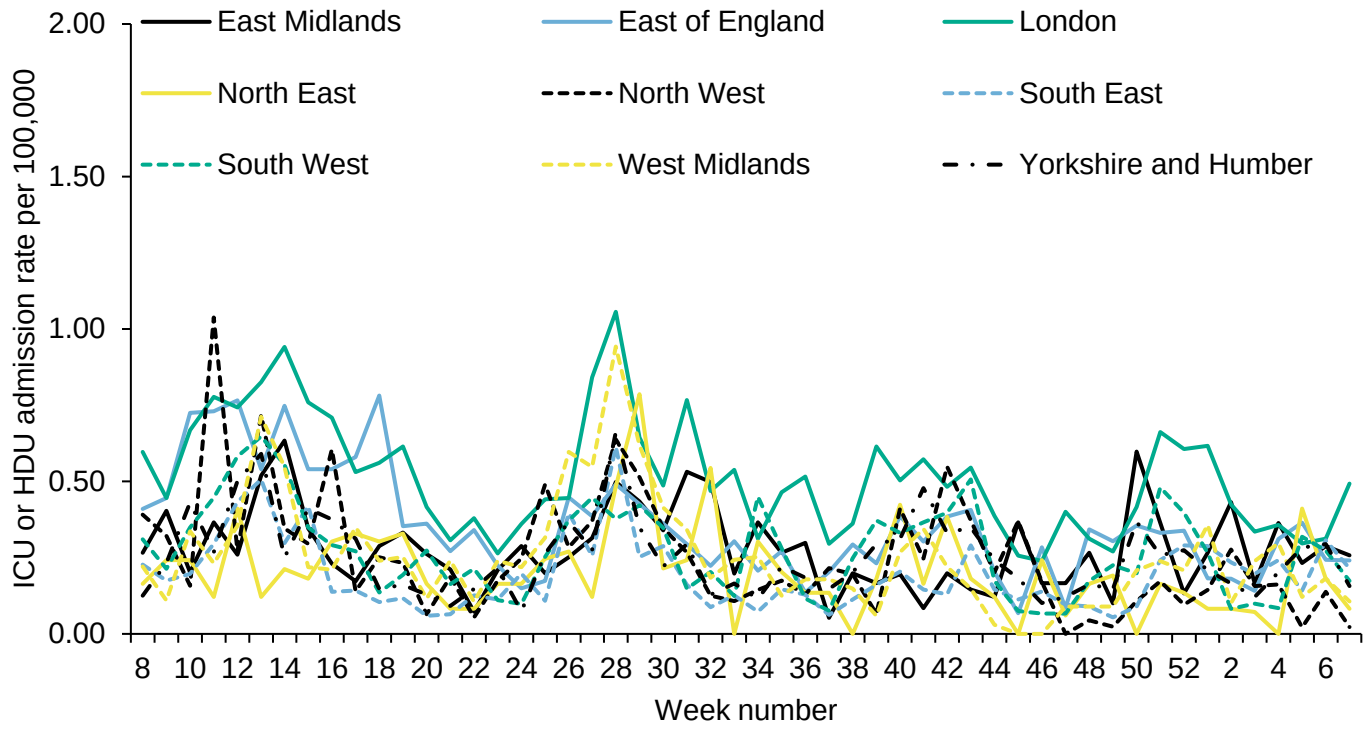


Figure 52: Weekly ICU or HDU admission rate by UKHSA centre for new (a) COVID-19 positive cases and (b) influenza, reported through SARI Watch

(a)



(b)

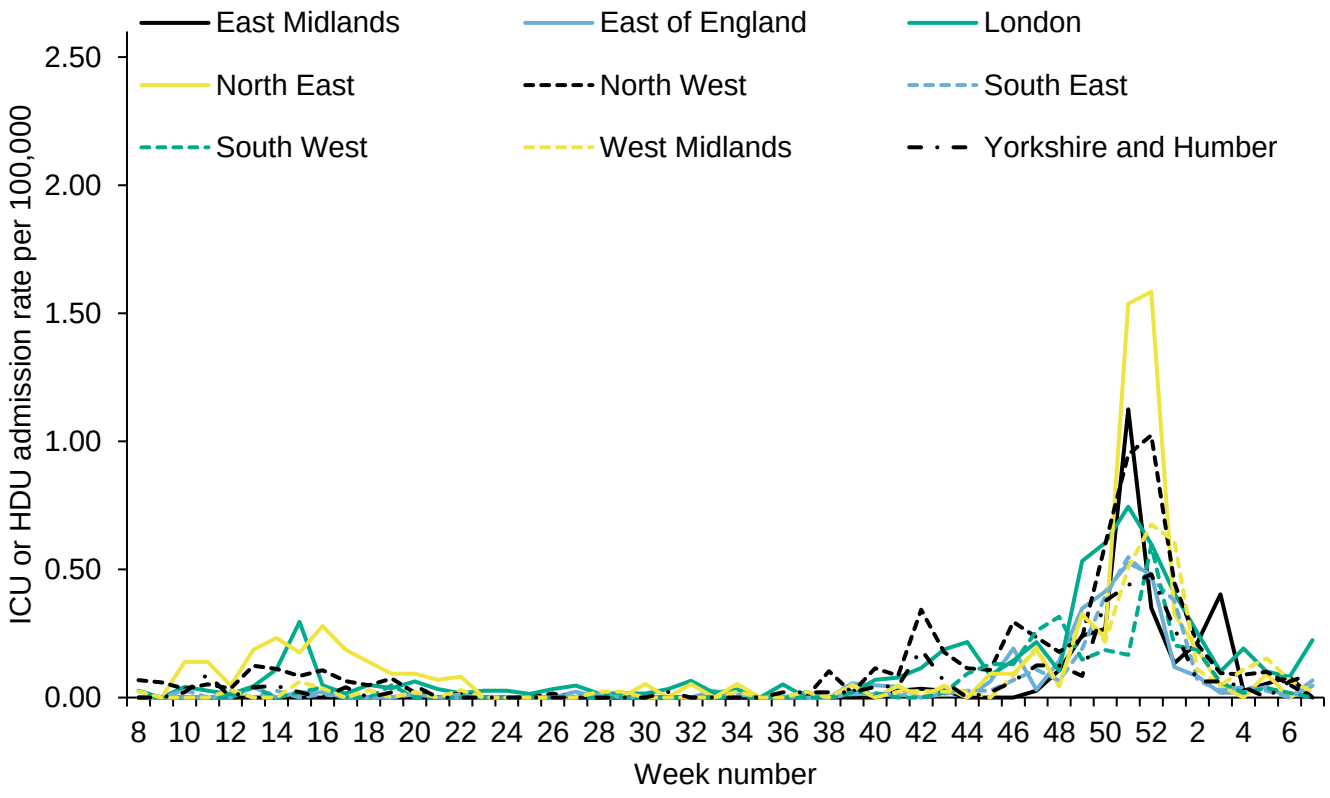
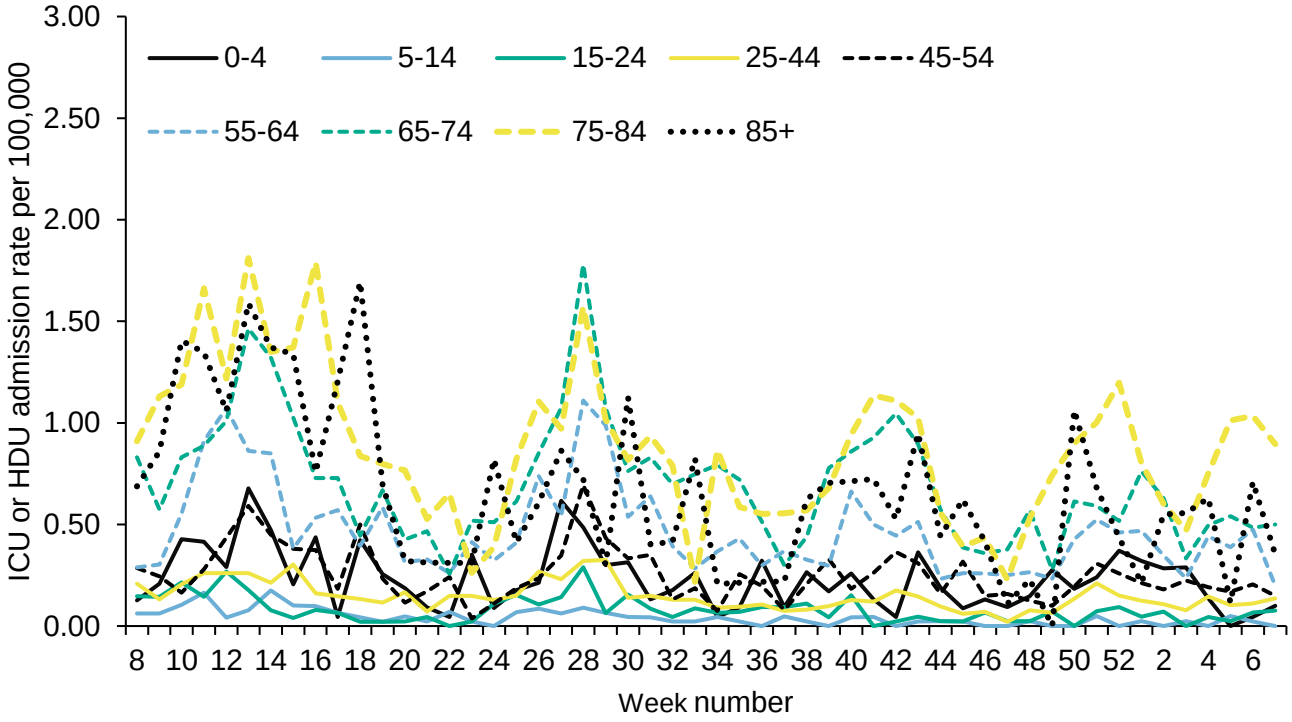
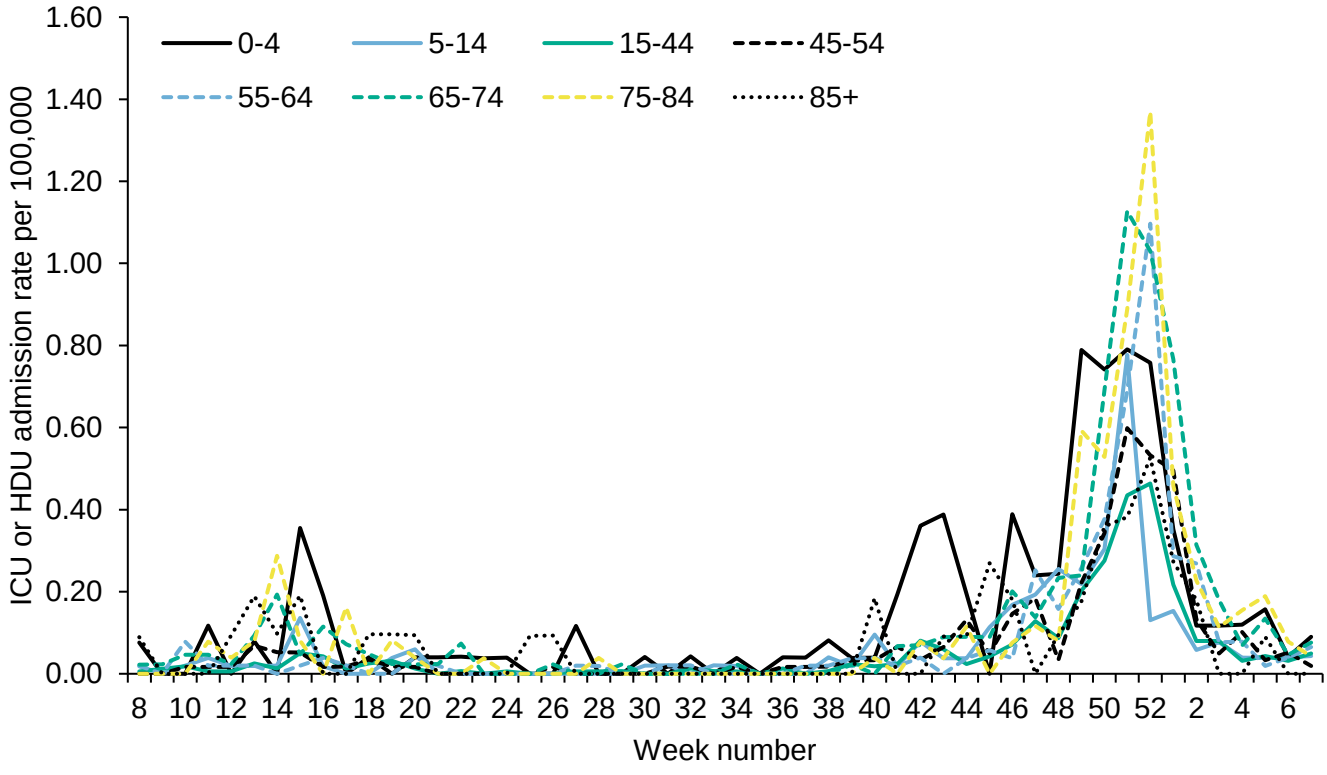


Figure 53: Weekly ICU or HDU admission rate by age group for new (a) COVID-19 positive cases and (b) influenza, reported through SARI Watch

(a)



(b)

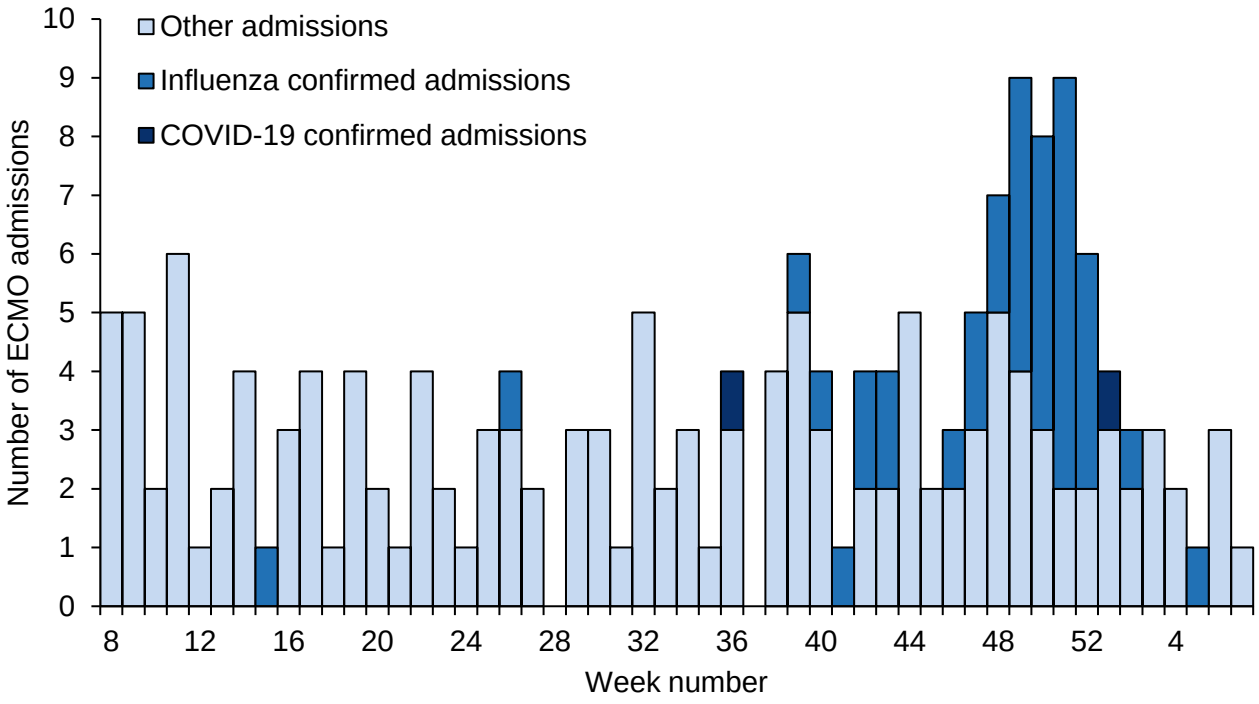


ECMO, SARI Watch

There was 1 new ECMO admissions reported in week 7 from the 7 Severe Respiratory Failure (SRF) centres in the UK (Figure 48). No new COVID-19 and influenza admissions were reported.

