



UK Health
Security
Agency

Weekly national Influenza and COVID-19 surveillance report

Week 12 report (up to week 11 data)

23 March 2023

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

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

Overall

In week 11, from most indicators, influenza activity remained stable compared with week 10. Confirmed influenza admissions and critical care admissions for children aged between 0 and 4 years increased in week 11. Influenza B was more commonly reported than influenza A in hospitalised patients. COVID-19 activity showed a mixed picture – with some indicators suggesting a slight increase.

COVID-19

COVID-19 case rates through Pillar 1 decreased or remained stable in week 11, in most age groups, most regions, and ethnic groups.

Through Respiratory Datamart, SARS-CoV-2 positivity was broadly stable at 9.7% compared with 9.3% previous week.

Through primary care surveillance, COVID-19 indicators increased compared with the previous week.

The overall number of reported COVID-19 confirmed outbreaks remained stable compared with the previous week. The highest number of incidents continue to be in care homes, with 100 COVID-19 confirmed outbreaks occurring in England in week 11 compared with 103 in week 10.

Overall, COVID-19 hospitalisations increased slightly in week 11 compared with week 10. Hospitalisations were highest in the 85 years and over age group and increased significantly in week 11. ICU admission rates due to COVID-19 remained low and stable. Through syndromic surveillance indicators, emergency department attendances for covid-like illness increased slightly nationally particularly in those aged 65 years old and over.

Deaths with COVID-19 increased in week 10 compared with week 9.

The COVID-19 Autumn booster vaccination campaign commenced in early September. By the end of week 10, 65.7% of all people aged over 50 years who are living and resident in England had been vaccinated with an Autumn booster dose.

Influenza

In week 11, influenza remained low and stable at 1.6% compared with week 10, with highest positivity seen in the 15 to 44 year old age group at 4.2%. Influenza B positivity remained low at 1.2% in week 11 compared with 1.6% in week 10.

Through primary care surveillance, the influenza-like-illness consultations indicator remained stable in week 11 compared with the previous week and was within the baseline activity level range.

No influenza confirmed outbreaks were reported in week 11 in England.

Influenza hospital admissions increased slightly in week 11 compared with the previous week. The rate in the latest week increased to the low activity threshold. By UKHSA Centre, the highest hospitalisation rate was observed in London (4.11 per 100,000). By age group, the highest hospital admission rate for influenza was in those under 5 years old (5.04 per 100,000). Influenza ICU admissions increased slightly in week 11 and remained within the baseline range of activity.

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

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 sixth and final time during the 2022 to 2023 season.

RSV

The overall positivity for RSV remained low at 0.9%, with the highest positivity in those aged under 5 years old at 2.0%. In week 11, the overall hospital admission rate for RSV remained low at 0.11 per 100,000. Emergency department attendances for acute bronchiolitis remained stable nationally.

Other viruses

Adenovirus positivity increased slightly to 4.0%, with the highest positivity in those aged under 5 years old at 10.3%. Human metapneumovirus (hMPV) positivity remained stable at 3.5%, with the highest positivity in those aged under 5 years old at 5.6%. Parainfluenza positivity increased to 5.0%, with the highest positivity in those aged under 5 years old at 11.6%. Rhinovirus positivity decreased to 14.3% overall, with the highest positivity in those aged under 5 years old at 30.7%.

Other indicators

During week 11, NHS 111 calls for cough remained stable nationally. Calls for cold or flu increased slightly nationally, with increases in those aged over 65 years old.

The primary care lower respiratory tract infection rate decreased slightly in week 11.

Emergency department attendances for acute respiratory infection increased slightly nationally.

No excess deaths (from all causes) were observed in week 10.

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 March 2023, a total of 2,042,418 episodes have been confirmed for COVID-19 in England under Pillar 1, and 18,663,359 episodes under Pillar 2, since the beginning of the pandemic. COVID-19 case rates through Pillar 1 decreased or remained stable in week 11, across most age groups, most regions, and ethnic groups. The number of Pillar 1 COVID-19 episodes decreased to 6,768 in week 11 compared with 7,530 in week 10.

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.

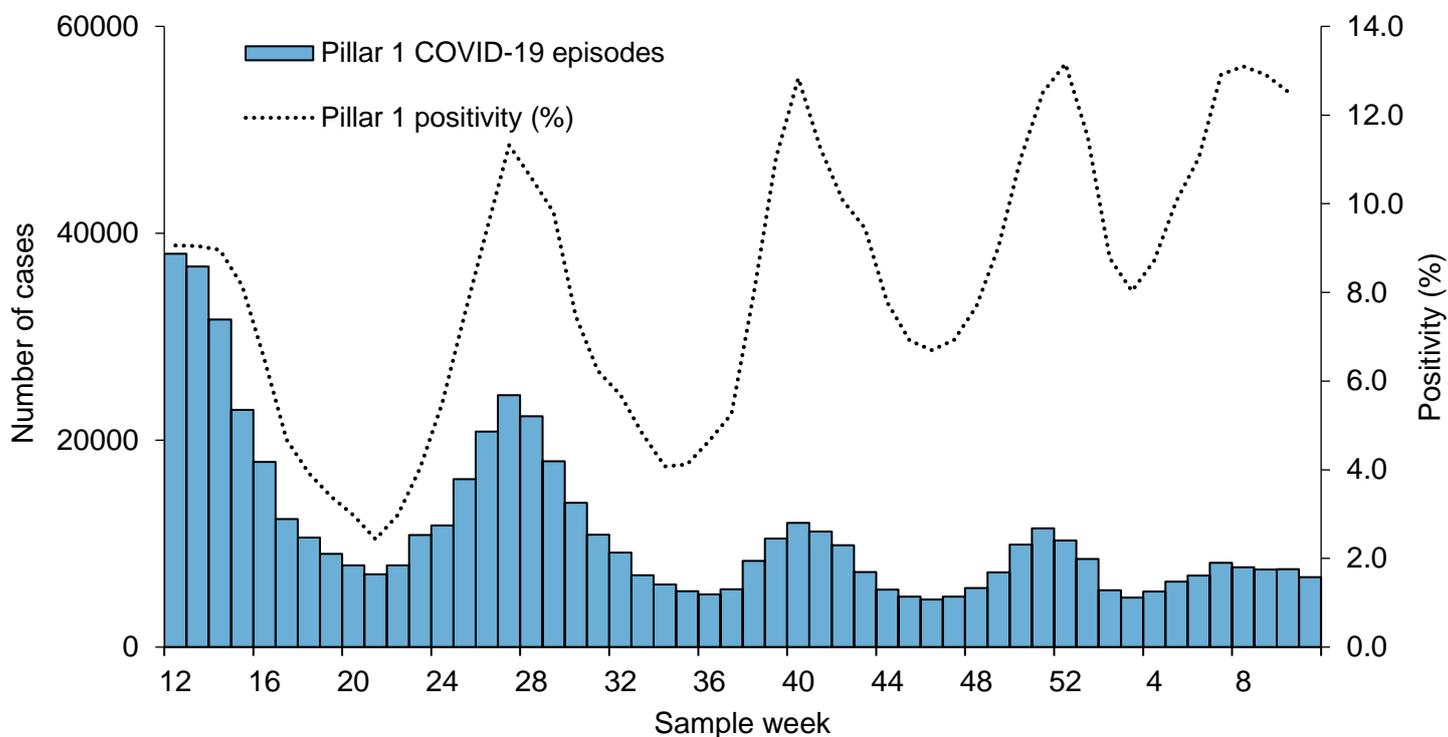
Data is shown by the week the specimen was taken from the person being tested. This gives the most accurate analysis of this time progression. However, for the most recent week results for more samples are expected therefore this should be interpreted with caution.

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

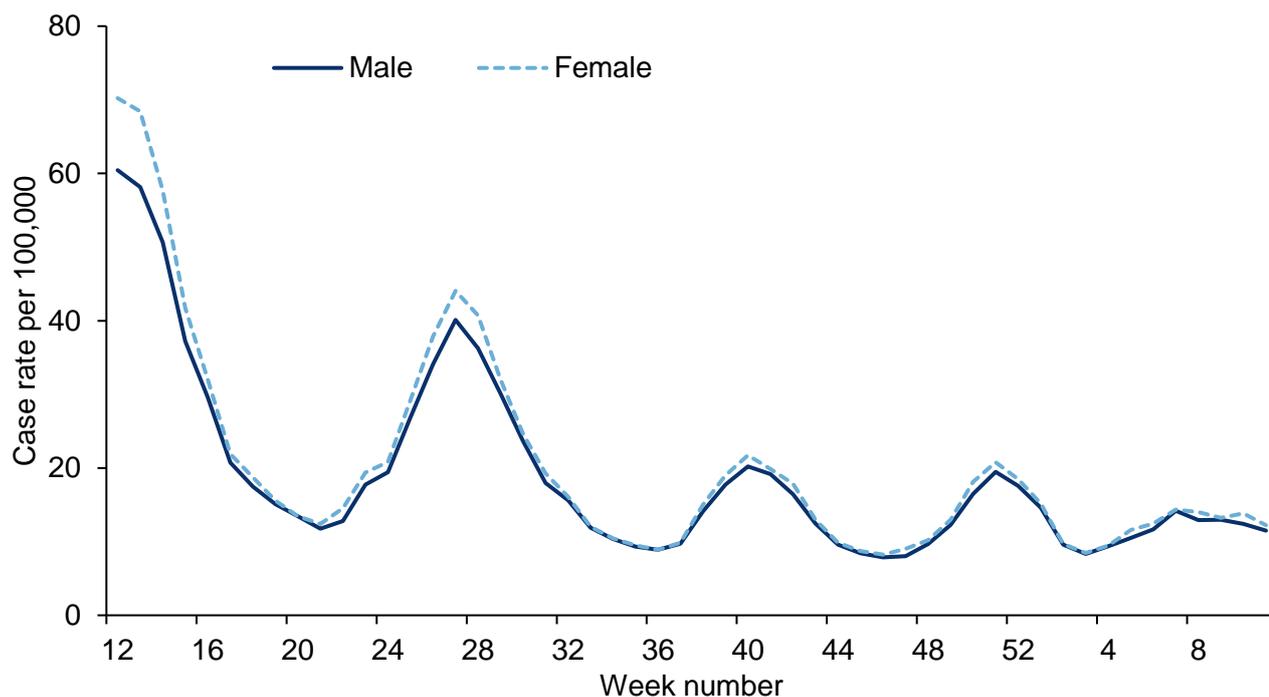


Figure 3: Weekly confirmed COVID-19 case rates per 100,000, by episode, tested under Pillar 1, by age group