Figure 54: 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

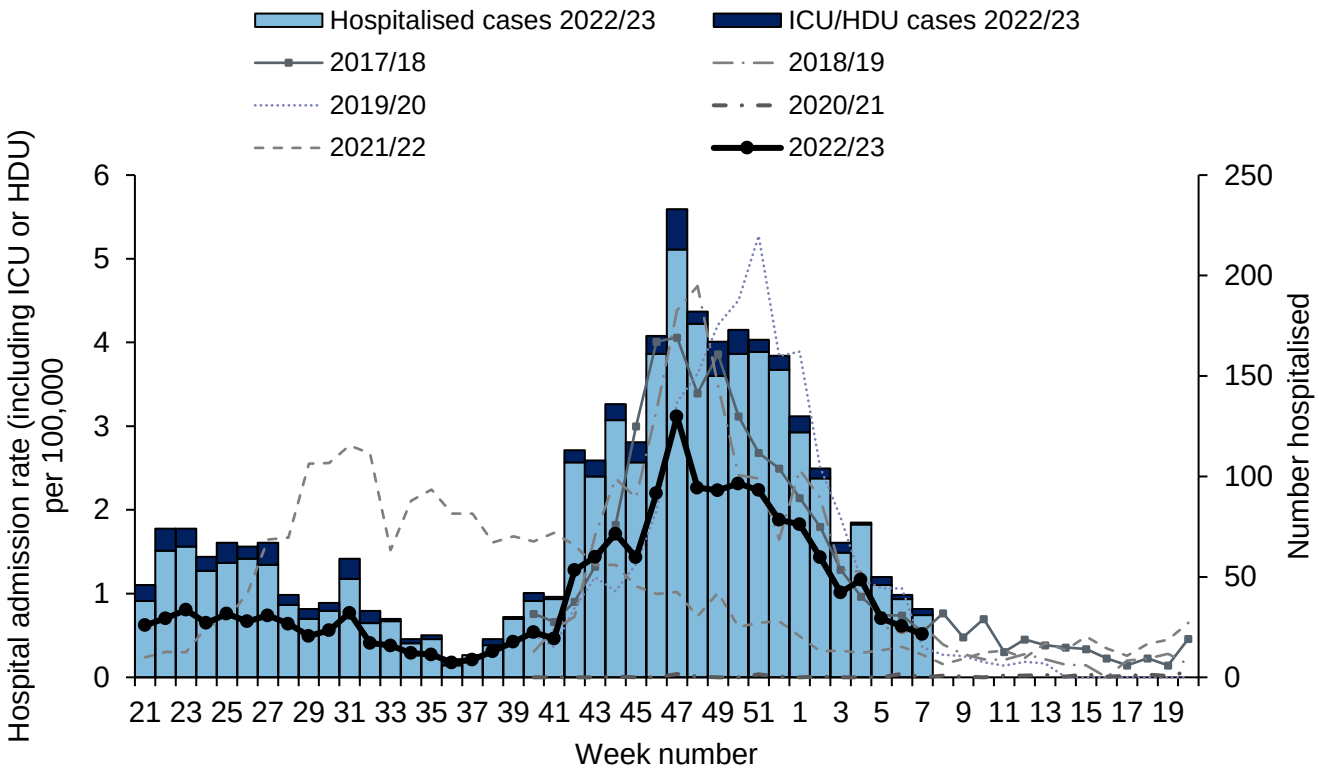


RSV admissions, SARI Watch

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

In week 7, the overall hospital admission rate for RSV decreased to 0.52 per 100,000 compared to 0.61 per 100,000 in the previous week. The highest rate was seen in the over under 5 year olds at 3.78 per 100,000, which decreased from 3.89 per 100,000 in the previous week.

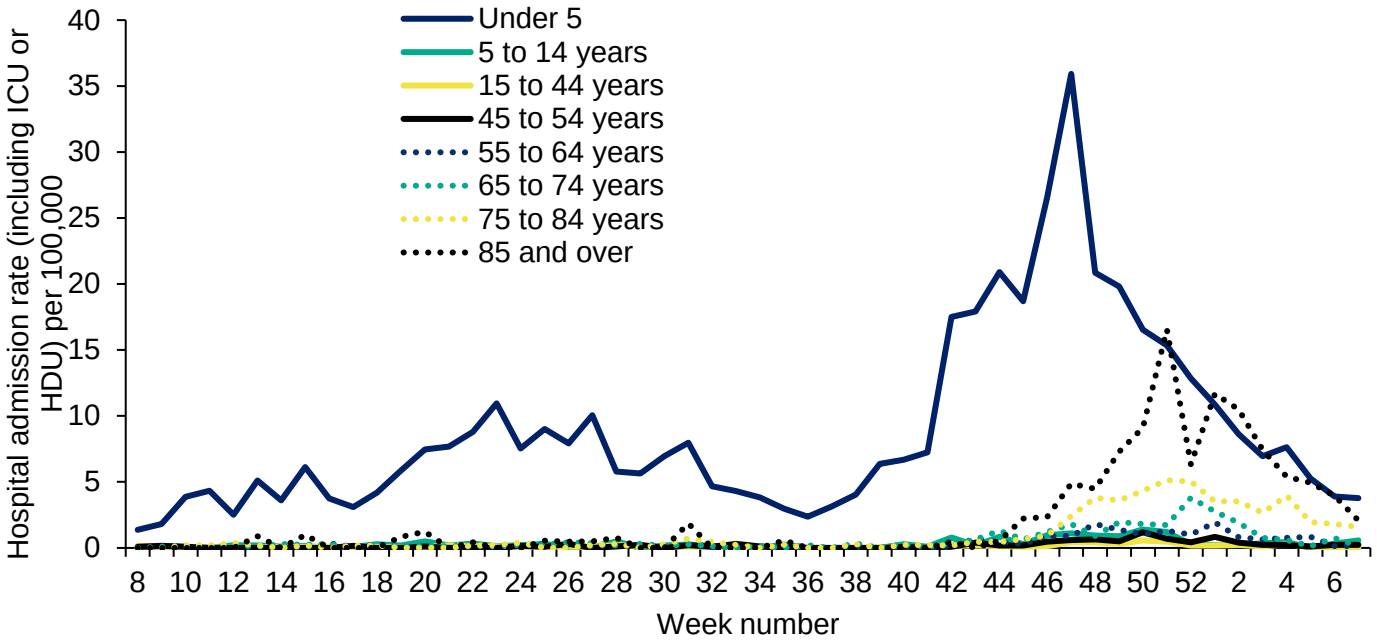
Figure 55: Weekly overall hospital admission rates (including ICU or HDU) of RSV positive cases per 100,000 population reported through SARI Watch, England



* 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 56: Weekly hospitalisation (including ICU or HDU) admission rates by age group for new RSV cases reported through SARI Watch, England

* SARI Watch data is provisional



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

Emergency Department attendances, Syndromic surveillance

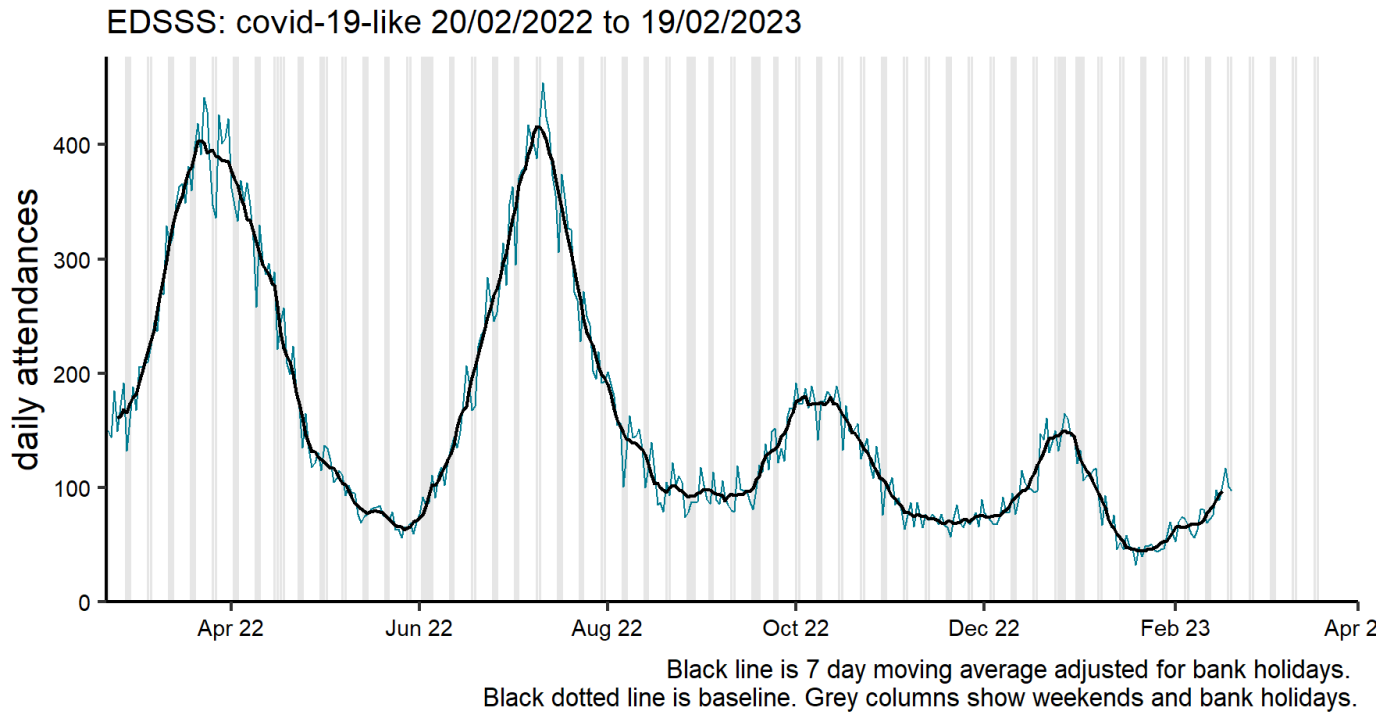
The Emergency Department Syndromic Surveillance System (EDSSS) monitors the daily visits in a network of emergency departments across England.

During week 7, attendances for acute respiratory infection remained stable nationally. Attendances for influenza-like illness remained stable nationally. Attendances for covid-like illness increased nationally, especially in children under 1 year old and adults over 45 years old. Attendances for acute bronchiolitis increased nationally, with a notable increase within the North East (Figures 57, 58, 59 and 60).

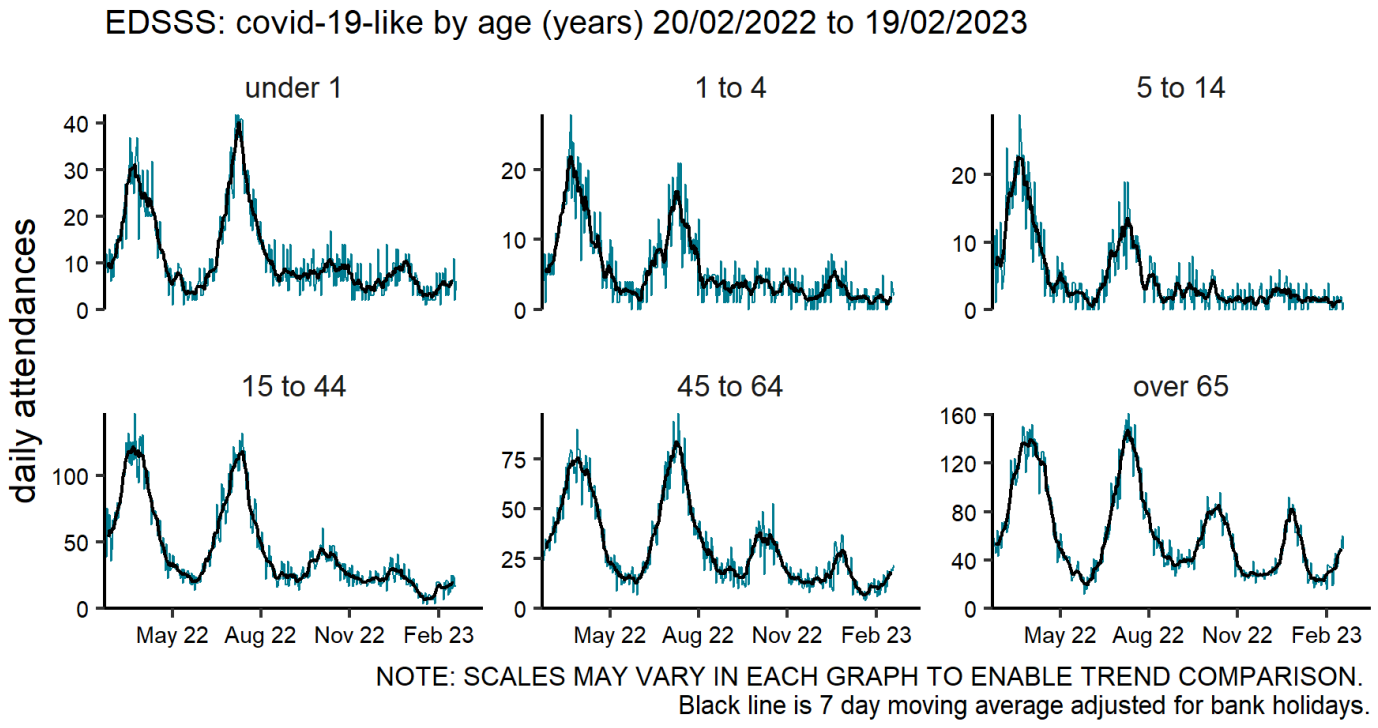
Please note: the COVID-19-like ED indicator is an underestimation of the number of COVID-19 attendances as it only includes attendances with a COVID-19-like diagnosis as their primary diagnosis. The EDSSS COVID-19-like indicator should therefore be used to monitor trends in ED attendances and not to estimate actual numbers of COVID-19 ED attendances. Remodelled EDSSS baselines have been refitted during week 6 to account for post-COVID-19 changes in health care seeking behaviour. Further information about these caveats is available from the Emergency Department Syndromic Surveillance bulletin.