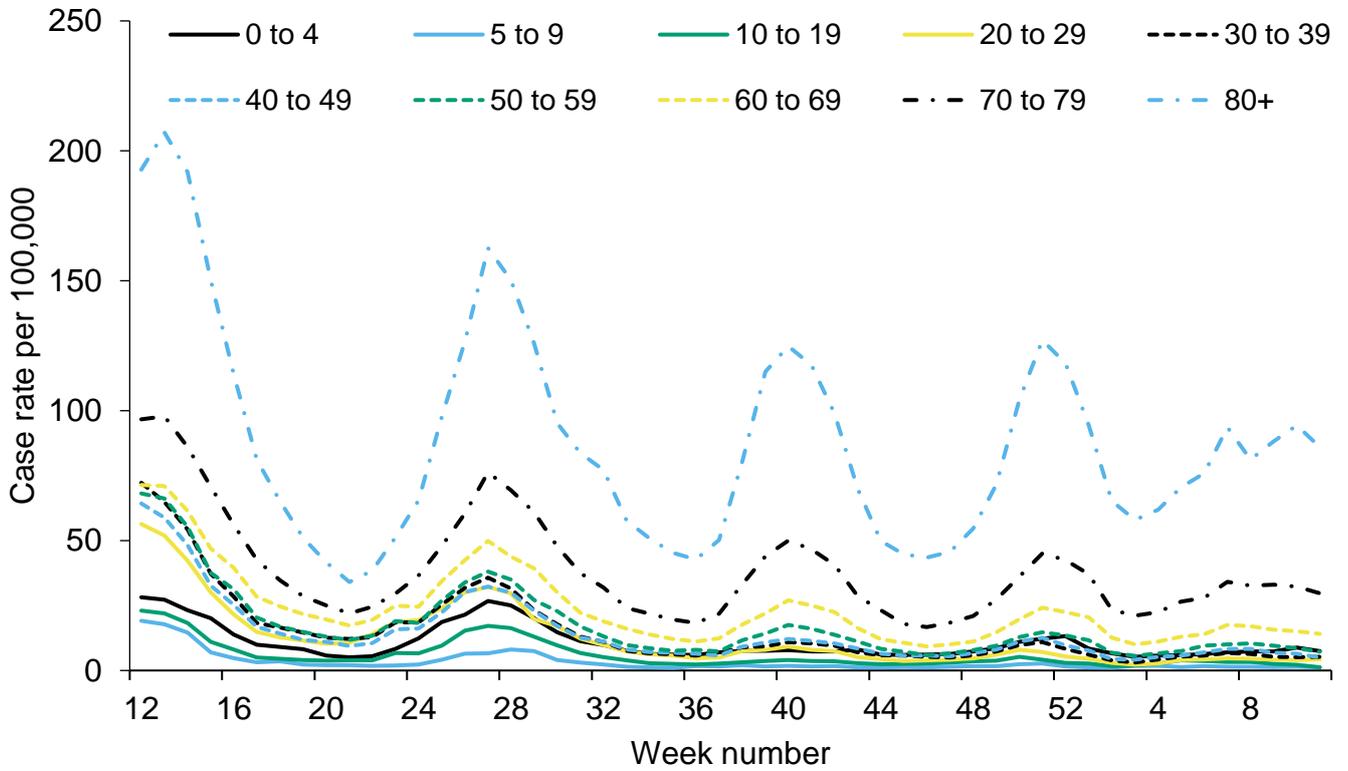


Figure 4: Weekly PCR positivity (%) of confirmed COVID-19 cases tested overall and by sex under Pillar 1

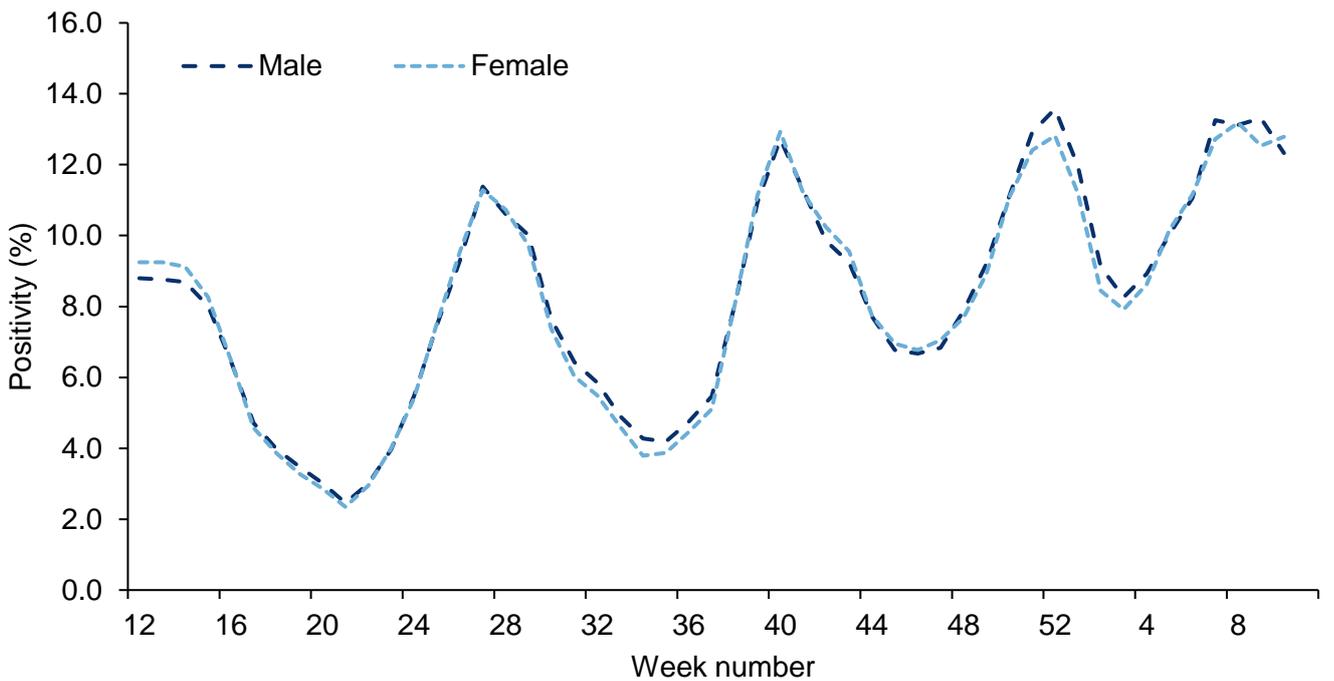
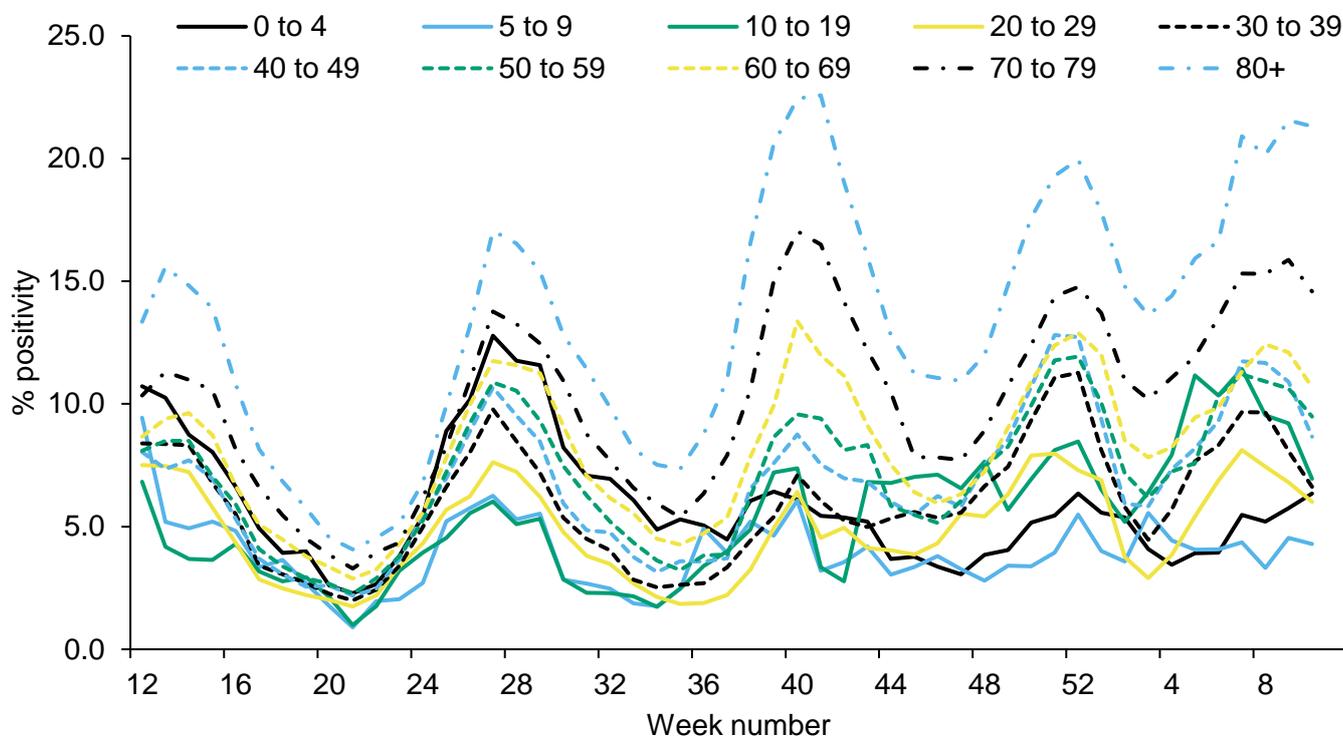
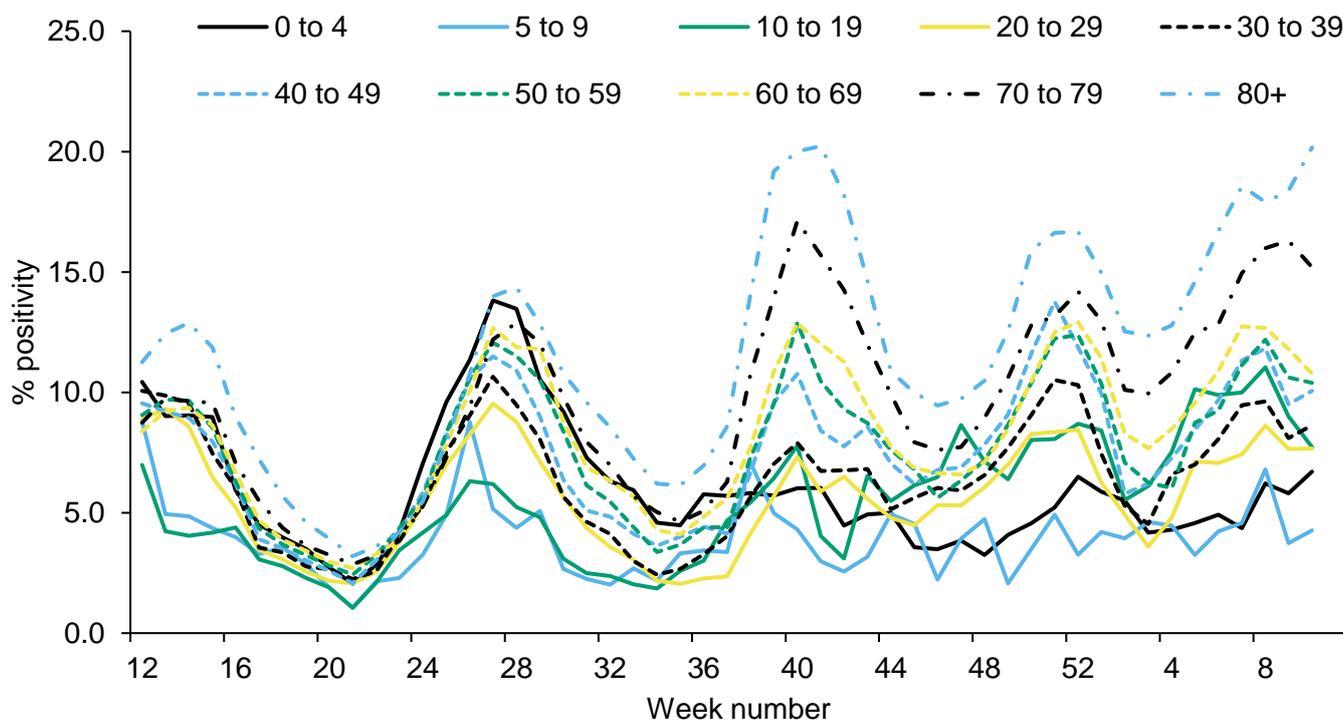