Figure 57: Daily ED attendances for COVID-19-like infections, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)

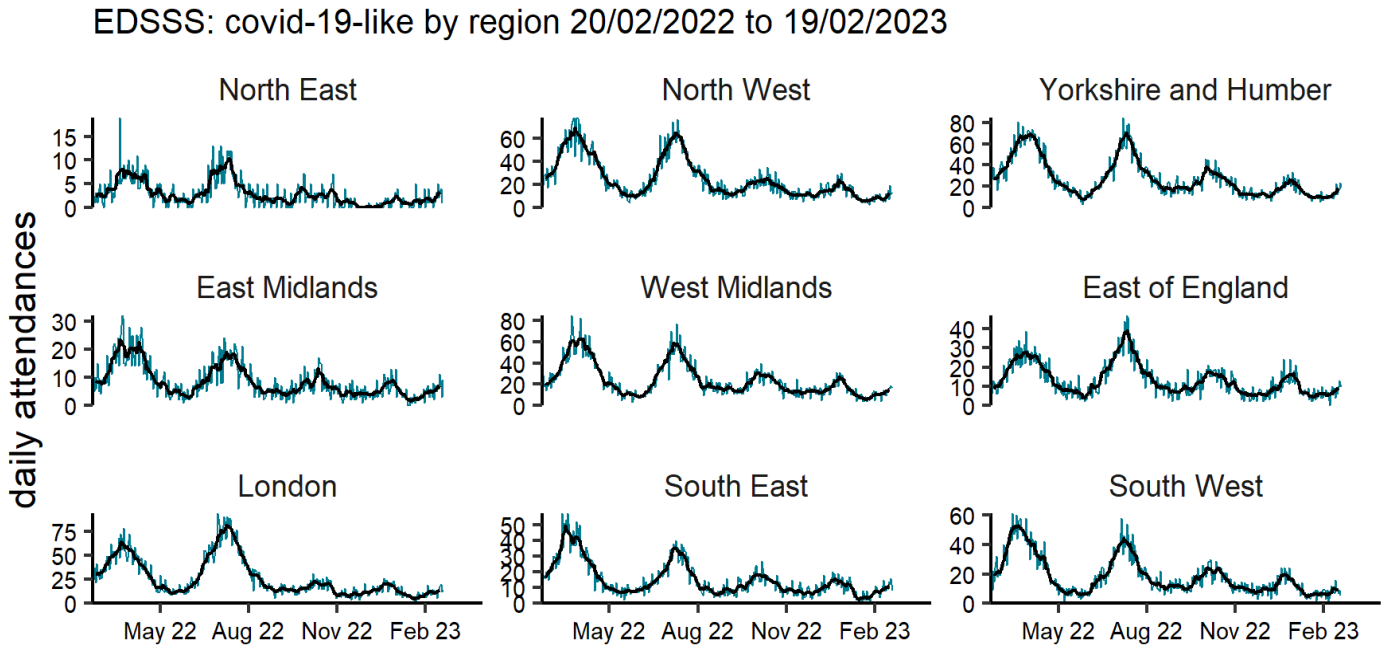


(b)



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

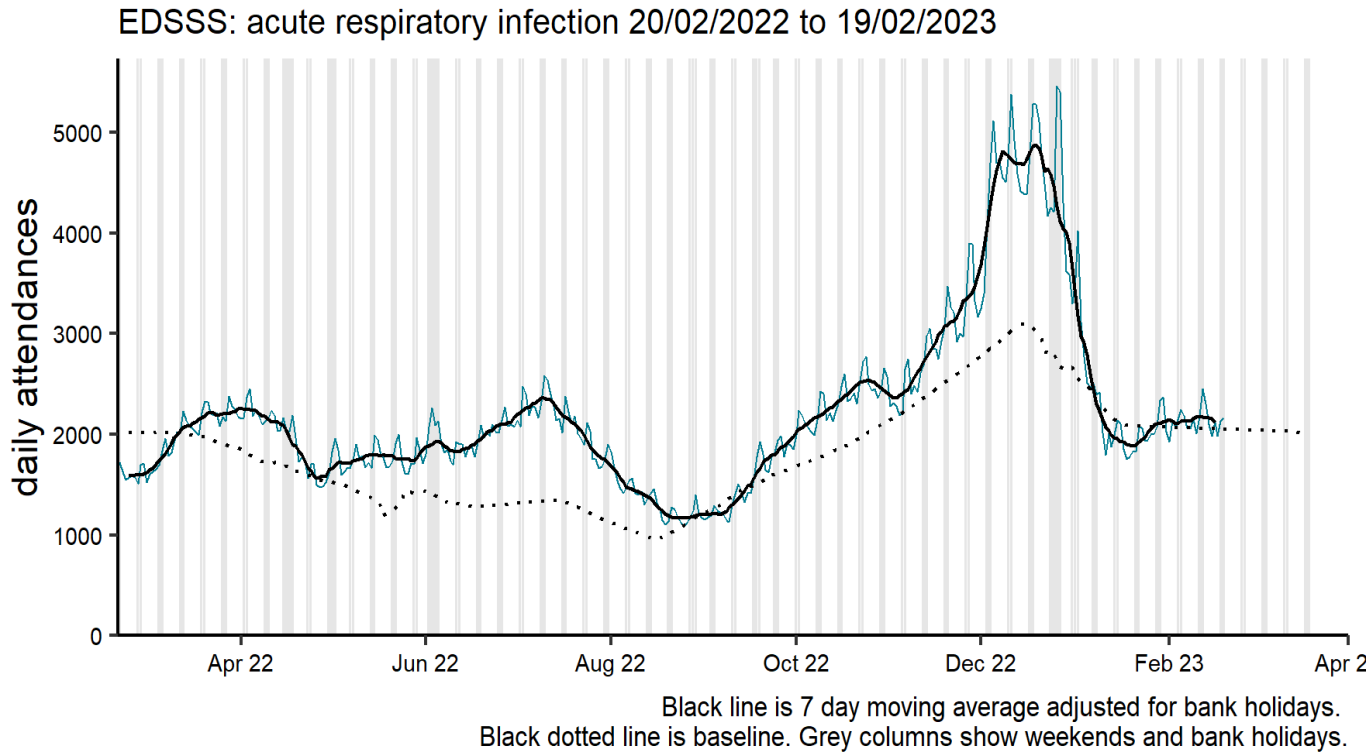
(c)



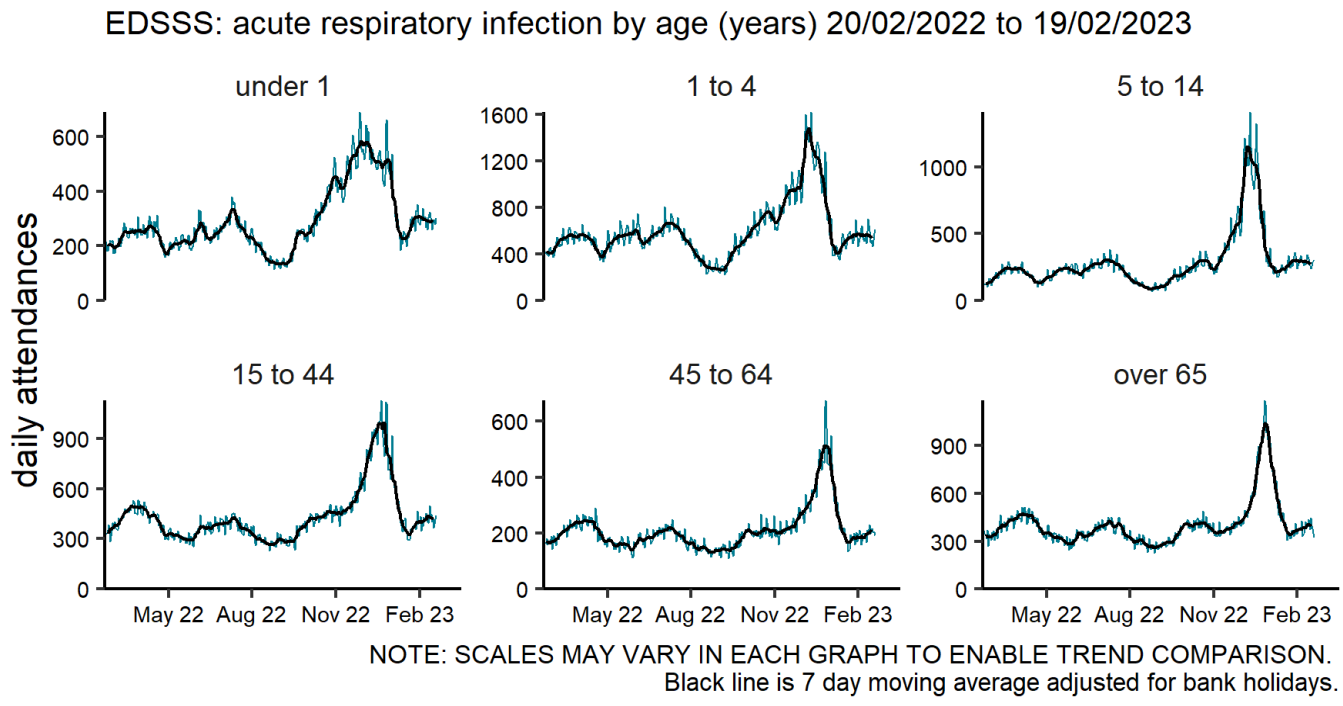
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.

Figure 58: Daily ED attendances for acute respiratory infection, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)



(b)



(c)

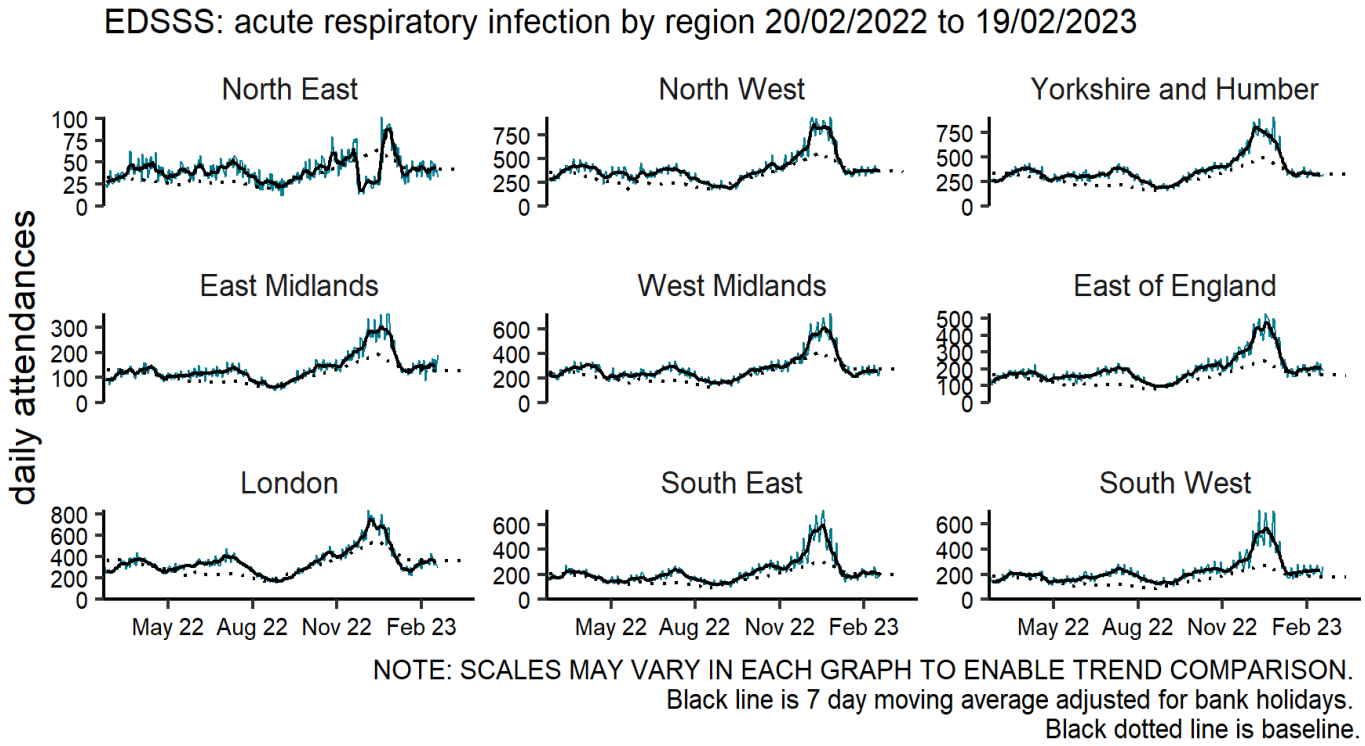
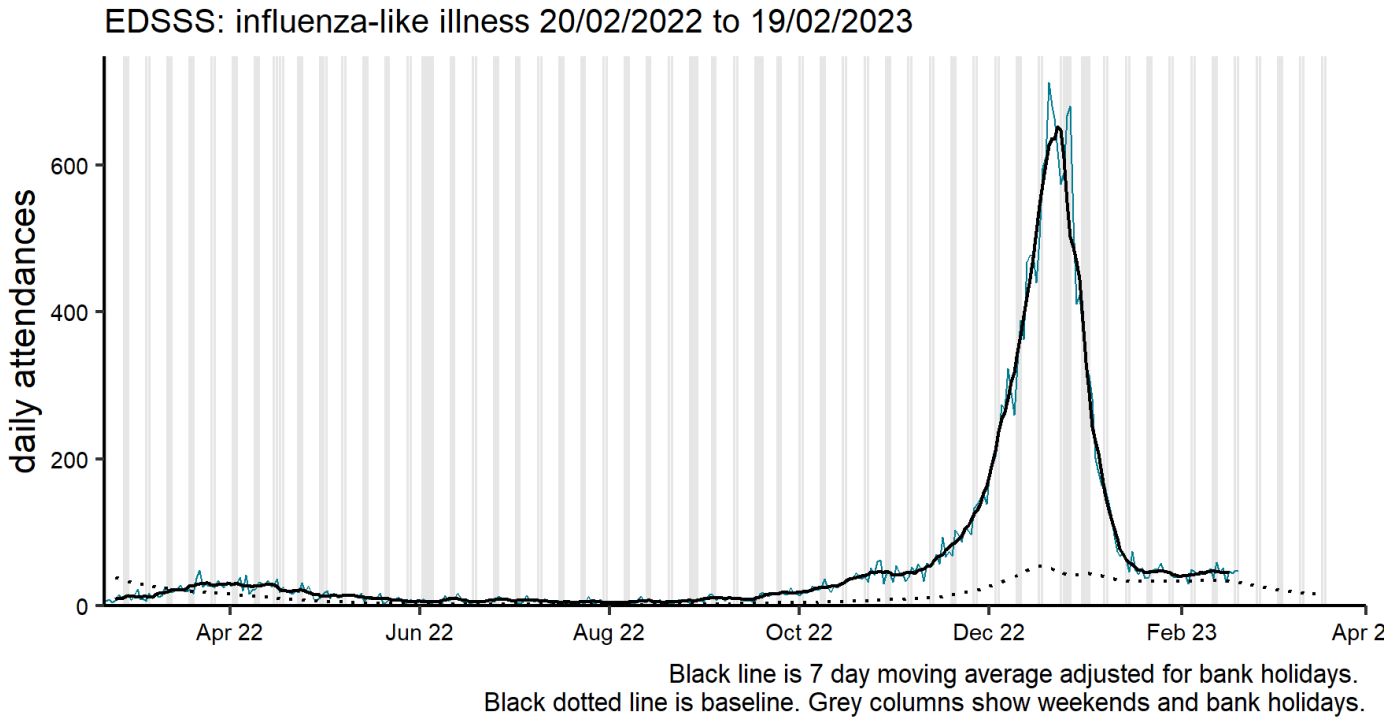
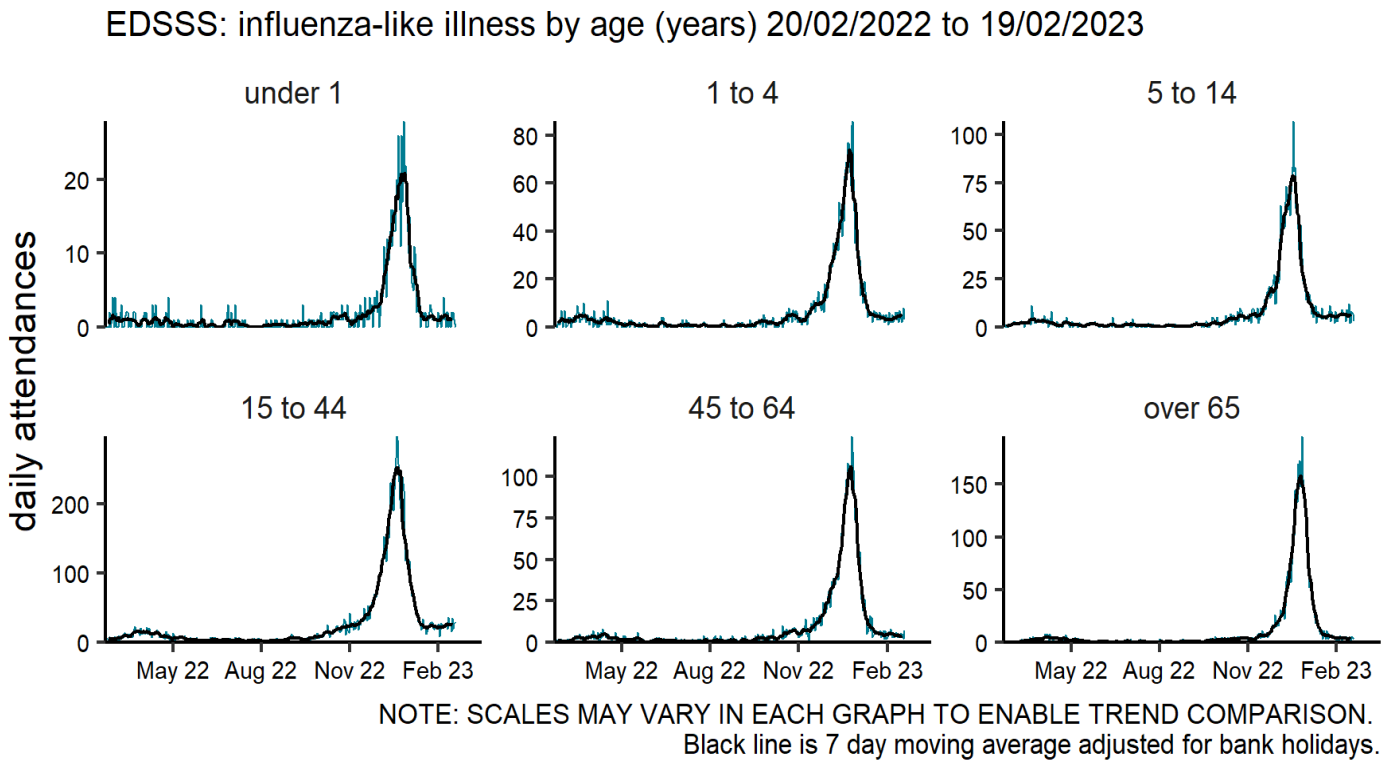


Figure 59: Daily ED attendances for influenza-like illness, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)

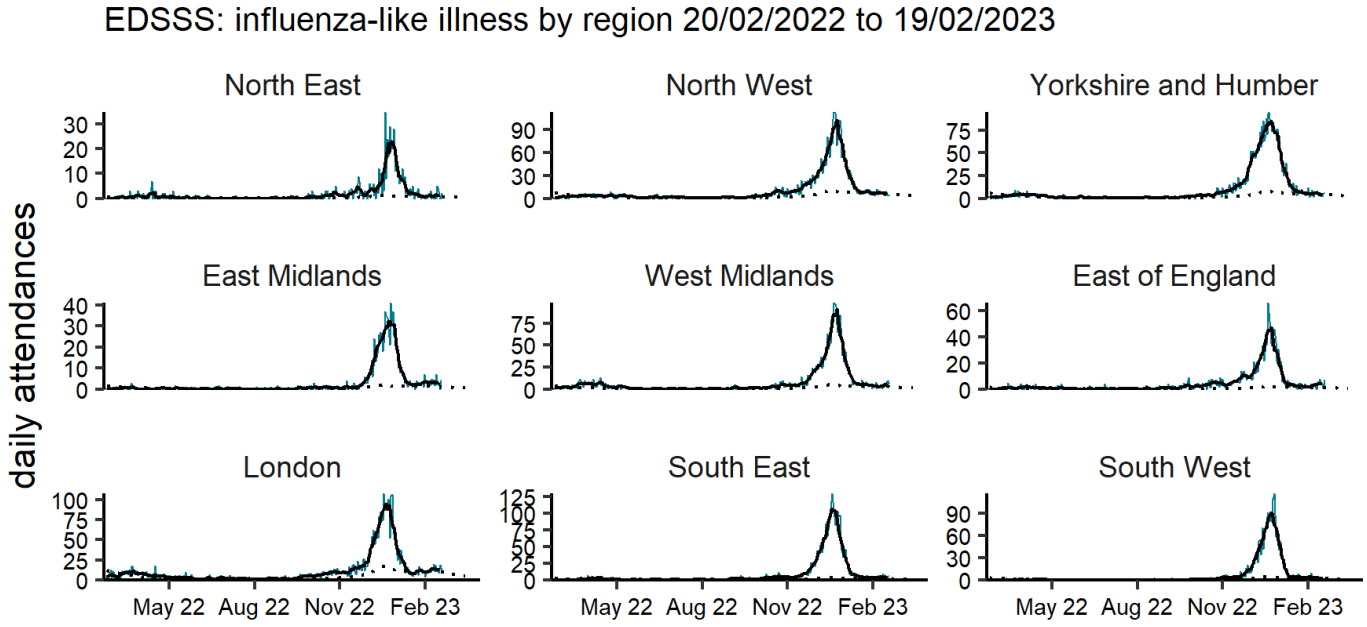


(b)



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

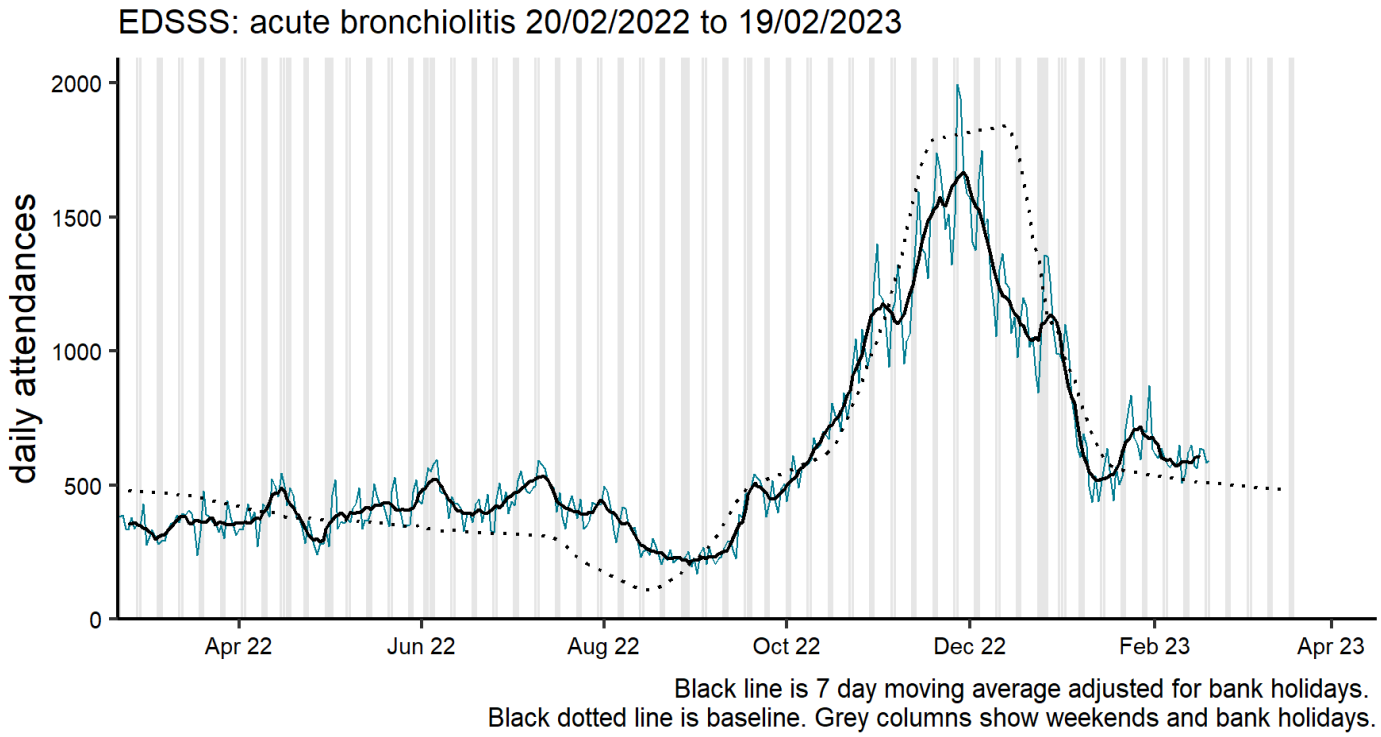
(c)



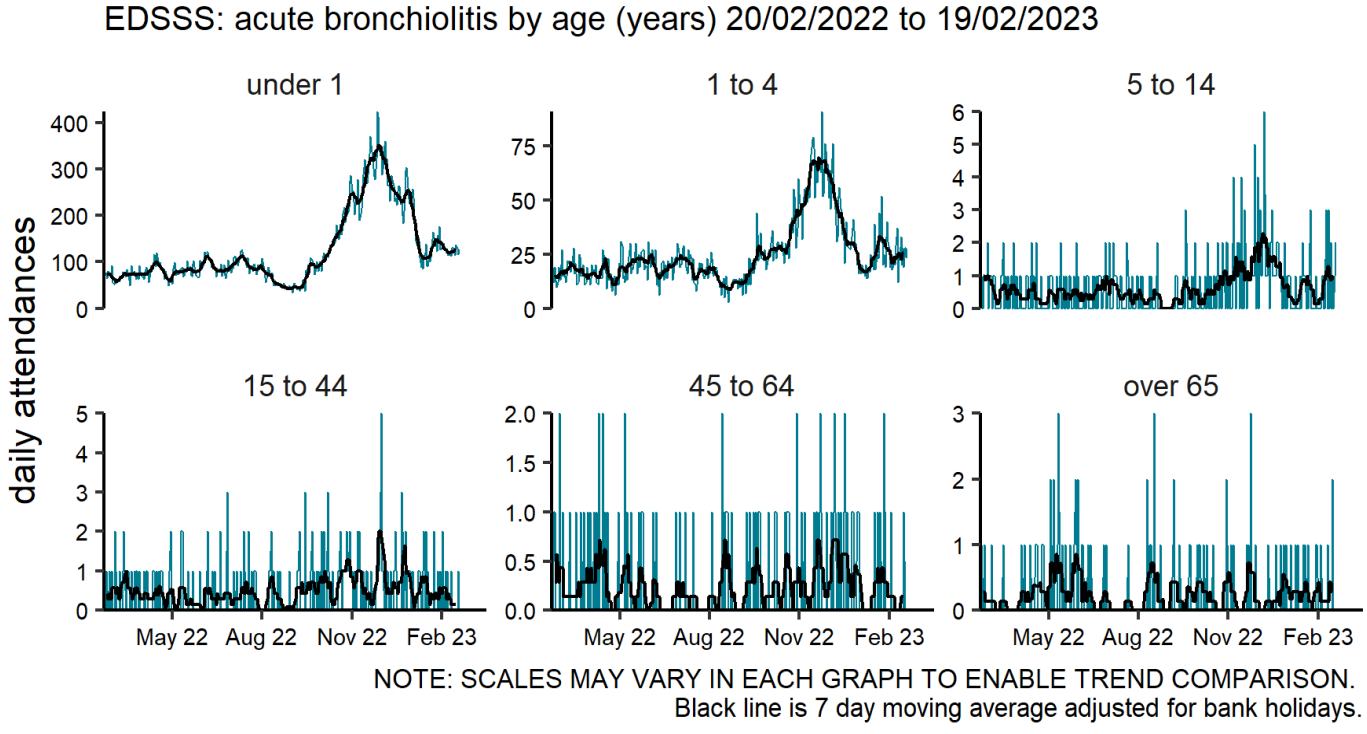
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.