Figure 5: Weekly PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1, (a) by male and age group and (b) by female and age group

(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

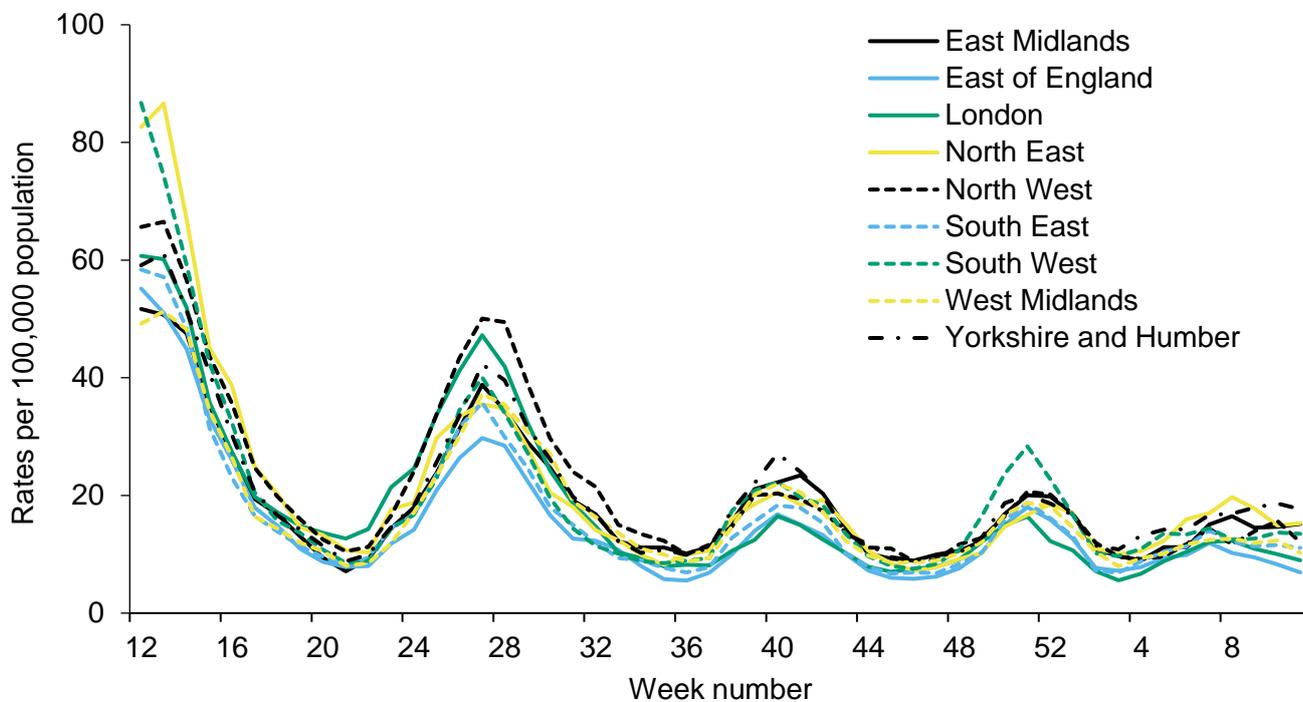


Figure 7: Weekly PCR positivity of confirmed COVID-19 cases tested under Pillar 1 (%) by UKHSA centres and sample week

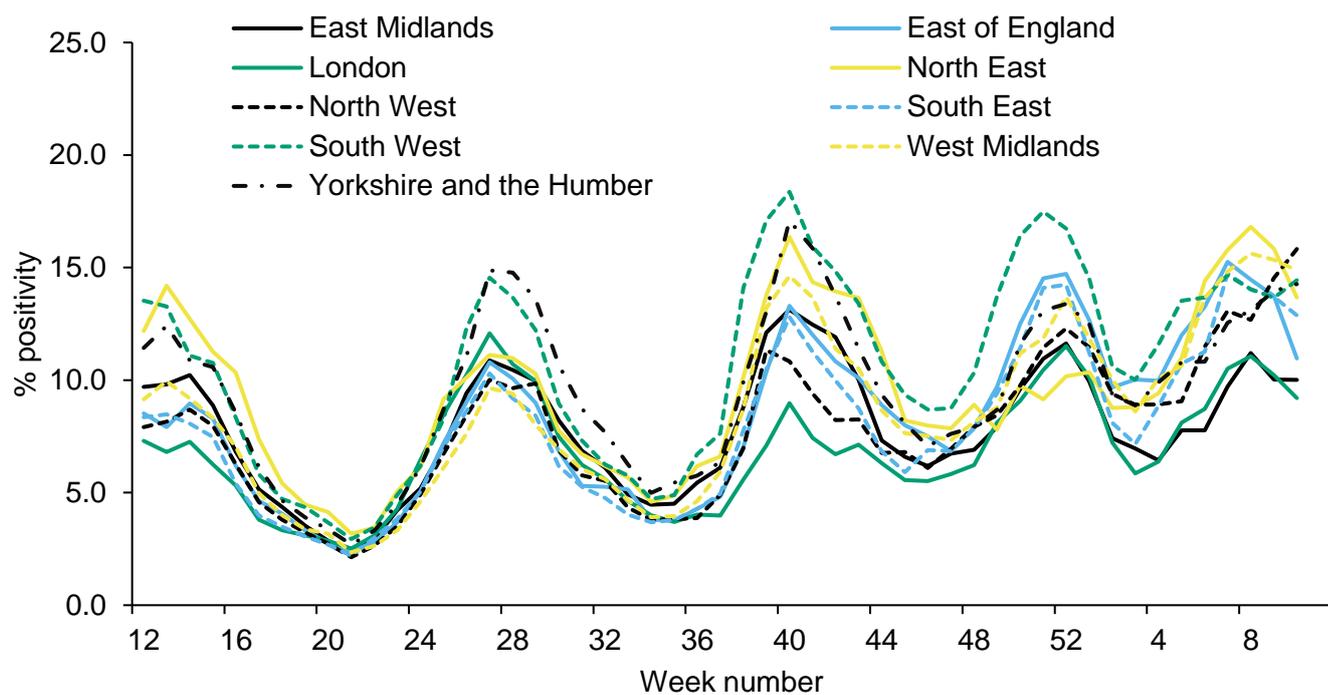
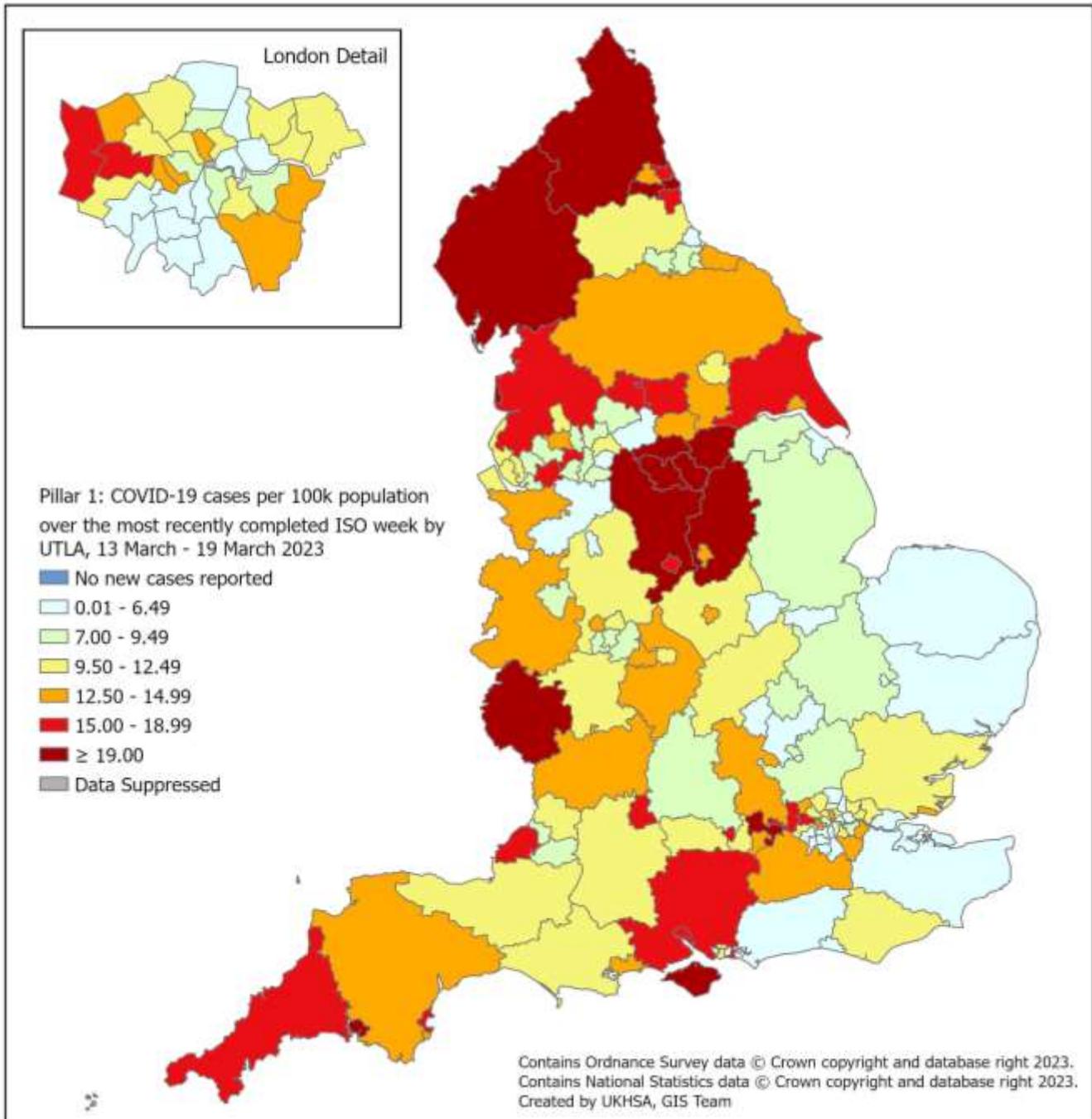
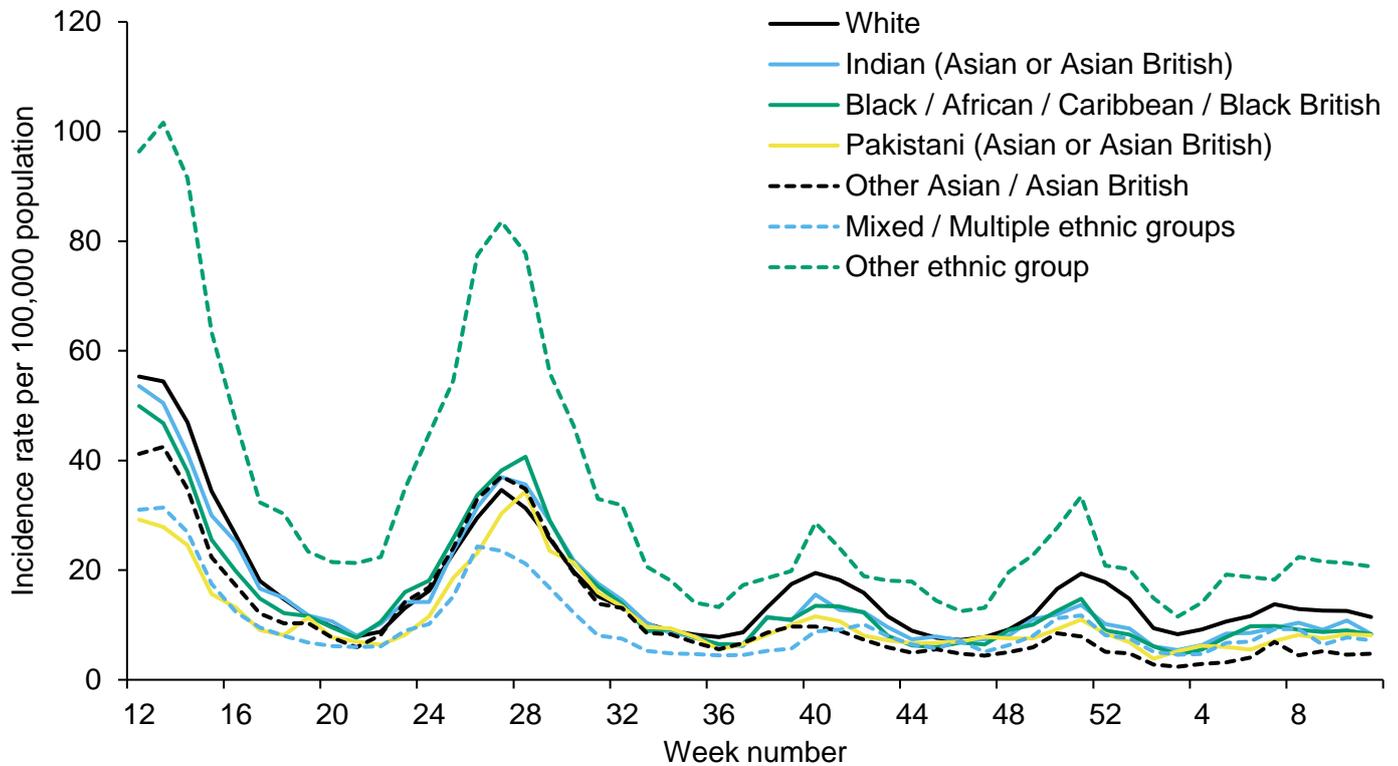