Figure 60: Daily ED attendances for acute bronchiolitis, England (a) nationally, (b) by age group and (c) by UKHSA centre

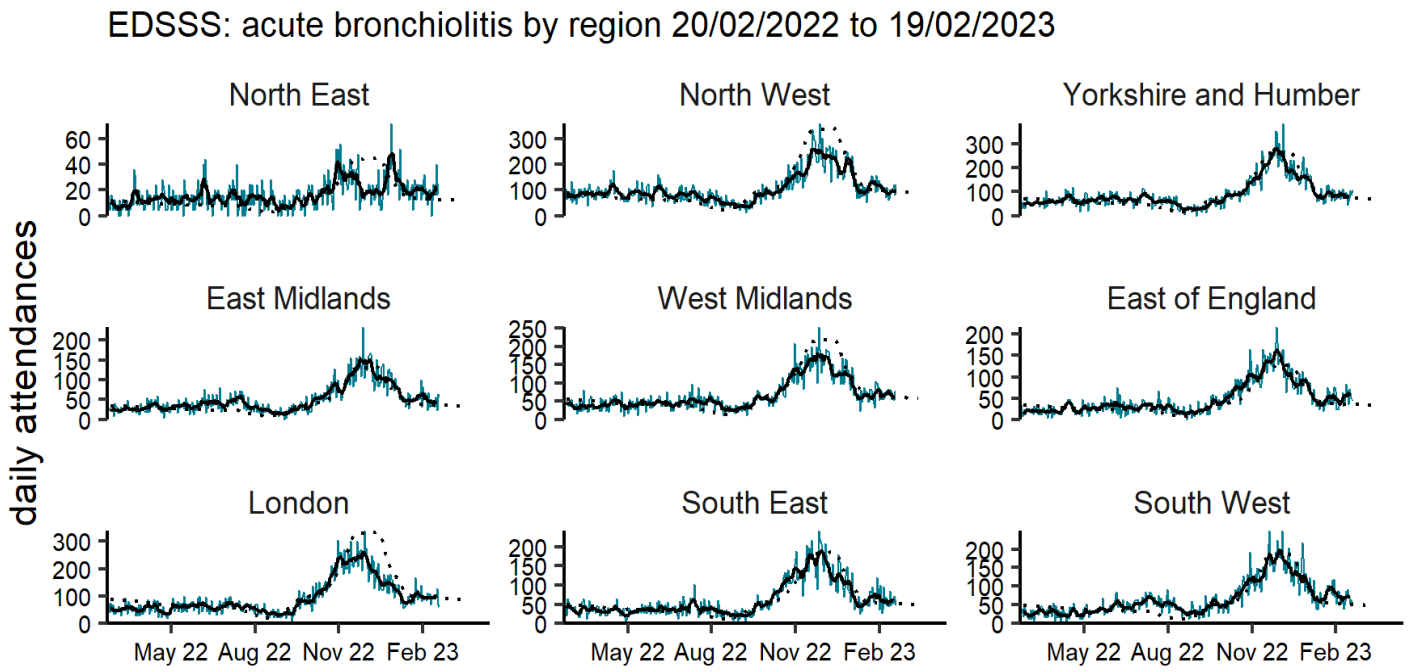
(a)



(b)



(c)

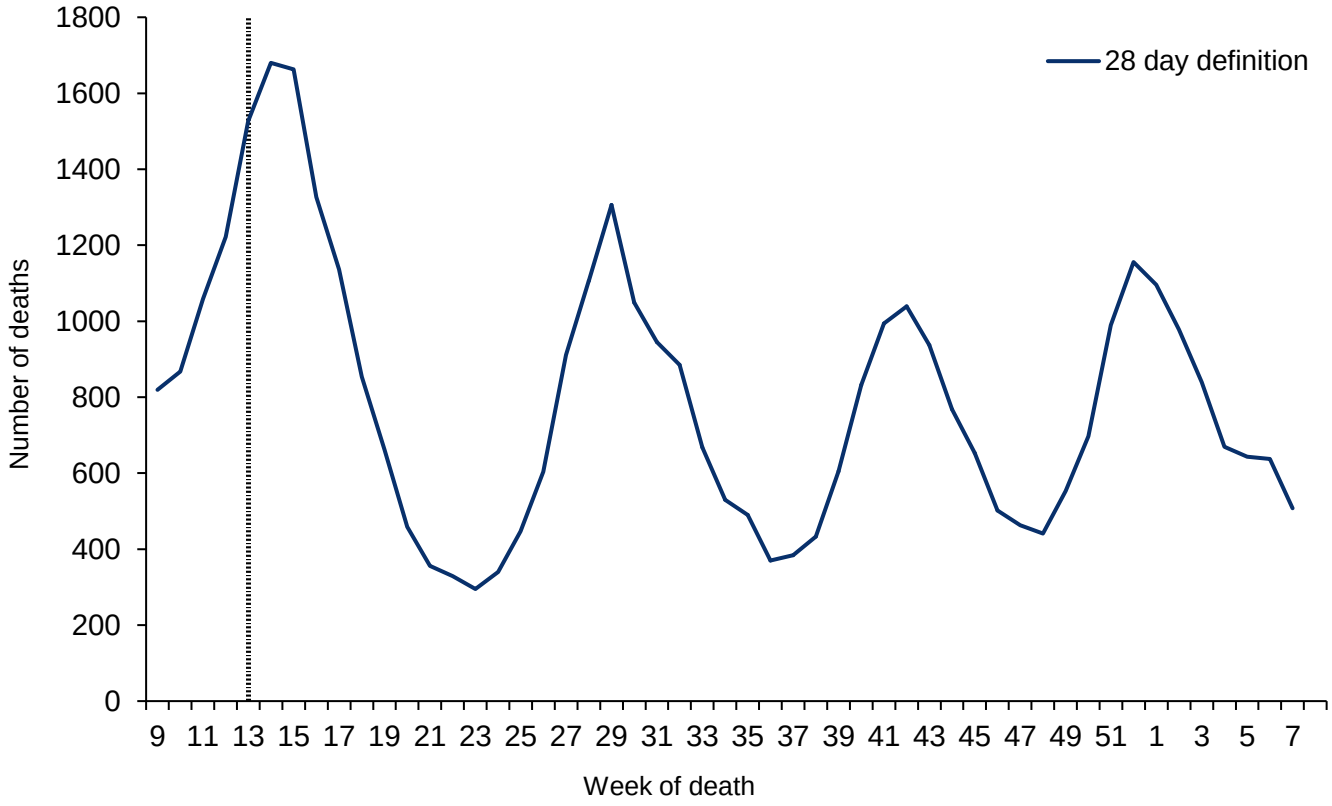

EDSSS: acute bronchiolitis by region 20/02/2022 to 19/02/2023
North East
North West
Yorkshire and Humber
East Midlands
West Midlands
East of England
London
South East
South West
daily attendances
May 22 Aug 22 Nov 22 Feb 23
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 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.

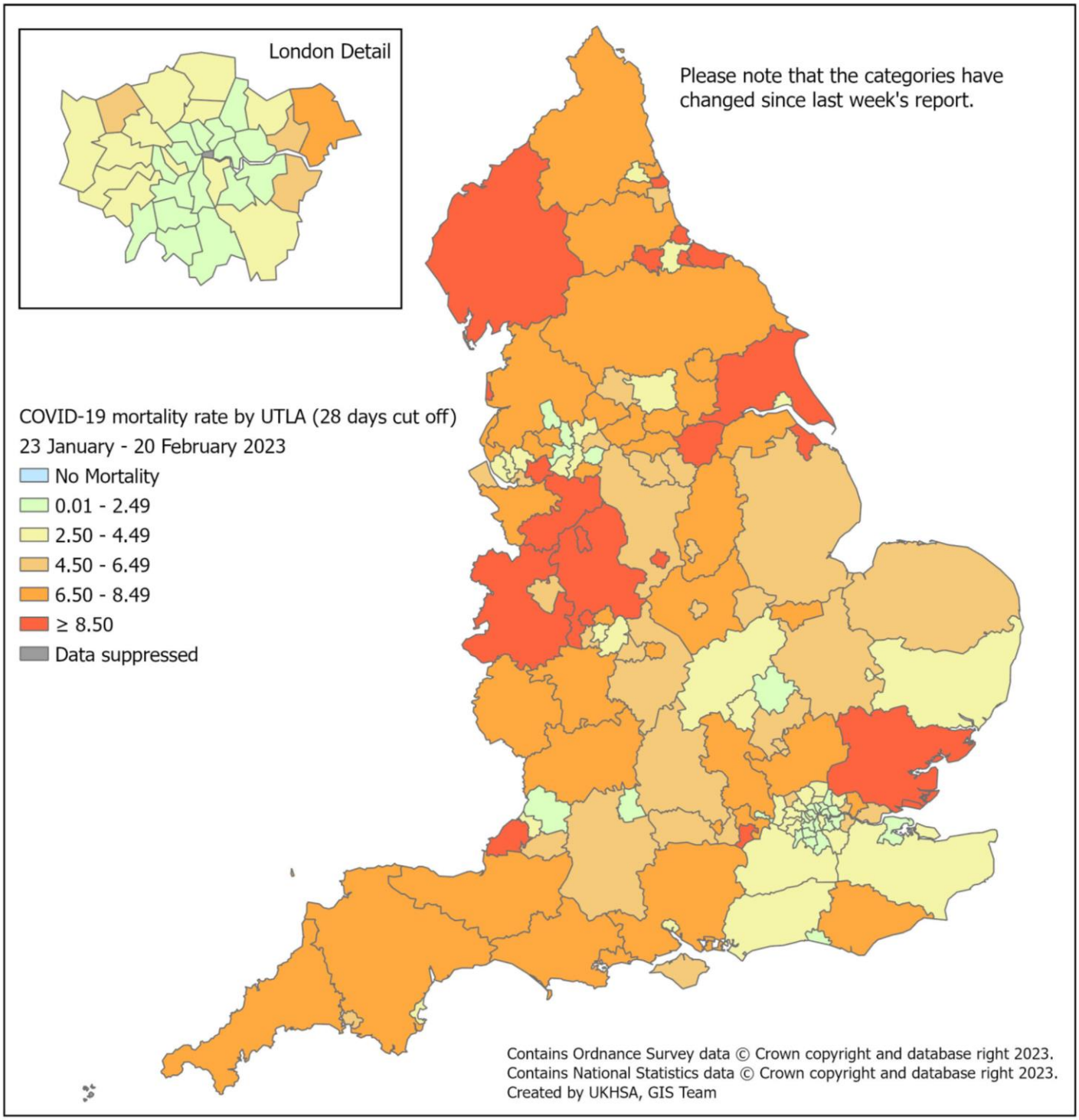
Figure 61: Number of deaths by week of death and time since a positive COVID-19 test (28 day definition), England



* 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 62: Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillars 1 and 2 for the weeks 4 to 7 by 28 day definition



Daily excess all-cause mortality (England)

Deaths occurring from 1 January 2020 to 15 February 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 63).

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 64 and 65.

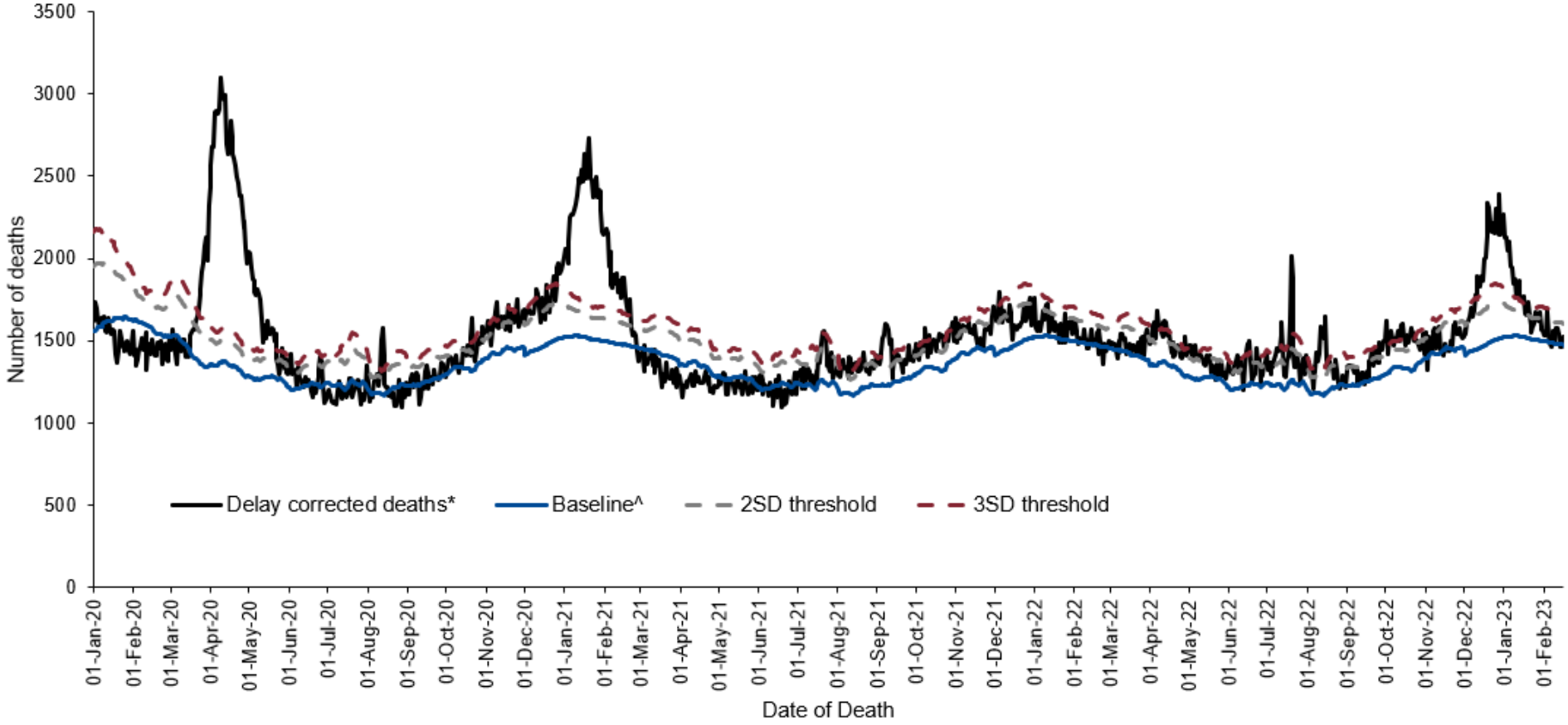
Note that as this data is by date of death with delay corrections, numbers are subject to change each week, particularly for more recent days. The current week's model supersedes models presented in previous week.

No excess all-cause mortality was observed in week 6.