Figure 8: Weekly rate of COVID-19 episodes per 100,000 population (Pillar 1), by upper-tier local authority (UTLA), England (box shows enlarged map of London area)



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.

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

In week 11, 10,833 respiratory specimens reported through the Respiratory DataMart System were tested for SARS-CoV-2. 1,055 samples were positive for SARS-CoV-2 with an overall positivity of 9.7%, which increased slightly compared with 9.3% the previous week. The highest positivity was seen in those aged 65 years and over at 12.7%.

In week 11, 5,820 respiratory specimens reported through the Respiratory DataMart System were tested for influenza. 96 samples tested positive for influenza; two influenza A(H3), one influenza A(H1N1)pdm09, 22 influenza A(not subtyped) and 71 influenza B (Figure 12). Overall, influenza positivity remained low and stable at 1.6% in week 11 compared with 1.9% the previous week, with the highest positivity seen in those aged 15 to 44 years at 4.2%, a decrease from 5.8% in week 10. Influenza B positivity remained low at 1.2% in week 11 compared with 1.6% in week 10. Influenza A(H3N2) remained low at 0.2% compared with 0.5% the previous week and influenza A(H1N1)pdm09 positivity remained low at 0.0% in week 11, the same as the previous week.

Adenovirus positivity increased slightly to 4.0%, with the highest positivity in those aged under 5 years old at 10.3%.

Human metapneumovirus (hMPV) positivity remained stable at 3.5%, with the highest positivity in those aged under 5 years old at 5.6%.

Parainfluenza positivity increased to 5.0%, with the highest positivity in those aged under 5 years old at 11.6%.

Rhinovirus positivity decreased to 14.3% overall, with the highest positivity in those aged under 5 years old at 30.7%.

The overall positivity for RSV remained low at 0.9%, with the highest positivity in those aged under 5 years old at 2.0%.

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

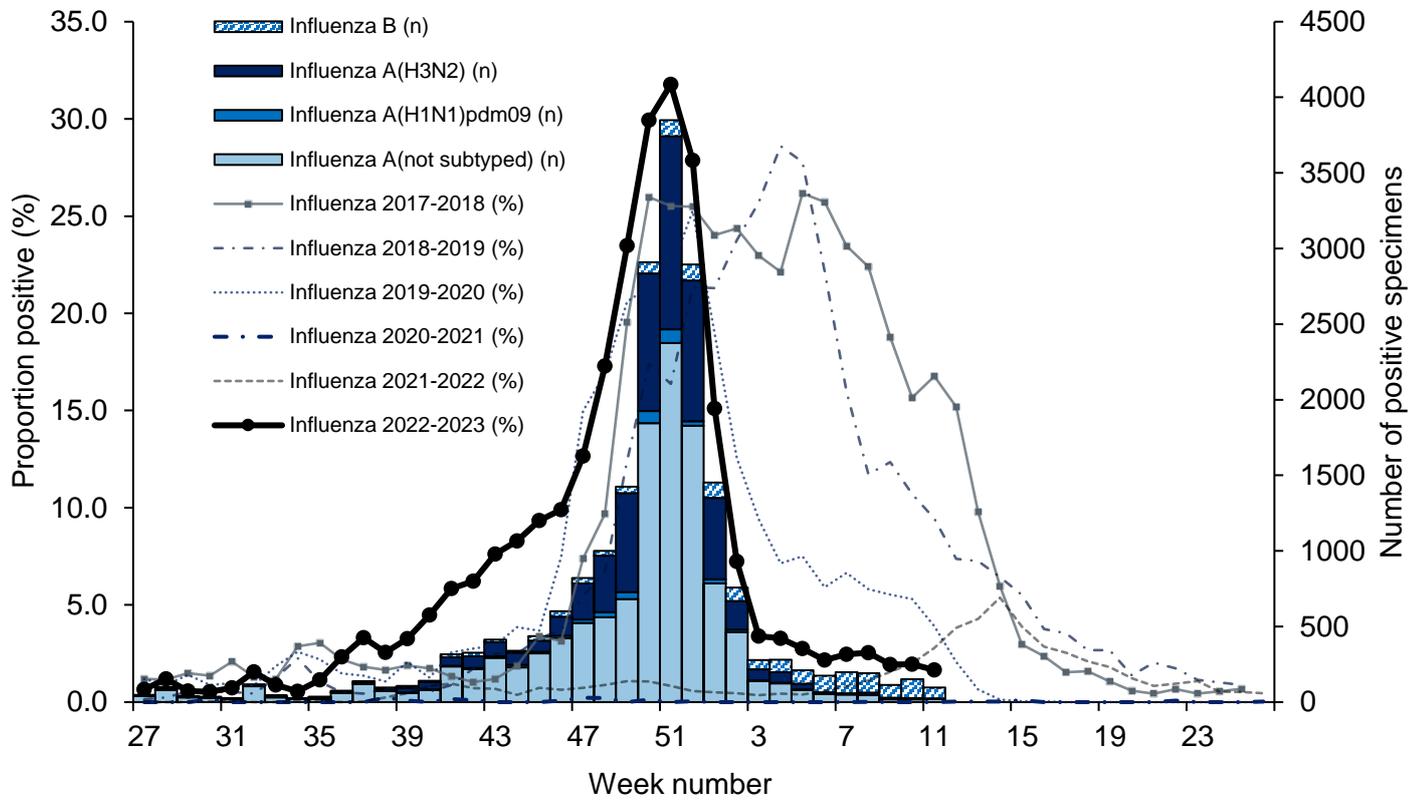


Figure 11: Respiratory DataMart weekly positivity (%) for SARS-CoV-2, England

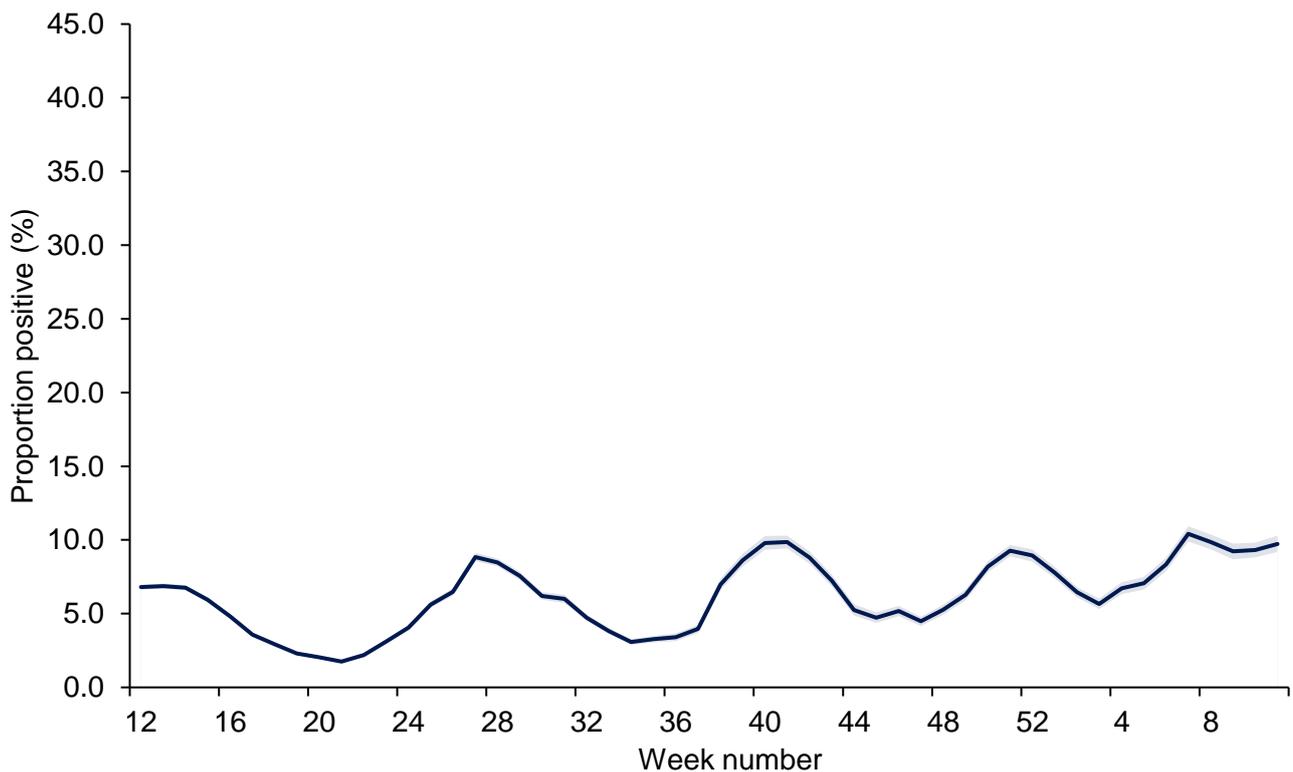


Figure 12: Respiratory DataMart weekly positivity (%) for influenza, England

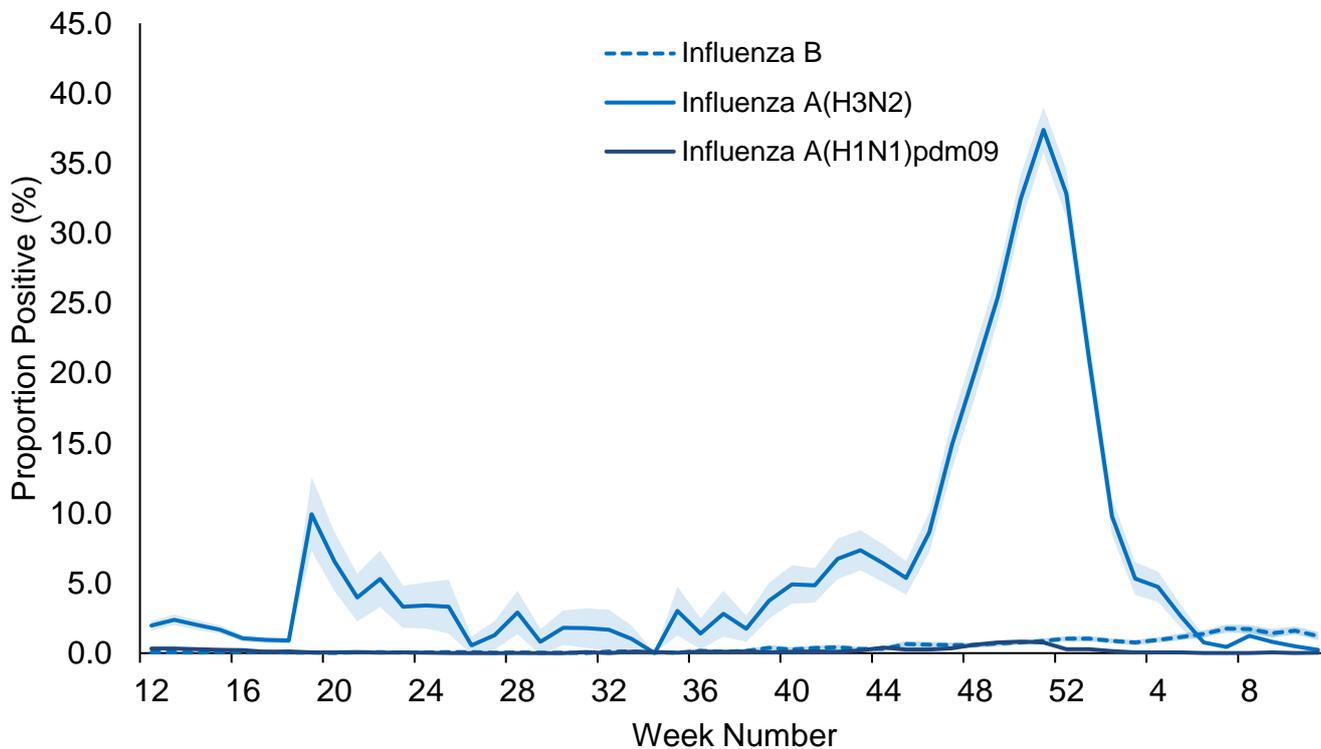


Figure 13: Respiratory DataMart weekly positivity (%) for influenza by age, England

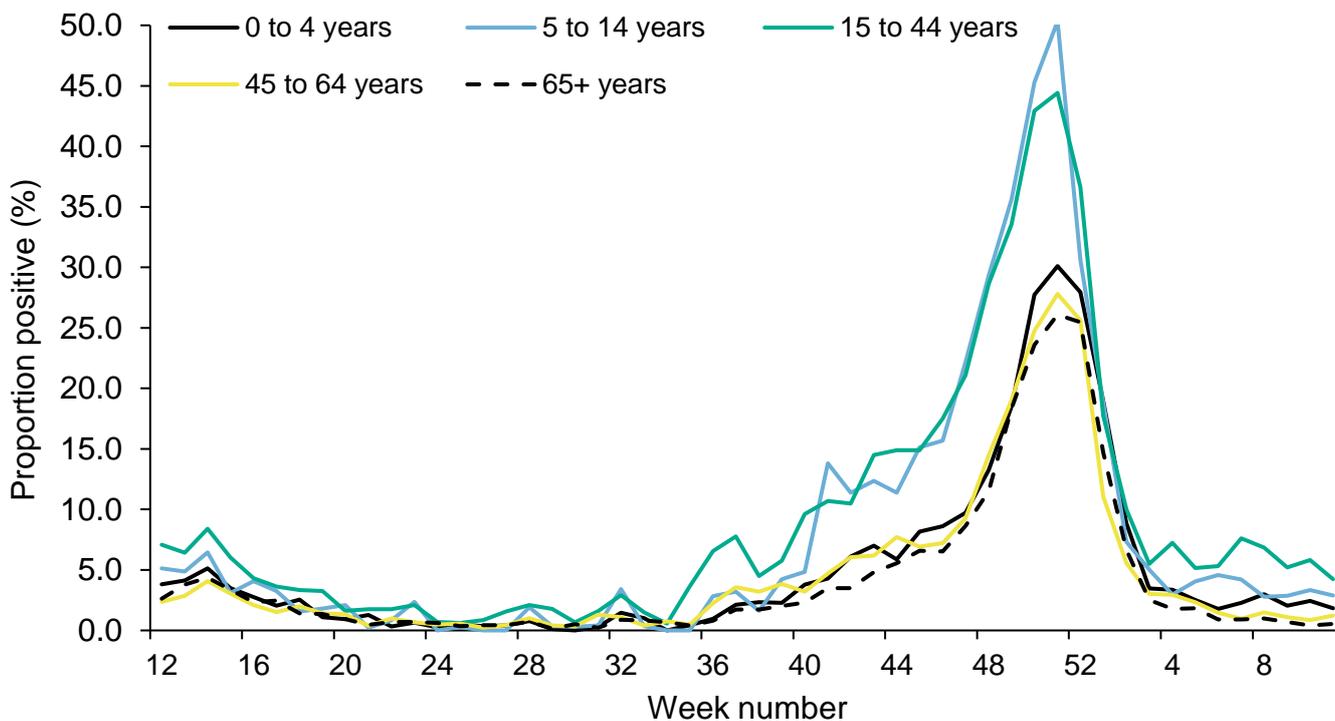


Figure 14: Respiratory DataMart weekly positivity (%) for other viruses, England

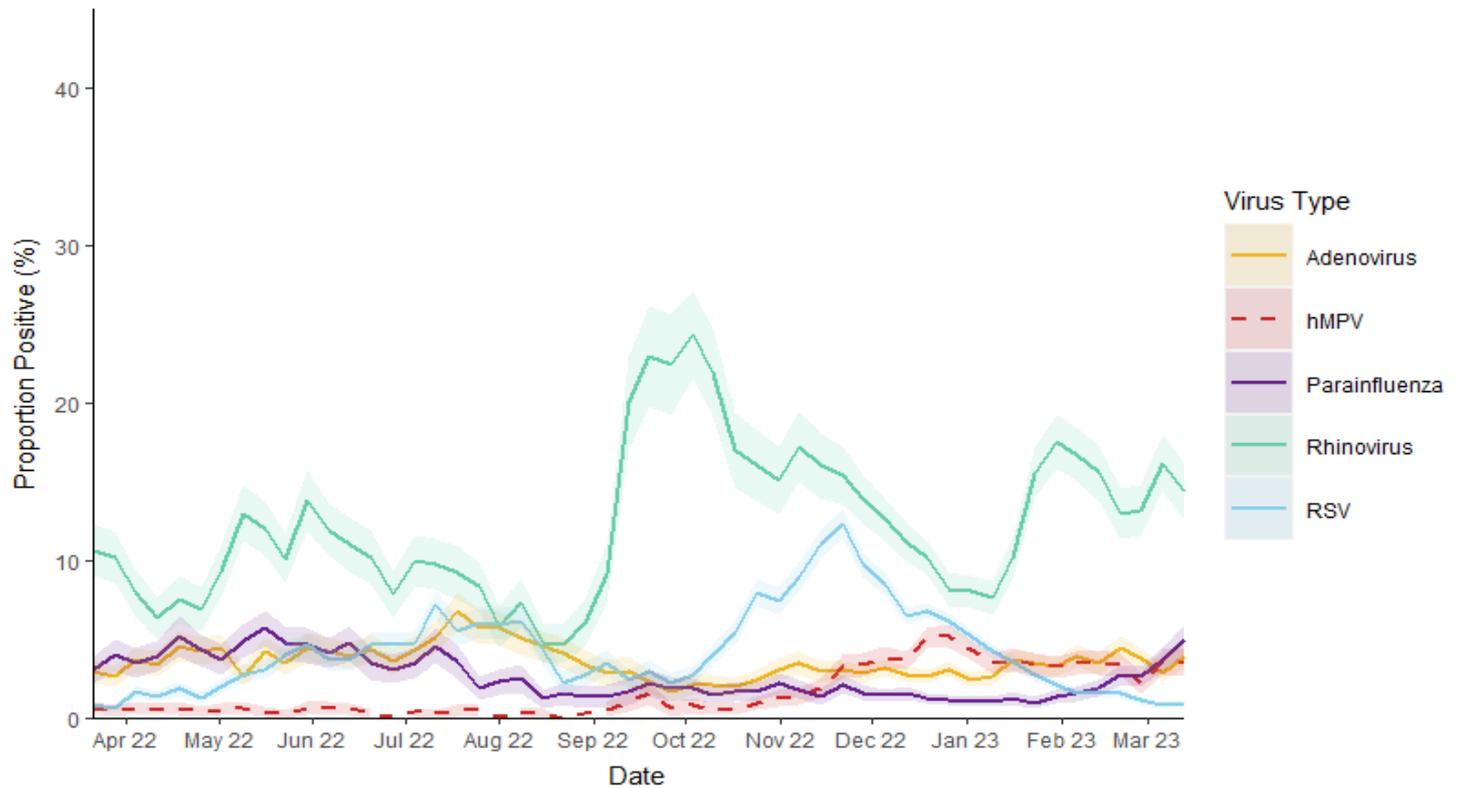


Figure 15: Respiratory DataMart weekly positivity (%) for adenovirus by age, England