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 63: Daily excess all-cause deaths in all ages, England, 1 January 2020 to 15 February 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)

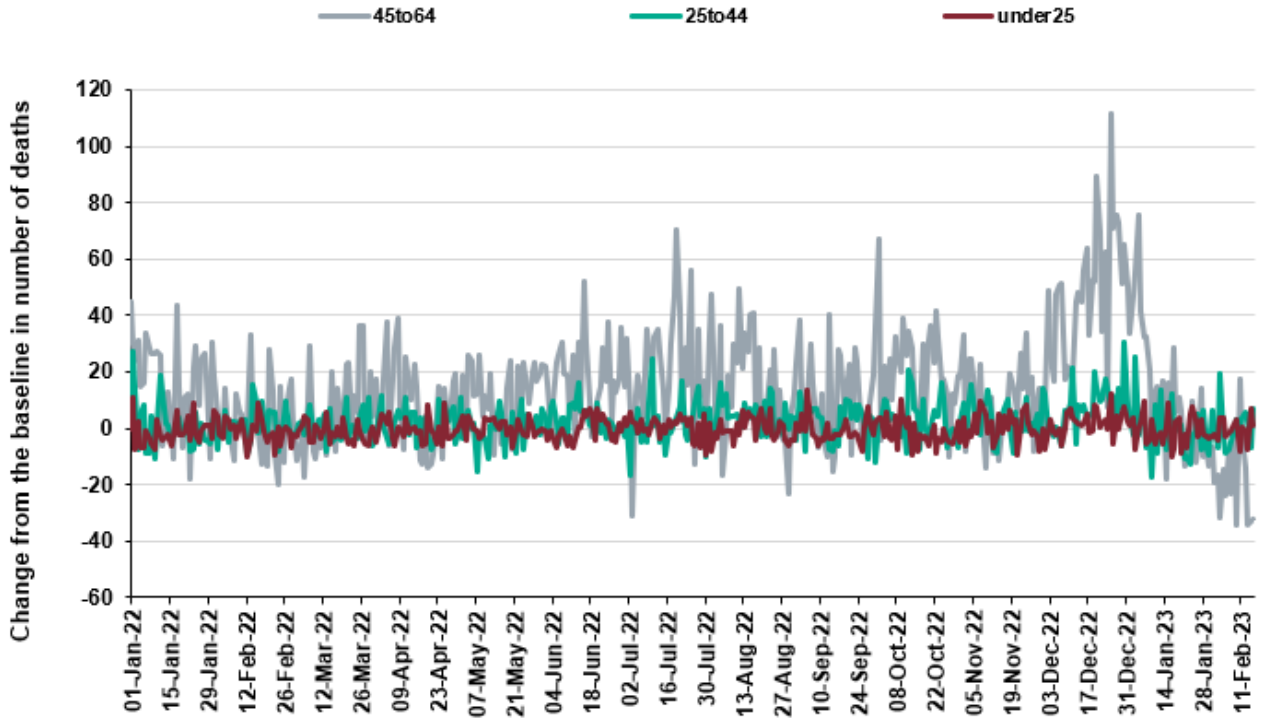
Age Group	Excess detected in week 6 2023	Weeks in excess from week 10 to 53 2020	Weeks in excess from week 1 to 52 2021	Weeks in excess from week 1 to 52 2022	Weeks in excess from week 1 2023
All	No	13 to 21, 33, 43, 45, 50, 52 to 53	01 to 07, 29, 31 to 32, 36, 42 to 43, 48 to 49	14 to 15, 17 to 18, 23 to 24, 27 to 29, 31 to 33, 39 to 42, 49 to 52	01 to 02, 04
under 25	No	None	None	None	None
25 to 44	No	14 to 16	None	None	None
45 to 64	No	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 52	01
65 to 74	No	13 to 19, 46, 48, 52 to 53	01 to 07, 36, 43, 48	32, 50 to 52	01
75 to 84	No	13 to 21, 33, 45, 49, 52 to 53	01 to 07, 32, 36, 40, 42	14 to 18, 22 to 25, 28 to 29, 31 to 32, 38 to 42, 49 to 52	01 to 02, 04
85+	No	13 to 21, 33, 53	01 to 07, 31, 36	23, 28 to 29, 32, 39, 41, 50 to 52	01 to 02

b)

UKHSA Centres	Excess detected in week 6 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	No	14 to 19, 52 to 53	01 to 07	23, 27, 29, 50 to 52	None
East Midlands	No	13 to 19, 48	01 to 07	29, 52	None
London	No	12 to 19, 33, 52 to 53	01 to 06, 36	29, 50 to 52	None
North East	No	14 to 21	02 to 04	52	01
North West	No	13 to 19, 33, 42 to 47	01 to 07, 31 to 32, 36, 43	14 to 15, 29 to 30, 32, 42, 50 to 52	01 to 02
South East	No	13 to 21, 33, 50 to 53	01 to 07, 36, 41, 49	14, 28, 32, 40 to 42, 49 to 52	01 to 02
South West	No	13 to 19, 33	02 to 07, 29, 36	17, 29, 32, 34, 39, 50 to 52	01
West Midlands	No	13 to 20, 45, 48	01 to 07, 29, 36, 40, 48	13, 29, 32, 41, 51 to 52	01
Yorkshire and Humber	No	14 to 21, 23, 43 to 50	02 to 04, 32, 35 to 36	15, 29, 32, 42, 50 to 52	01

Figure 64: Daily excess all-cause deaths by age group, England, 1 January 2022 to 15 February 2023

(a)



(b)

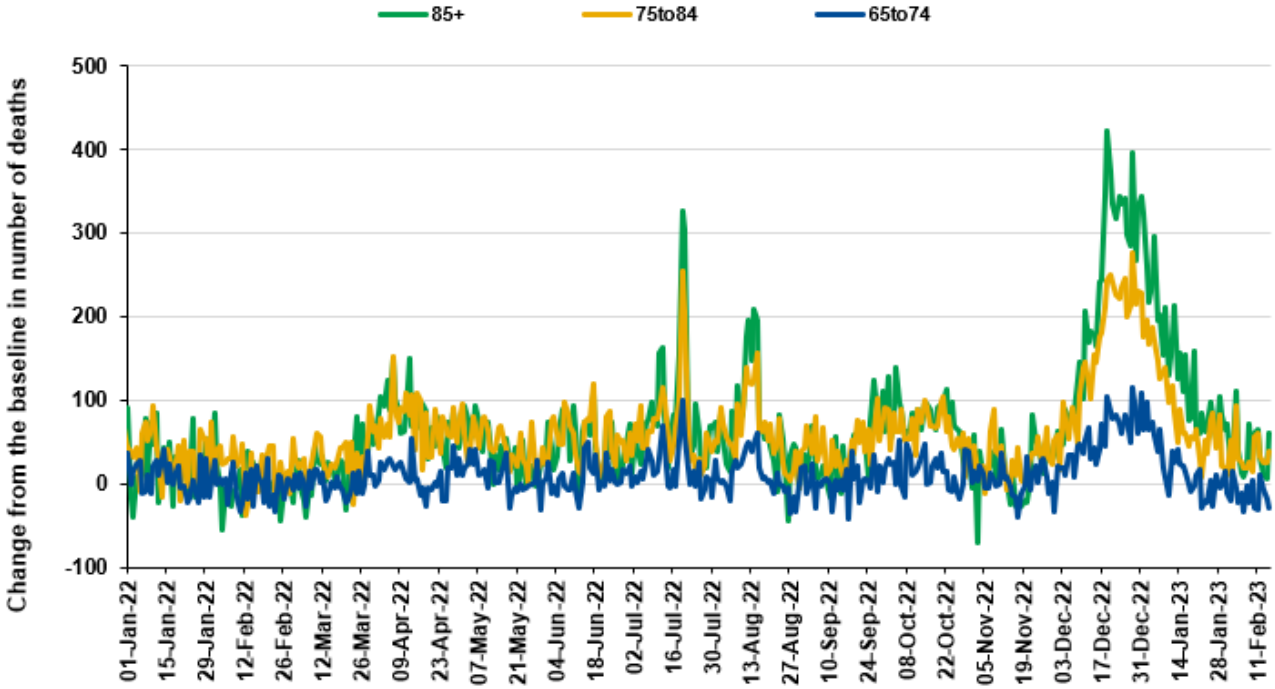
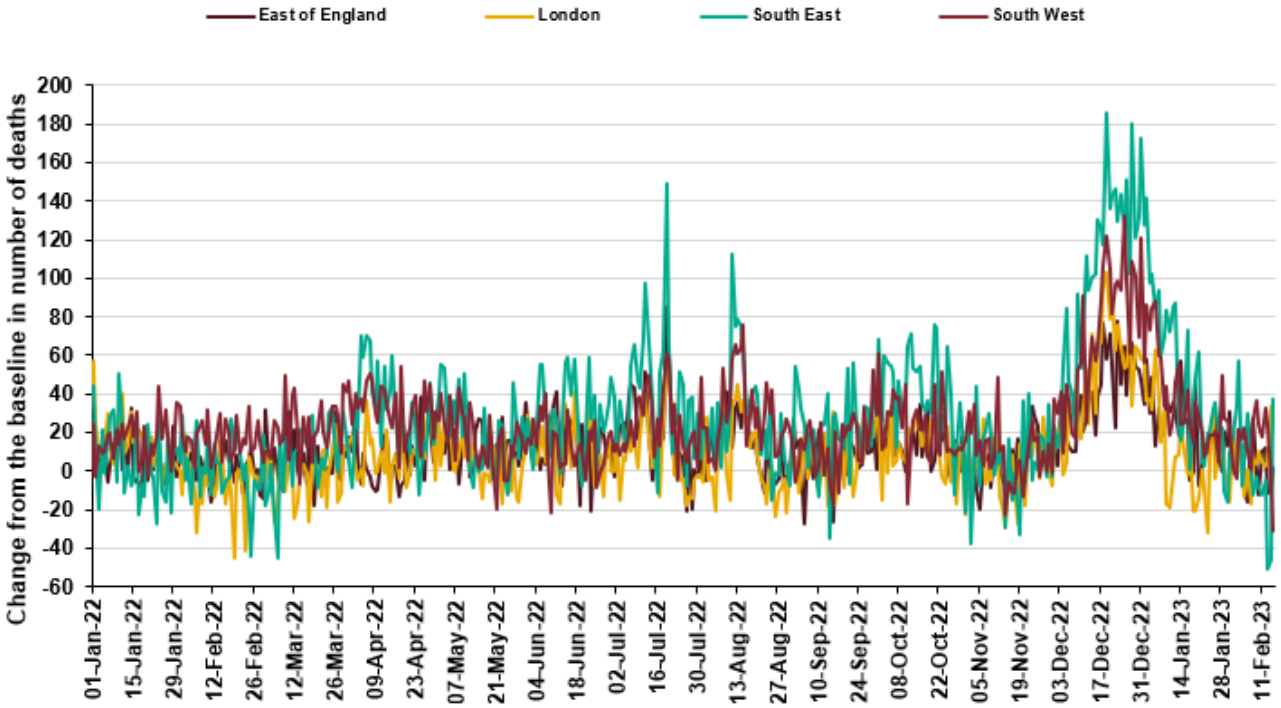
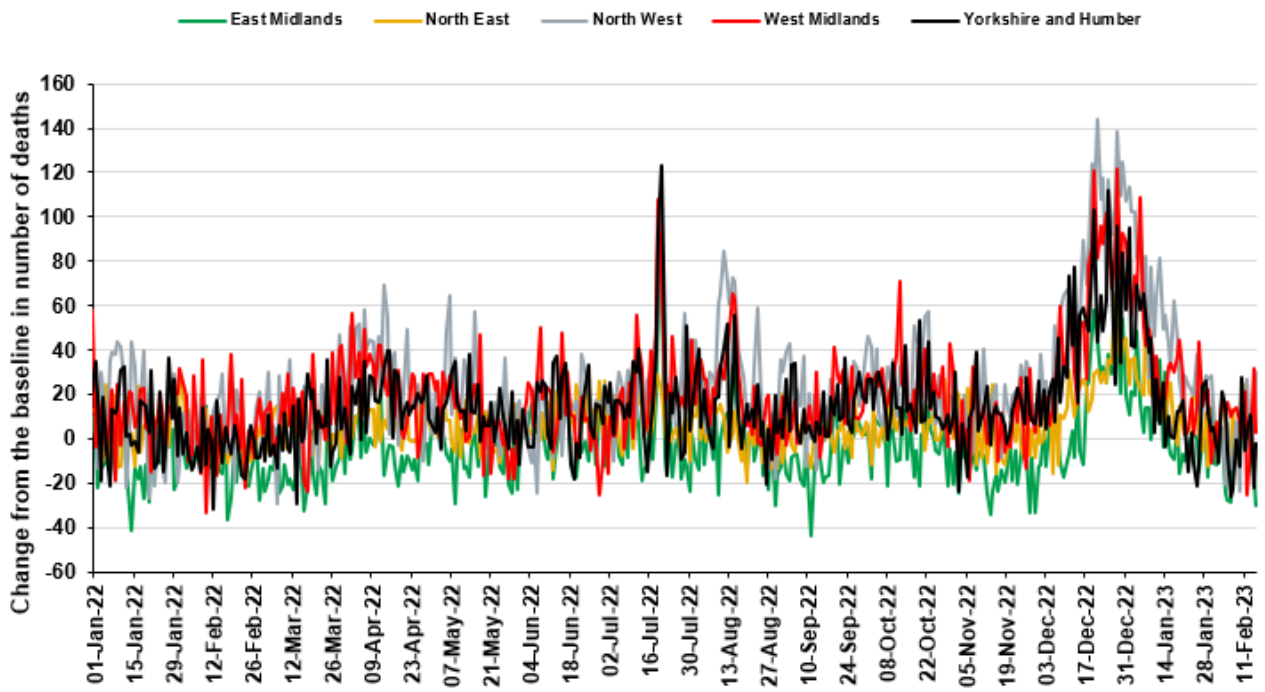


Figure 65: Daily excess all-cause deaths by UKHSA centre, England, 1 January 2022 to 15 February 2023

(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 8 2023 the UKHSA Respiratory Virus Unit have genetically characterised, by sequencing of the haemagglutinin (HA) gene, 2,385 influenza A viruses (1,577 A(H3N2) and 808 A(H1N1)pdm09 viruses) and 72 influenza B viruses.

The 1,577 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 808 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.

The 72 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 9 influenza B positive samples collected since week 40, all from children aged between 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 7 2023 have been analysed. No viruses with known markers of resistance to neuraminidase inhibitors were detected in 1,350 A(H3N2) and 69 influenza B NA sequences analysed. Of 737 A(H1N1)pdm09 NA sequences analysed, one oseltamivir resistant virus with an H275Y amino acid substitution present as a mixed population (80% H275Y) was detected. The sample was collected from an immune compromised adult, post oseltamivir treatment, in December 2022.

No viruses with known markers of resistance to baloxavir marboxil were detected in 1,101 A(H3N2), 559 A(H1N1)pdm09 and 61 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)	1,350	0	1,101	0
A(H1N1)pdm09	736	1	559	0
B/Victoria-lineage	69	0	61	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.

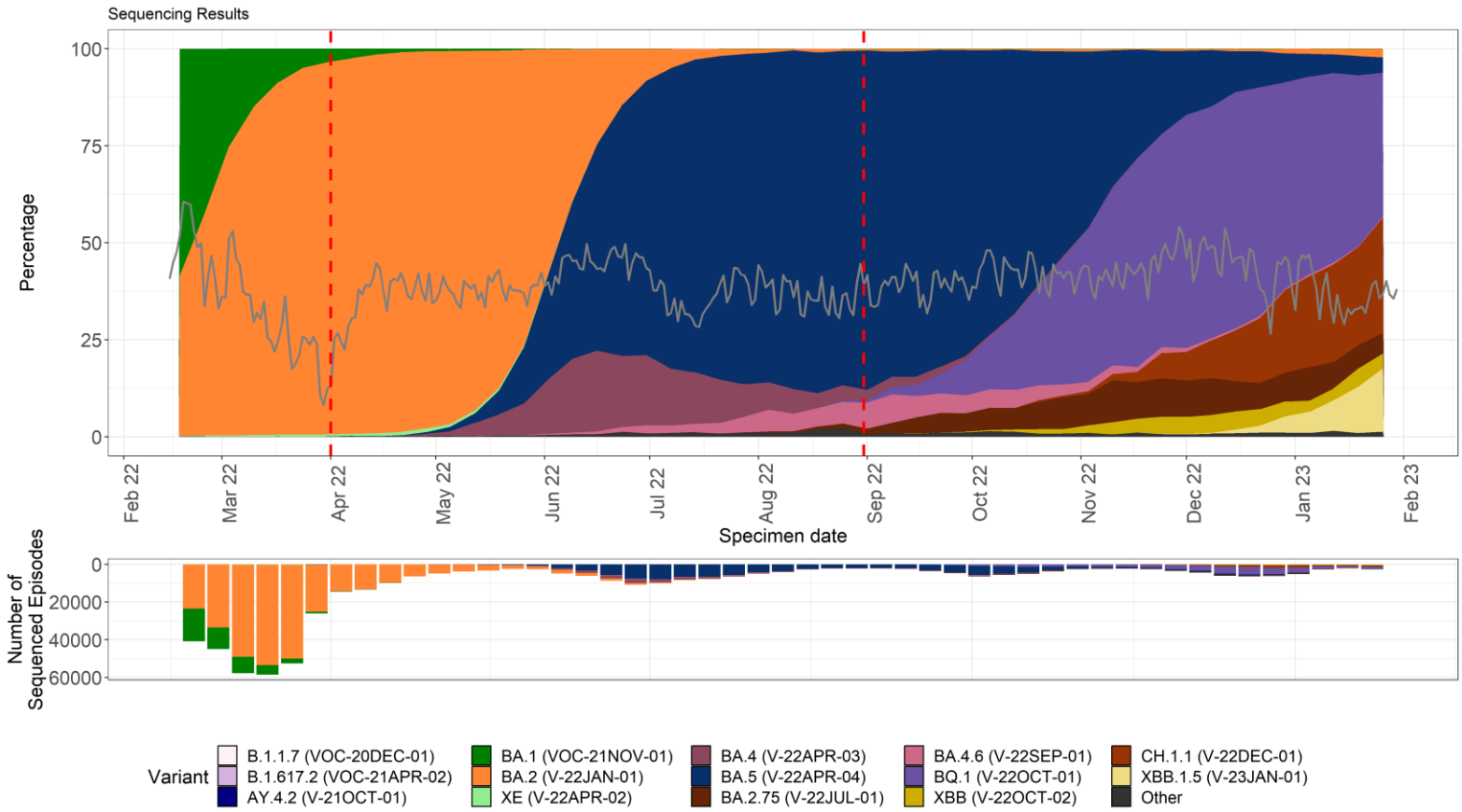
Detailed surveillance of particular variants of concerns can be found in recent technical briefings.

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 66.

To account for sequencing delays, we report the proportion of variants from sequenced episodes between 30 January 2023 and 5 February 2023. Of those sequenced in this period, 35.3% were classified as BQ.1 (V-22OCT-01), 25.9% as CH.1.1 (V-22DEC-01), 23.5% as XBB.1.5 (V-23JAN-01), 3.5% as BA.2.75 (V-22JUL-01), 5.4% as XBB (V-22OCT-02), 3.1% as BA.5 (V-22APR-04), 2.1% as BA.2 (V-22JAN-01) and 1.1% as Other.

Figure 66. Prevalence of SARS-CoV-2 variants amongst available sequences episodes for England from 1 February 2022 to 5 February 2023



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 5 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 5 (week ending 5 February 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	1	26/12/2022
VOC-21NOV-01	Omicron BA.1	9	22/01/2023
V-22JAN-01	Omicron BA.2	474	05/02/2023
V-22APR-03	Omicron BA.4	22	03/01/2023
V-22APR-04	Omicron BA.5	5,016	05/02/2023
V-22JUL-01	Omicron BA.2.75	3,699	05/02/2023
V-22SEP-01	Omicron BA.4.6	286	02/02/2023
V-22OCT-01	Omicron BQ.1	25,819	05/02/2023
V-22OCT-02	Omicron XBB	1,988	05/02/2023
V-22DEC-01	Omicron CH.1.1	8,286	05/02/2023
V-23JAN-01	Omicron XBB.1.5	2,352	05/02/2023

*****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 7 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	3,009	88
	Macrolides	3,389	84
	Tetracycline	3,182	83
H. influenzae	Amoxicillin or ampicillin	18,553	40
	Co-amoxiclav	22,094	47
	Macrolides	4,458	5
	Tetracycline	21,827	98
S. aureus	Methicillin	6,196	92
	Macrolides	7,368	70
MRSA	Clindamycin	331	53
	Tetracycline	408	72
MSSA	Clindamycin	4,203	77
	Tetracycline	5,000	94

* Macrolides = erythromycin, azithromycin and clarithromycin

‡ Specimen types = lower respiratory tract, bronchial, lung, alveolar lavage, pleura, chest, sputum, endotracheal aspirate, and pleural fluid

Data source: UKHSA's SGSS AMR module, please note that this is different to the data source used in the reports published between weeks 41 2020 to 05 2021 inclusive of the 2020/21 influenza season when the SGSS CDR module was used instead due to a PHE (now 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 05 2021. The AMR module of SGSS was used during the 2019/20 influenza season.

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.

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 07 2023 (week ending 19 February 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 7 2023 (week ending 19 February 2023), 65.8% (15,111,088 out of 22,956,269) of all people aged over 50 years old who are living and resident in England who had been vaccinated with an Autumn booster dose since 1 September 2022, Table 7 and Figure 67. Vaccine uptake of those aged over 80 years old was 83.7% (2,464,858 out of 2,944,680).

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	2,944,680	2,464,858	83.7
75 to under 80	2,407,809	2,011,653	83.5
70 to under 75	2,685,892	2,153,069	80.2
65 to under 70	2,993,417	2,192,082	73.2
60 to under 65	3,630,548	2,278,384	62.8
55 to under 60	4,128,633	2,202,051	53.3
50 to under 55	4,165,290	1,808,991	43.4
Total aged 50 and over	22,956,269	15,111,088	65.8

*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 67: 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

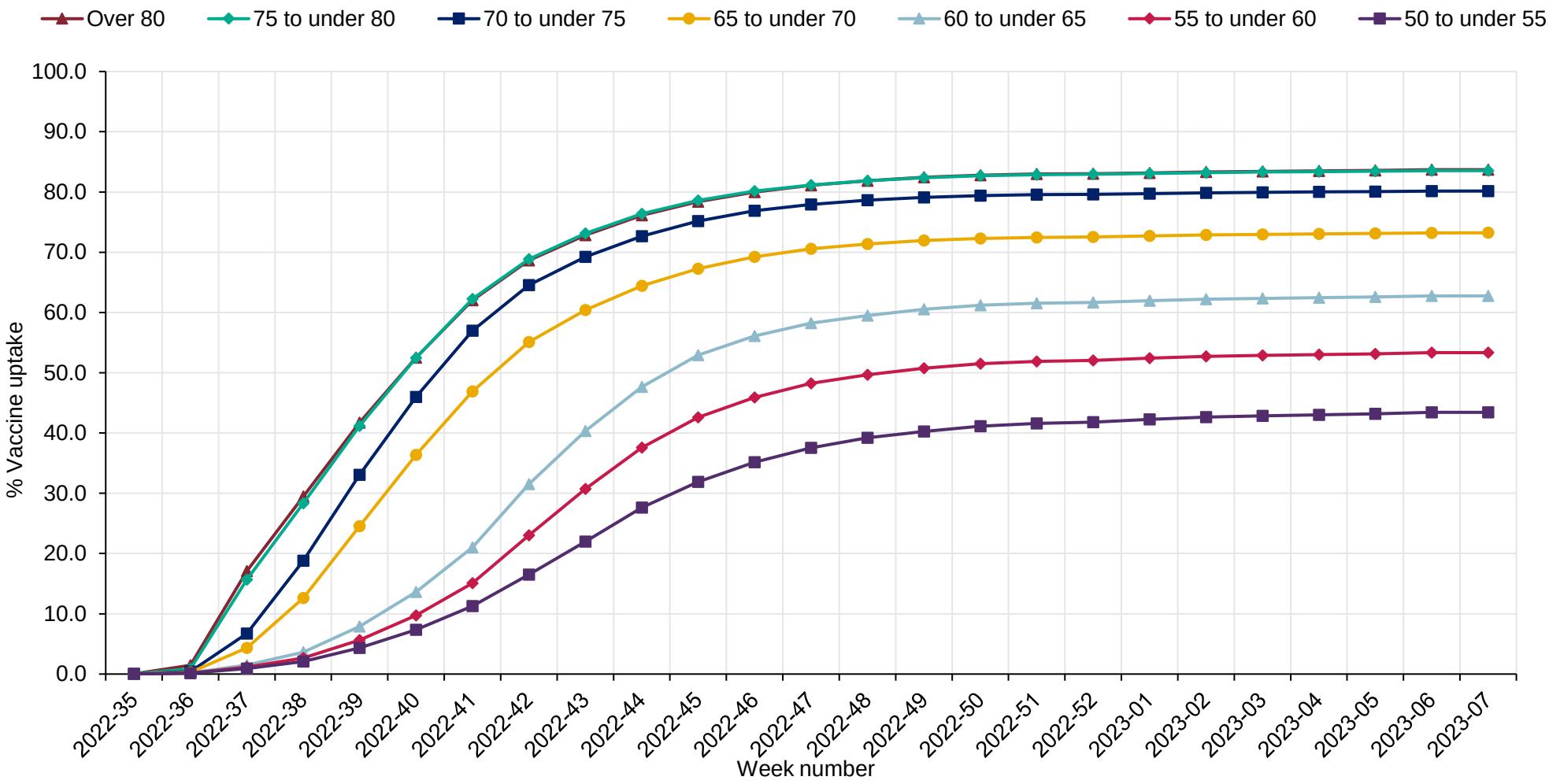


Table 8 presents data by eligibility at the end of December 2022 for the autumn booster campaign if they have completed a primary course of 2 doses and are at least 3 months (84 days) from their previous dose.

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	2,782,660	2,424,589	87.1
75 to under 80	2,286,236	1,992,813	87.2
70 to under 75	2,535,999	2,161,070	85.2
65 to under 70	2,753,917	2,190,781	79.6
60 to under 65	3,282,476	2,280,629	69.5
55 to under 60	3,658,313	2,215,656	60.6
50 to under 55	3,579,803	1,846,501	51.6
Total aged 50 and over	20,879,404	15,112,039	72.4

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	2,944,680	80,921	2.7	2,391,948	81.2	367,340	12.5
75 to under 80	2,407,809	62,278	2.6	1,956,110	81.2	301,369	12.5
70 to under 75	2,685,892	66,032	2.5	2,095,276	78.0	387,170	14.4
65 to under 70	2,993,417	86,795	2.9	2,113,811	70.6	588,012	19.6
60 to under 65	3,630,548	172,823	4.8	2,113,951	58.2	1,037,933	28.6
55 to under 60	4,128,633	220,049	5.3	1,990,252	48.2	1,488,580	36.1
50 to under 55	4,165,290	255,228	6.1	1,562,000	37.5	1,805,005	43.3
45 to under 50	3,870,904	81,850	2.1	495,962	12.8	2,597,176	67.1
40 to under 45	4,347,328	66,589	1.5	388,995	8.9	2,904,186	66.8
35 to under 40	4,648,688	59,723	1.3	323,523	7.0	3,003,137	64.6
30 to under 35	4,784,939	56,244	1.2	273,348	5.7	3,017,596	63.1
25 to under 30	4,400,209	44,987	1.0	204,752	4.7	2,794,862	63.5
20 to under 25	3,824,809	33,508	0.9	141,035	3.7	2,557,658	66.9
18 to under 20	1,397,582	14,873	1.1	42,164	3.0	923,114	66.1
16 to under 18	1,409,491	22,334	1.6	44,825	3.2	822,474	58.4
12 to under 16	2,969,207	28,368	1.0	77,114	2.6	1,310,037	44.1
5 to under 12	5,014,463	47,476	0.9	125,911	2.5	365,833	7.3

This table was replaced on 13 April 2023 to correct a copying error in the last two columns.

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 68: 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

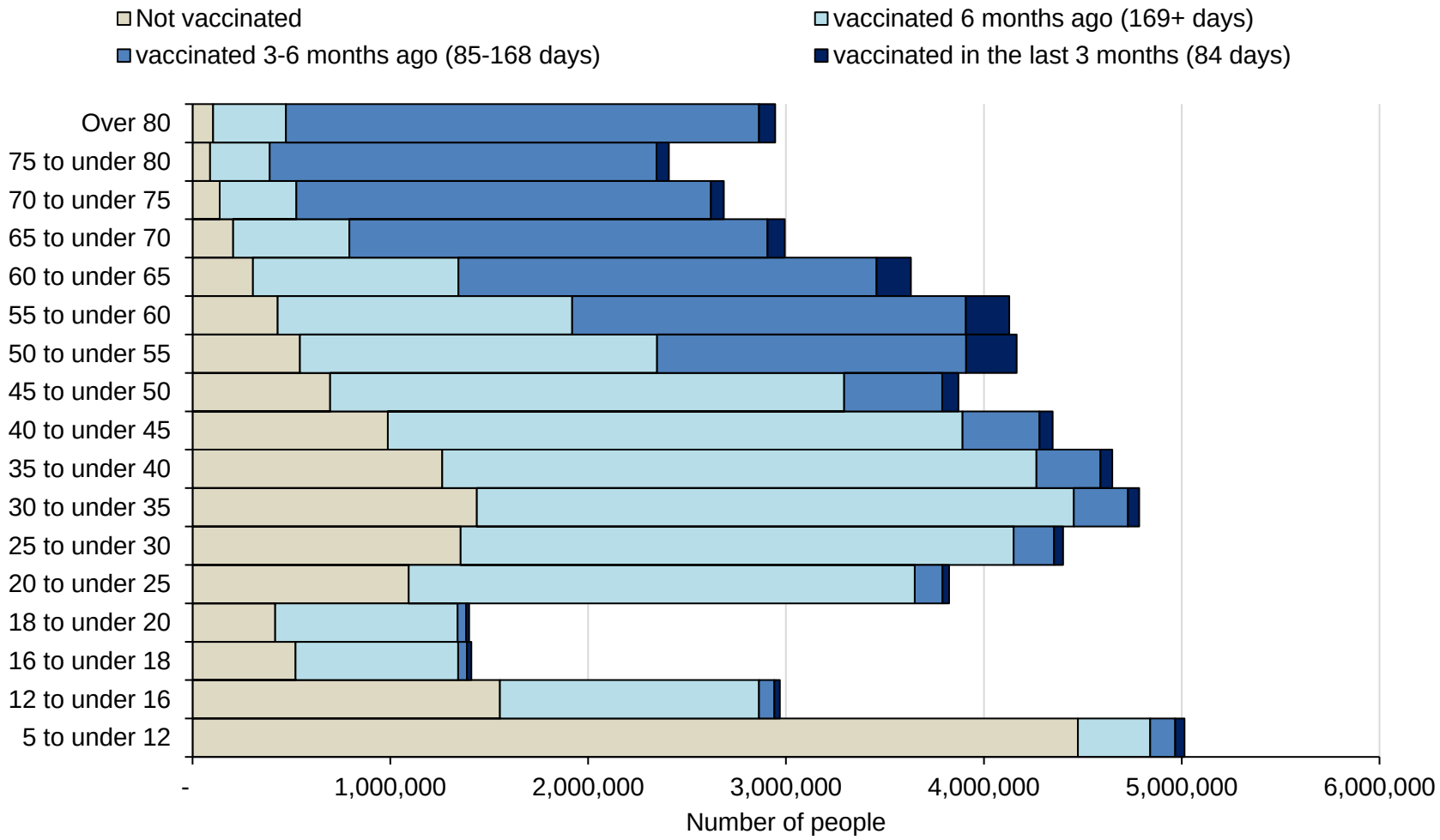


Figure 69: Provisional data on the proportion of people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago by ethnicity in those living and resident in England, aged 50 and over