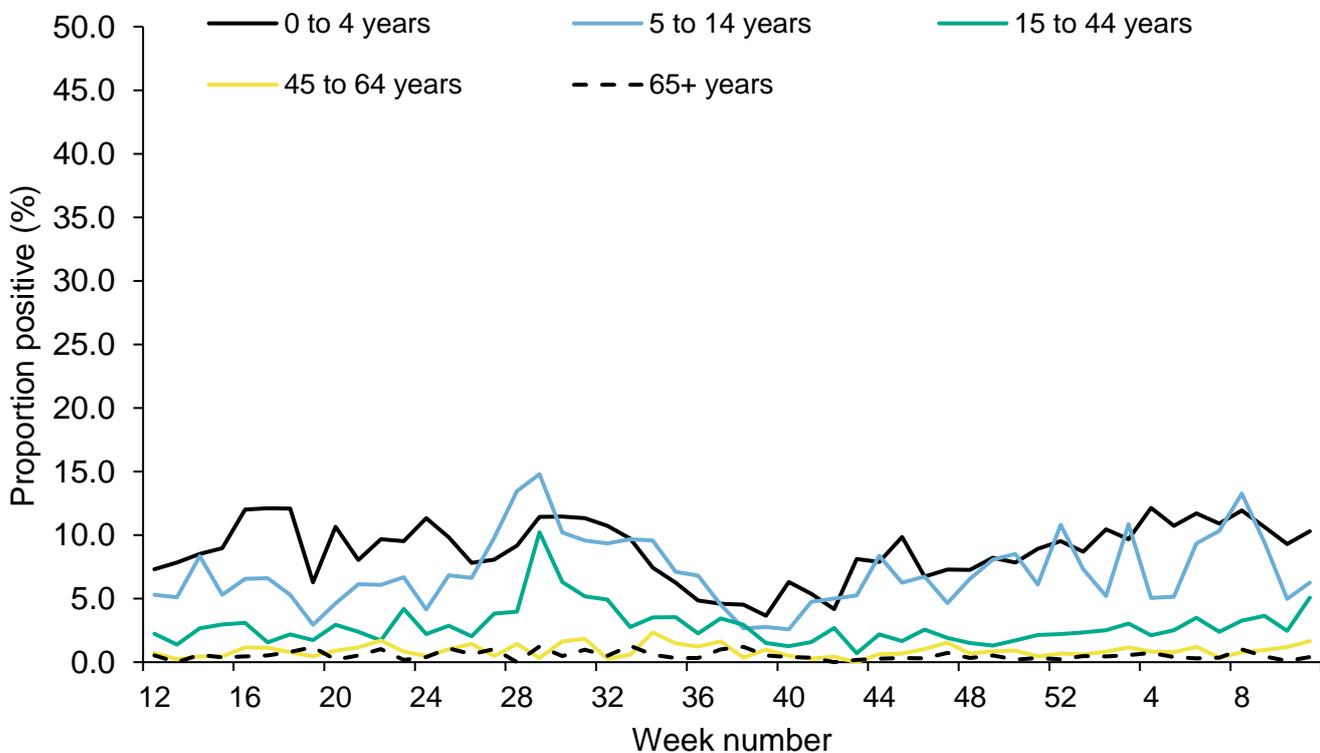


Figure 16: Respiratory DataMart weekly positivity (%) for hMPV by age, England

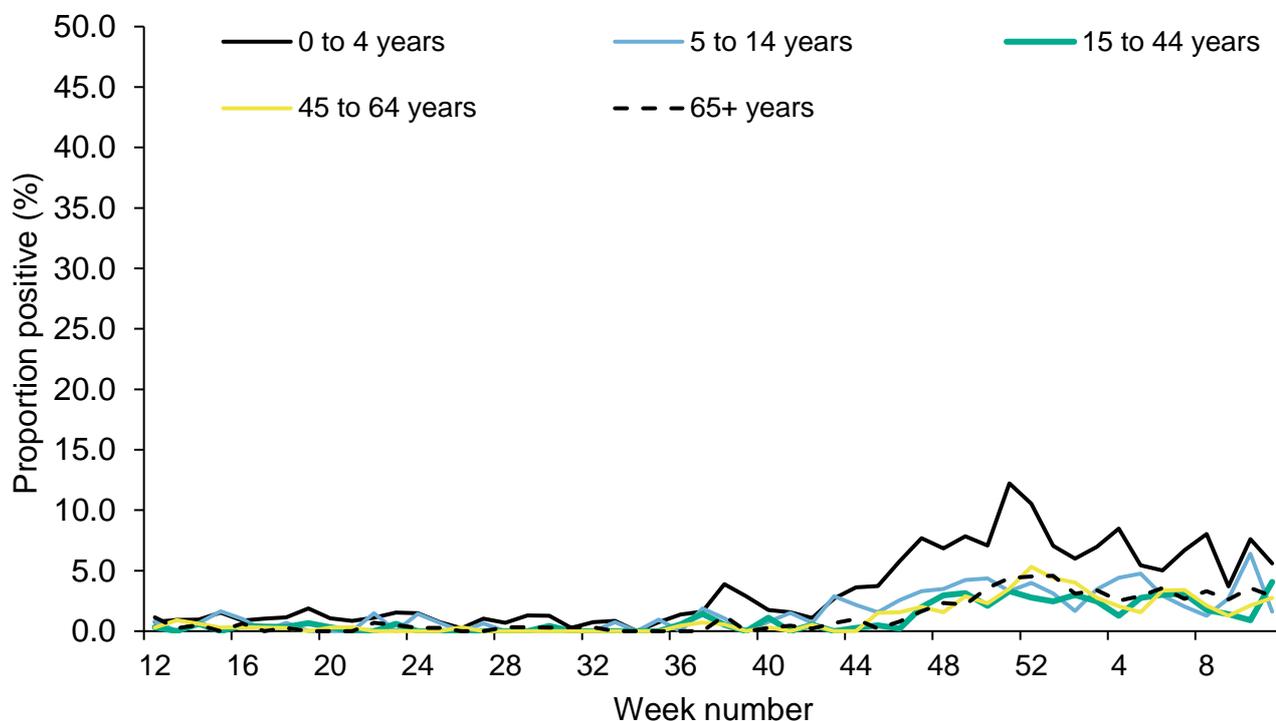


Figure 17: Respiratory DataMart weekly positivity (%) for parainfluenza by age, England

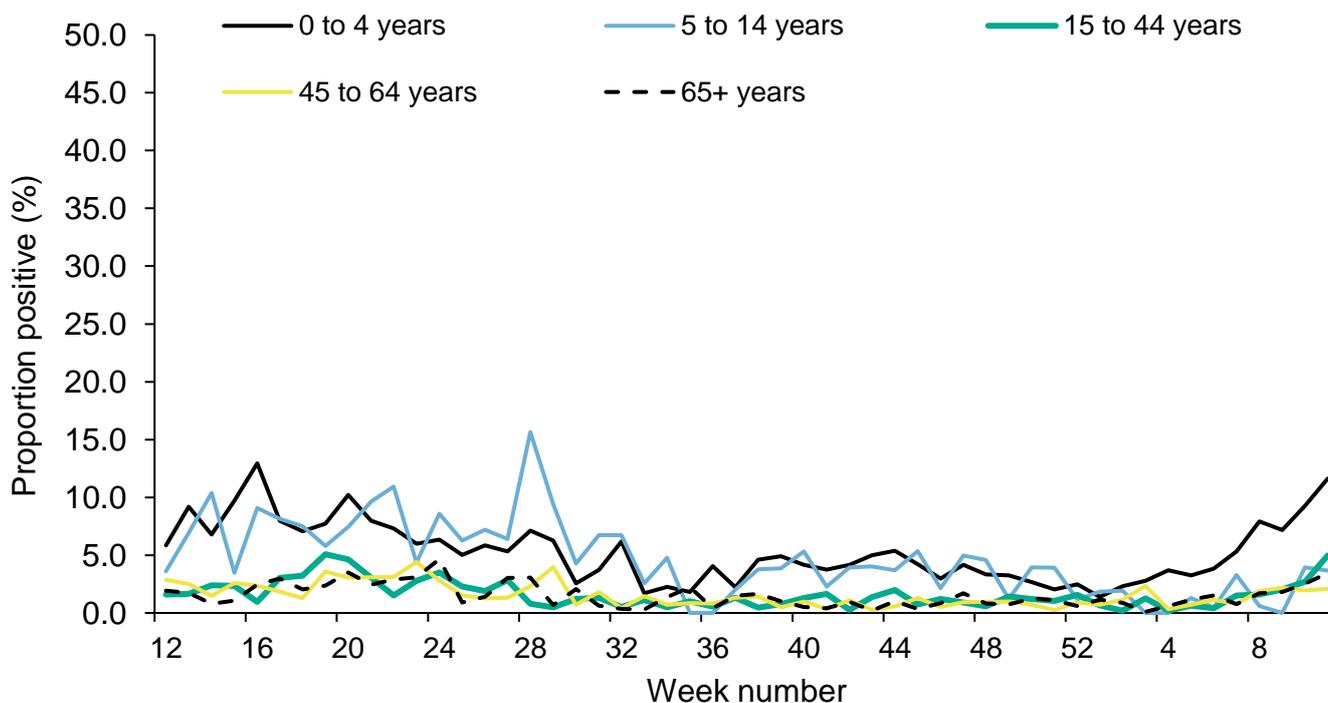


Figure 18: Respiratory DataMart weekly positivity (%) for rhinovirus by age, England

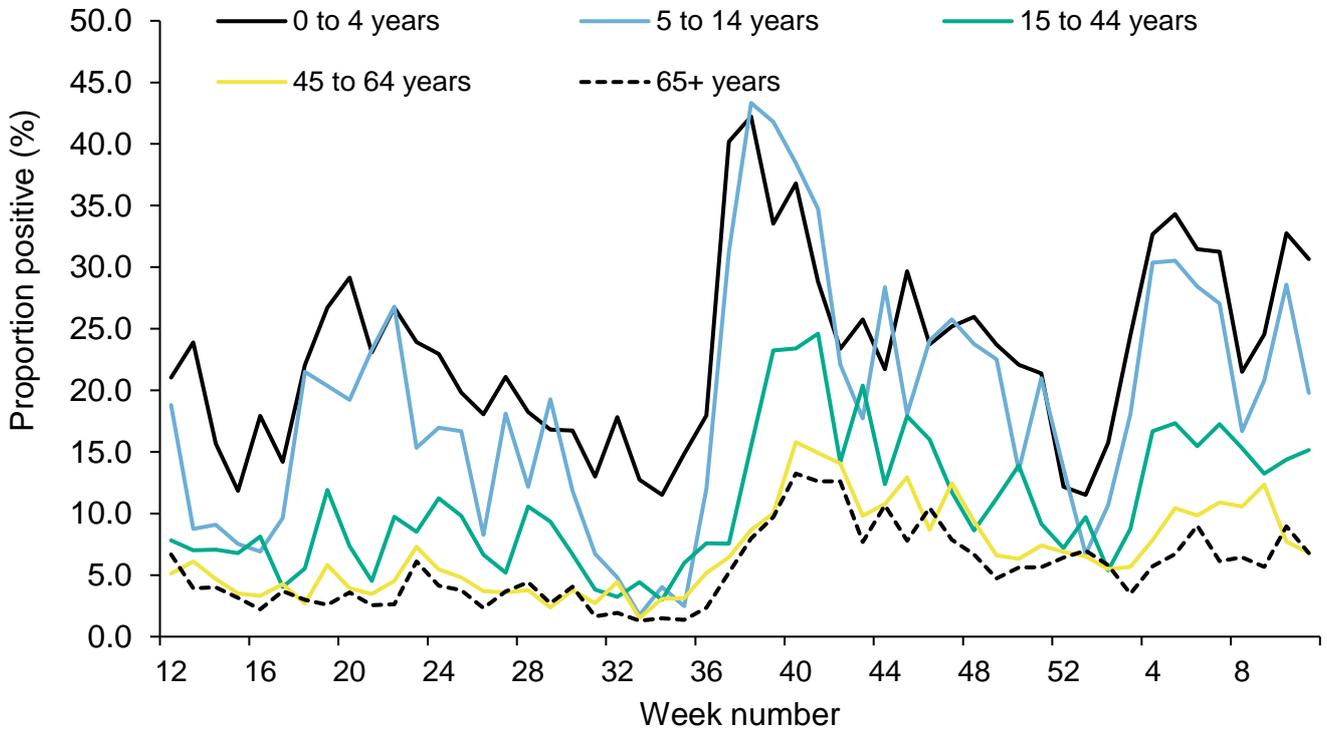
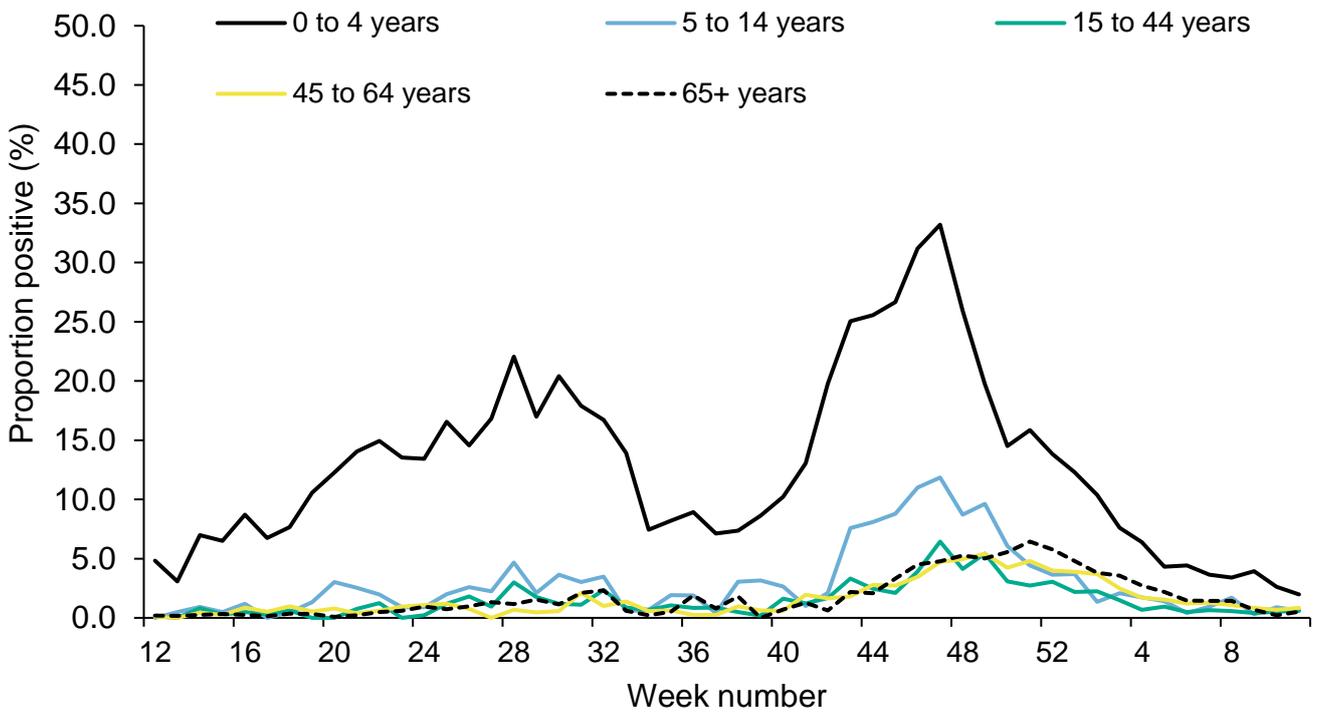


Figure 19: Respiratory DataMart weekly positivity (%) for RSV by age, England



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 the HPZone case and incident management system. 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.

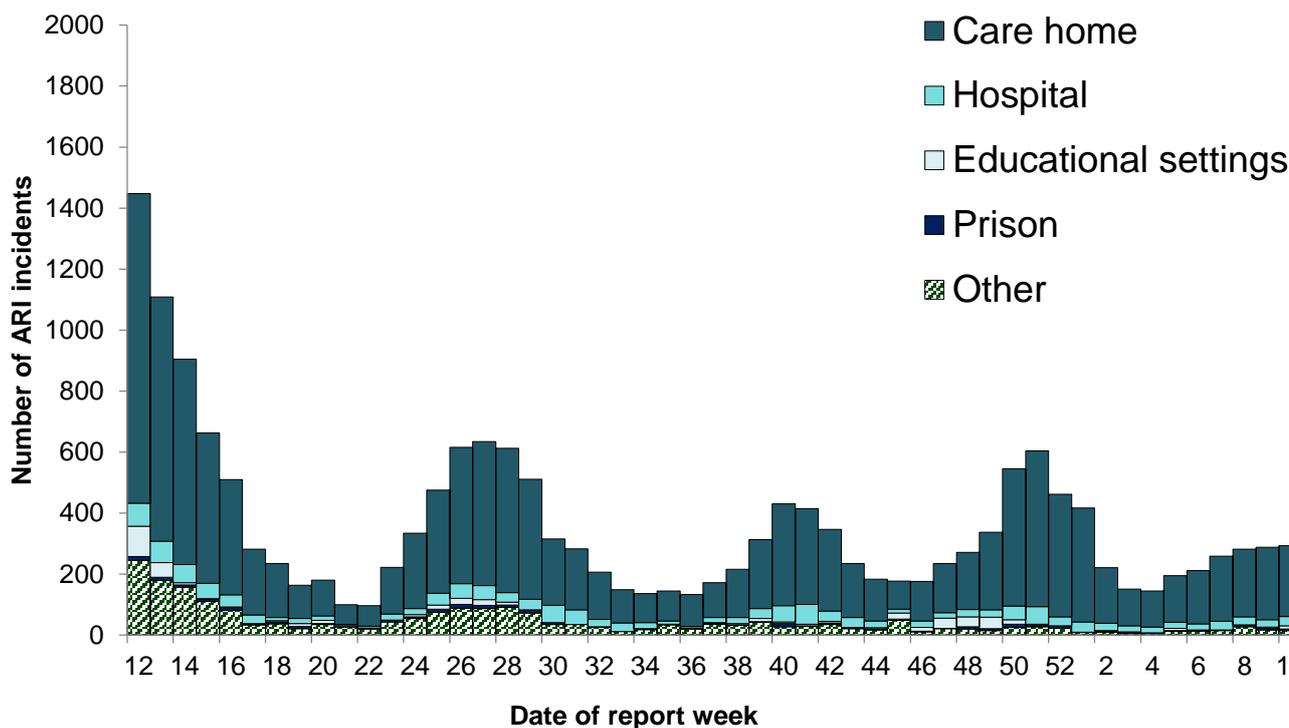
Data caveats:

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.

305 new ARI incidents have been reported in week 11 in the UK (Figure 20):

- 241 incidents were from care homes, where 119 had at least one linked case that tested positive for SARS-CoV-2, 2 for RSV, one for hMPV, one for rhinovirus and one for seasonal coronavirus
- 39 incidents were from hospitals, where 22 had at least one linked case that tested positive for SARS-CoV-2
- 2 incidents were from prisons, where one had at least one linked case that tested positive for SARS-CoV-2
- 10 incidents were from educational settings, where one had at least one linked case that tested positive for SARS-CoV-2
- 13 incidents were from other settings, where 7 had at least one linked case that tested positive for SARS-CoV-2

Figure 20: Number of acute respiratory infection (ARI) incidents by setting, UK



*Excludes data from Wales

Figure 21: Number of acute respiratory infection (ARI) incidents by setting, England

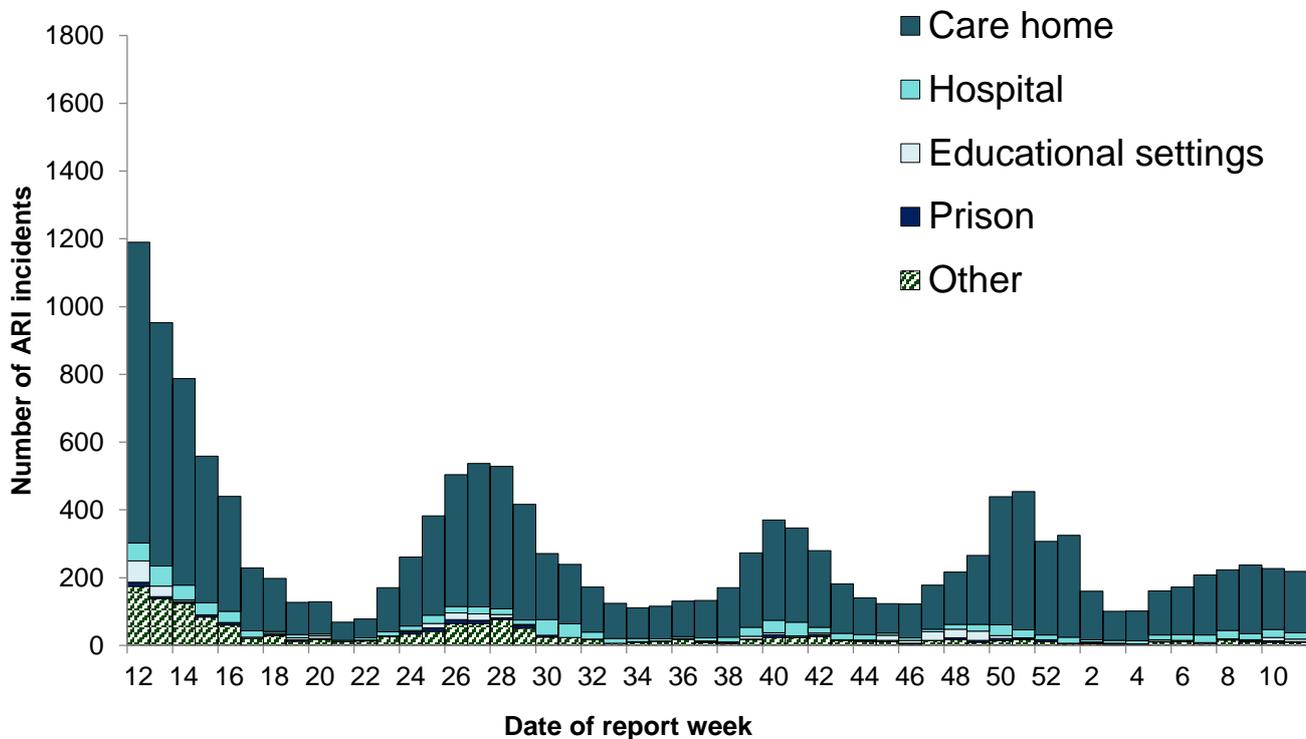


Figure 22: Number of acute respiratory infection (ARI) incidents in care homes by virus type, England

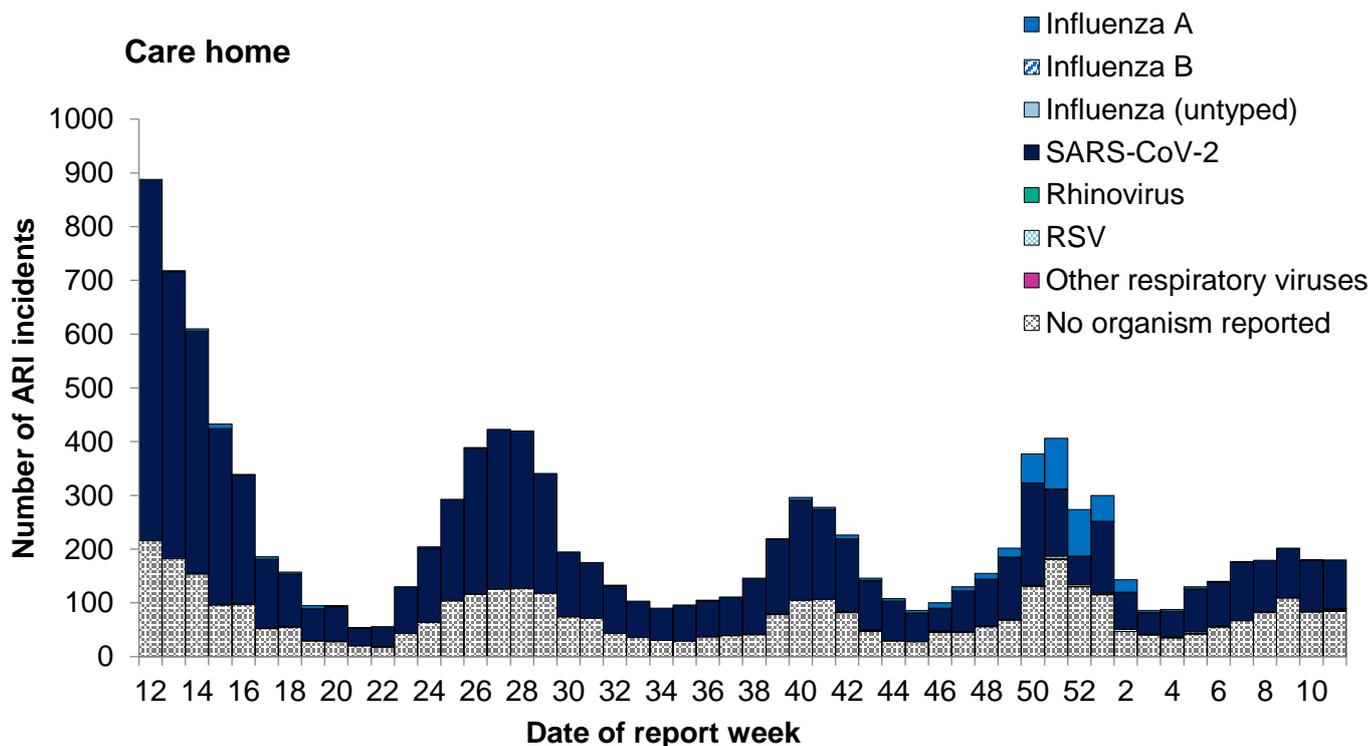


Figure 23: Number of acute respiratory infection (ARI) incidents in hospitals by virus type, England