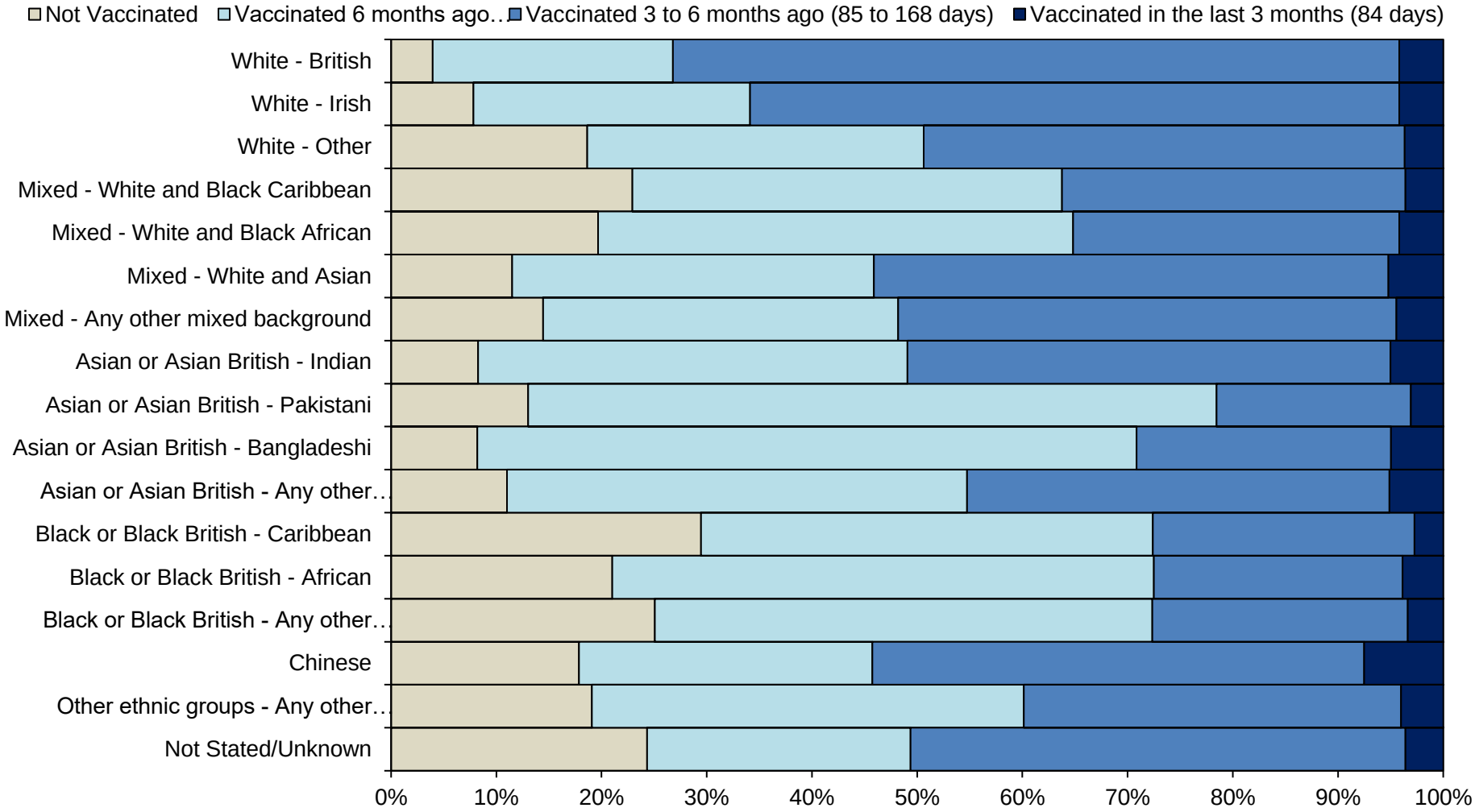
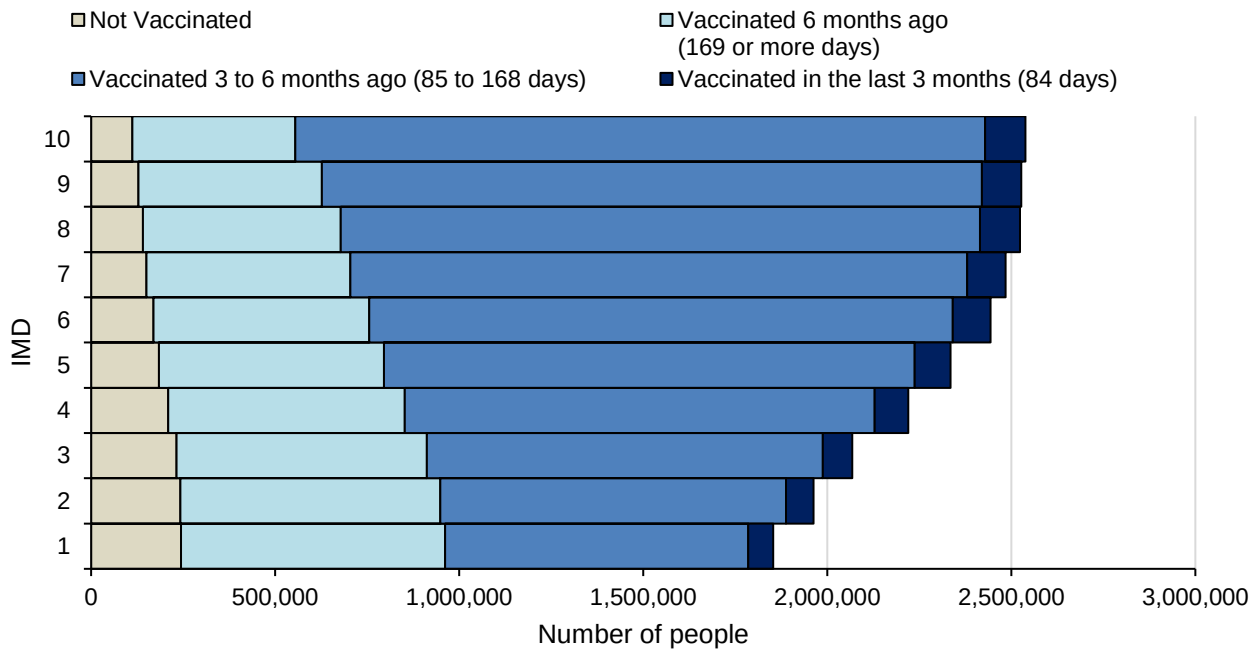


Figure 70: Provisional cumulative people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago by indices of multiple deprivation (IMD)* in those living and resident in England, aged 50 and over



*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.

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.

Influenza vaccination

Influenza vaccine uptake in GP patients

This week, monthly data which cover vaccinations that were given between 1 September and 31 January 2023 for GP patients, frontline healthcare workers and school aged children has been published for the fifth time this season and comparator data is available for previous seasons. The monthly GP report includes ethnicity data for at-risk groups, pregnant women and 65 years and over.

For at risk groups aged 16 to under 65 years when grouped by ethnicity, the highest vaccine uptake was seen in some White (British and Irish) and some Asian (Bangladeshi, Indian, Chinese, Any other Asian background) groups with the lowest uptake seen in some Black groups (Caribbean, Mixed White and Black Caribbean, Any other Black background).

For pregnant women, when grouped by ethnicity, the highest vaccine uptake was seen in the Chinese group and some White (British and Irish) and some Asian (Indian, Any other Asian background and Mixed White and Asian) groups, with the lowest uptake seen in some Black ethnicities (Caribbean, Mixed White and Black Caribbean, Any Other Black background).

For 65 years and over when grouped by ethnicity, the highest vaccine uptake was seen in the White – British group with the lowest uptake seen in Black groups and the Pakistani group.

Influenza vaccine uptake in school age children

This week, provisional monthly data on influenza vaccine uptake in children of school years Reception to Year 11 was published, showing the provisional proportion of children who received the 2022 to 2023 influenza vaccine via school, pharmacy or GP practice between 1 September and 31 January 2023. For primary school-aged children uptake is comparable at this timepoint in the season to last season, but below that seen in the 2020 to 2021 season (which saw the highest on record for primary school aged children).

Influenza vaccine uptake in healthcare workers

This week, provisional monthly data on influenza vaccine uptake in frontline healthcare workers was published, showing vaccine uptake at national, commissioning region, and Trust level, and by staff group, between 1 September and 31 January 2023.

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

Updated 20 February 2023 (based on data up to 5 February 2023) (WHO website).

Globally, influenza activity was decreased compared to the peak in late 2022. Influenza A viruses predominated with a slightly larger proportion of A(H1N1)pdm09 viruses detected among the subtyped influenza A viruses. The proportion of influenza B virus detections increased during this reporting period.

In the countries of North America, most indicators of influenza activity decreased to levels similar or below levels typically observed towards the end of the season. Influenza A viruses predominated, and influenza A(H3N2) accounted for the majority of subtyped influenza A viruses in the United States of America (USA), whereas A(H1N1)pdm09 accounted for the majority of subtyped influenza A viruses in Canada.

In Europe, overall influenza detections remained stable and influenza positivity from sentinel sites increased slightly and remained above the epidemic threshold at the regional level. Half of the countries reported high or moderate intensity, and most reported widespread activity. Overall, influenza A viruses predominated with A(H1N1)pdm09 accounting for the majority of subtyped influenza viruses from primary care sentinel sites but with regional differences. The proportion of influenza B viruses increased in recent weeks. Other indicators of influenza activity decreased in most countries while a few countries reported increases.

In Central Asia, influenza activity decreased overall.

In Northern Africa, activity remained elevated with continued detections of all seasonal influenza subtypes reported in Morocco and Tunisia.

In Western Asia, influenza activity decreased overall with all seasonal influenza subtypes detected, although increased activity continued to be reported in some countries.

In East Asia, influenza activity remained low overall although detections of all seasonal influenza subtypes increased in Mongolia in recent weeks.

In the Caribbean and Central American countries, influenza activity of influenza A(H3N2) and B viruses continued to decrease due to decreased detections reported by Mexico.

In the tropical countries of South America, influenza remained low with all seasonal subtypes co-circulating.

In tropical Africa, influenza activity was highest in eastern Africa but remained low overall with detections of all seasonal influenza subtypes reported.

In Southern Asia, influenza activity remained low with all seasonal influenza subtypes detected.

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

In the temperate zones of the southern hemisphere, influenza activity remained at inter-seasonal levels.

The WHO GISRS laboratories tested more than 435,112 specimens during that time period. 27 978 were positive for influenza viruses, of which 19,219 (68.7%) were typed as influenza A and 8,759 (31.3%) as influenza B. Of the sub-typed influenza A viruses, 3,040 (57.9%) were influenza A(H1N1)pdm09 and 2,211 (42.1%) were influenza A(H3N2). Of the characterized B viruses (900), 100% belonged to the B/Victoria lineage.

Influenza in Europe

Updated for data for week 6 2023 (Joint ECDC-WHO Europe Influenza weekly update).

The percentage of all 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%) at 25%, same as in the previous week. Influenza activity had been decreasing across the Region since week 51/2022, with a slight increase in positivity in sentinel primary care starting from week 5/2023 related to increased type B virus circulation. Countries are experiencing a mixed distribution of circulating viruses with increasing circulation of A(H1)pdm09 and type B viruses.

For week 6 2023, of 38 countries and areas reporting on intensity of influenza activity, 10 reported baseline intensity (eastern, northern and western), 5 reported low intensity (Belgium, Czechia, France, Greece and Luxembourg), 18 reported medium intensity (across the Region), 5 reported high intensity (Croatia, Kosovo and Poland, Russian Federation and Slovakia).

Of 37 countries and areas reporting on geographic spread of influenza viruses, 1 reported no activity (Tajikistan), 3 reported sporadic spread (Azerbaijan, United Kingdom (Northern Ireland) and Uzbekistan), 2 reported local spread (Malta and Slovakia), 6 reported regional spread (Austria, Bulgaria, Czechia, Georgia, North Macedonia and Kosovo) and 25 reported widespread activity (across the Region).

For week 6/2023, 927 (25%) of 3 645 sentinel specimens tested positive for an influenza virus; 51% were type A and 49% were type B. Of 287 subtyped A viruses, 71% were A(H1)pdm09 and 29% A(H3). All 100 type B viruses ascribed to a lineage were Victoria lineage.

Of 33 countries and areas across the Region that each tested at least 10 sentinel specimens in week 6 2023, 26 reported a rate of influenza virus detections above 10% (median 30%; range 12% to 67%): Netherlands (67%), Israel (51%), Slovenia (48%), France (48%), Armenia (45%), Denmark (43%), Switzerland (42%), Czechia (39%), Ukraine (38%), Luxembourg (37%), Hungary (34%), Spain (31%), Romania (31%), Republic of Moldova (28%), Norway (28%), Slovakia (28%), Portugal (25%), Sweden (25%), Poland (23%), Estonia (19%), Italy (18%), Kosovo (17%), Austria (15%), Germany (13%), Kyrgyzstan (12%) and Lithuania (12%).

For the season to date, 18,830 (23%) of 80,458 sentinel specimens tested positive for an influenza virus. More influenza type A (n=16,431, 87%) than type B (n=2,399, 13%) viruses have been detected. Of 13,507 subtyped A viruses, 9,480 (70%) were A(H3) and 4,027 (30%) were A(H1)pdm09. All 690 influenza type B viruses ascribed to a lineage were Victoria lineage (71% of type B viruses were reported without a lineage).

For week 6 2023, 10,149 of 66,832 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; 5,899 (58%) were type A and 4,250 (42%) were type B. Of 779 subtyped A viruses, 571 (73%) were A(H1)pdm09 and 208 (27%) A(H3). Of 102 type B viruses ascribed to a lineage, all were Victoria lineage.

For the season to date, more influenza type A (n=166,211, 88%) than type B (n=23,477, 12%) viruses have been detected. Of 50,387 subtyped A viruses, 27,145 (54%) were A(H1)pdm09 and 23,242 (46%) were A(H3). Of 1,579 influenza type B viruses ascribed to a lineage, all 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

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