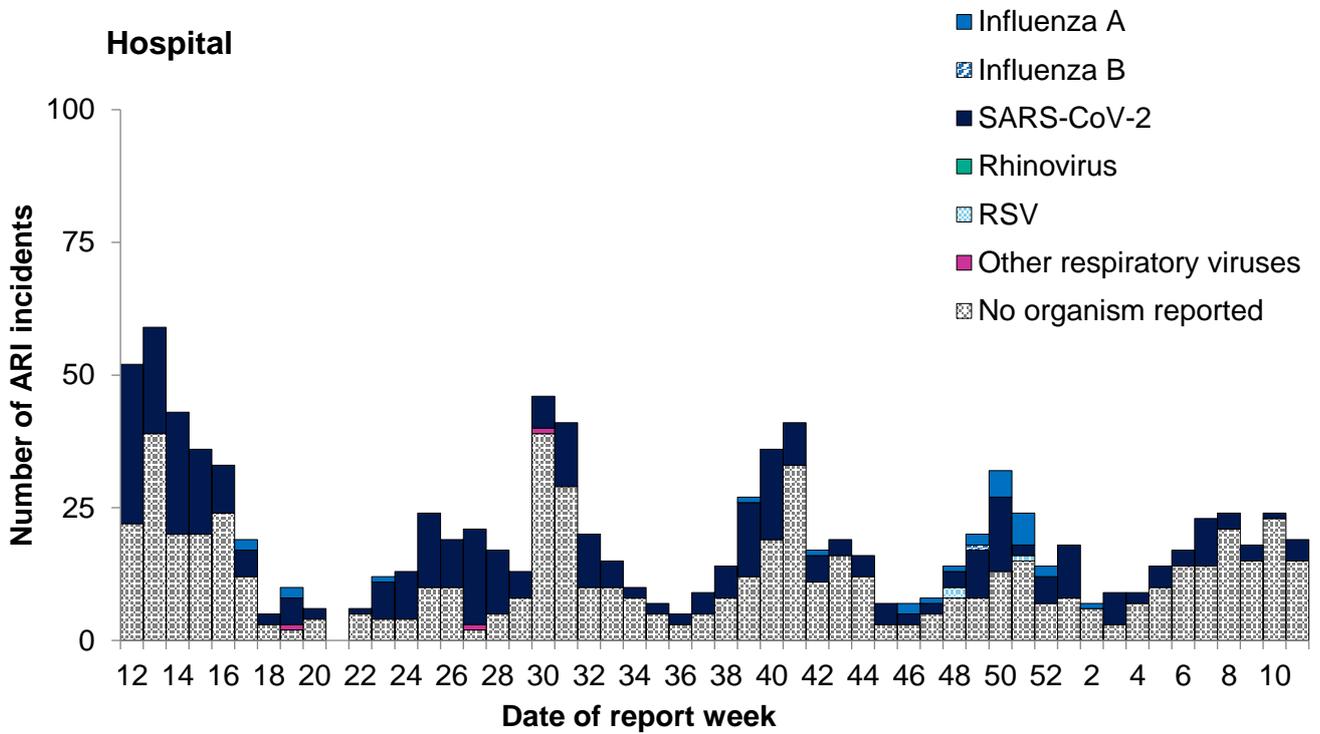


Figure 24: Number of acute respiratory infection (ARI) incidents in educational settings by virus type, England (a) for the weeks 12 2022 to 11 2023 and (b) for the 2022 to 23 academic year

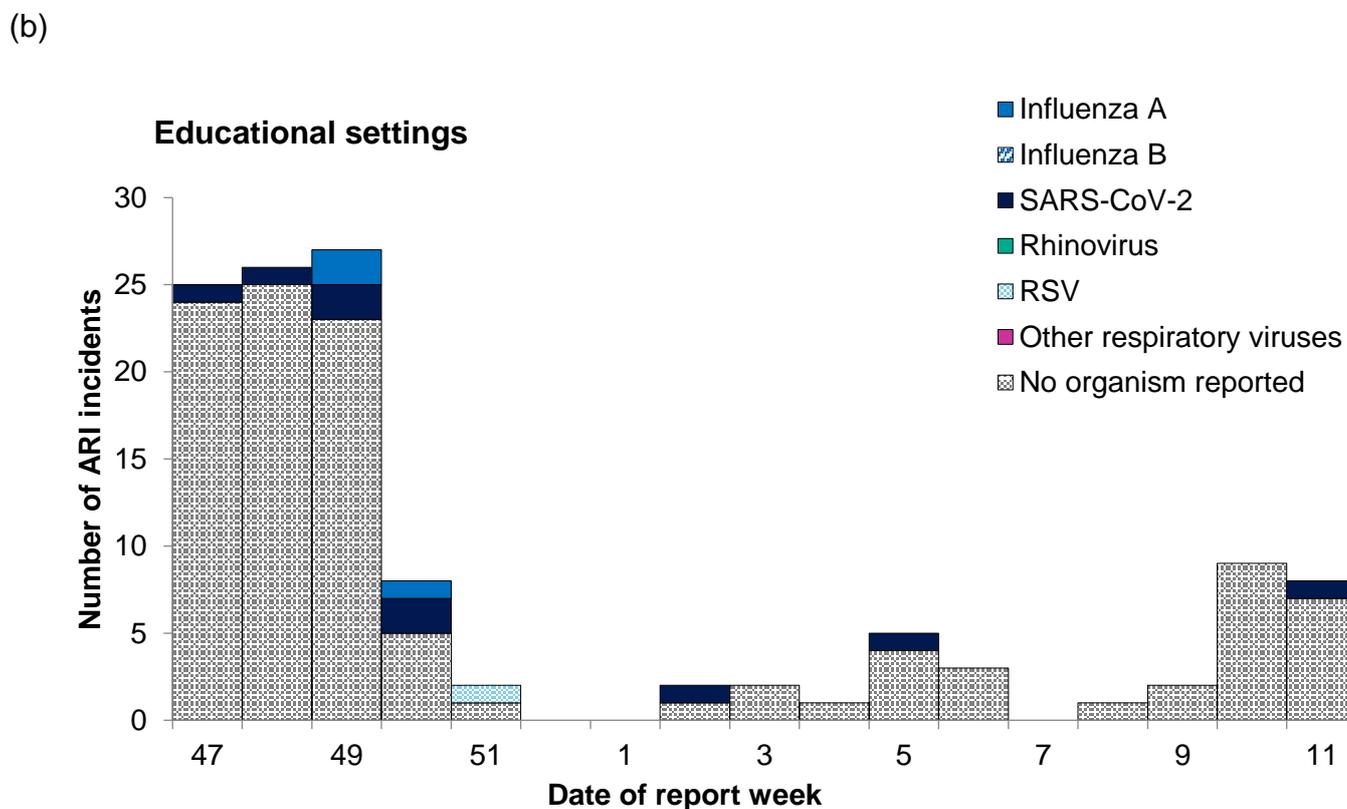
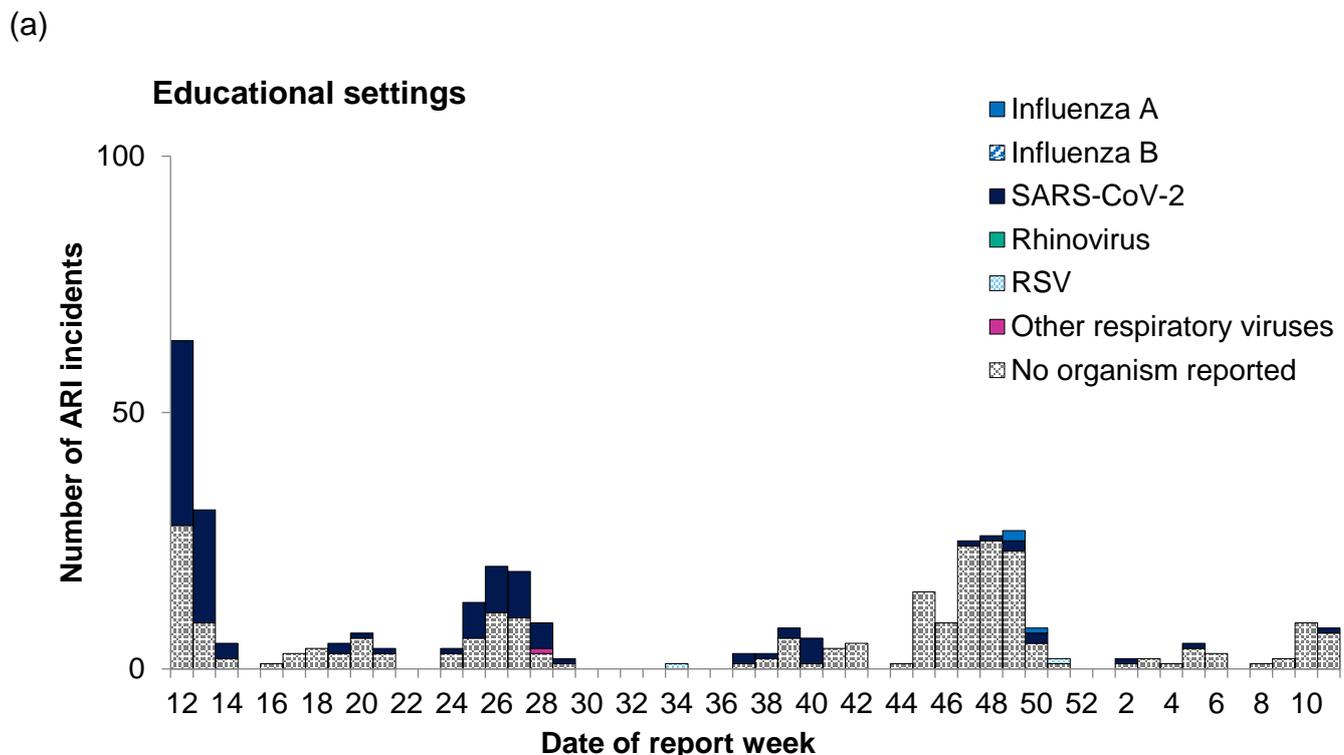


Figure 25: Number of acute respiratory infection (ARI) incidents in prisons by virus type, England

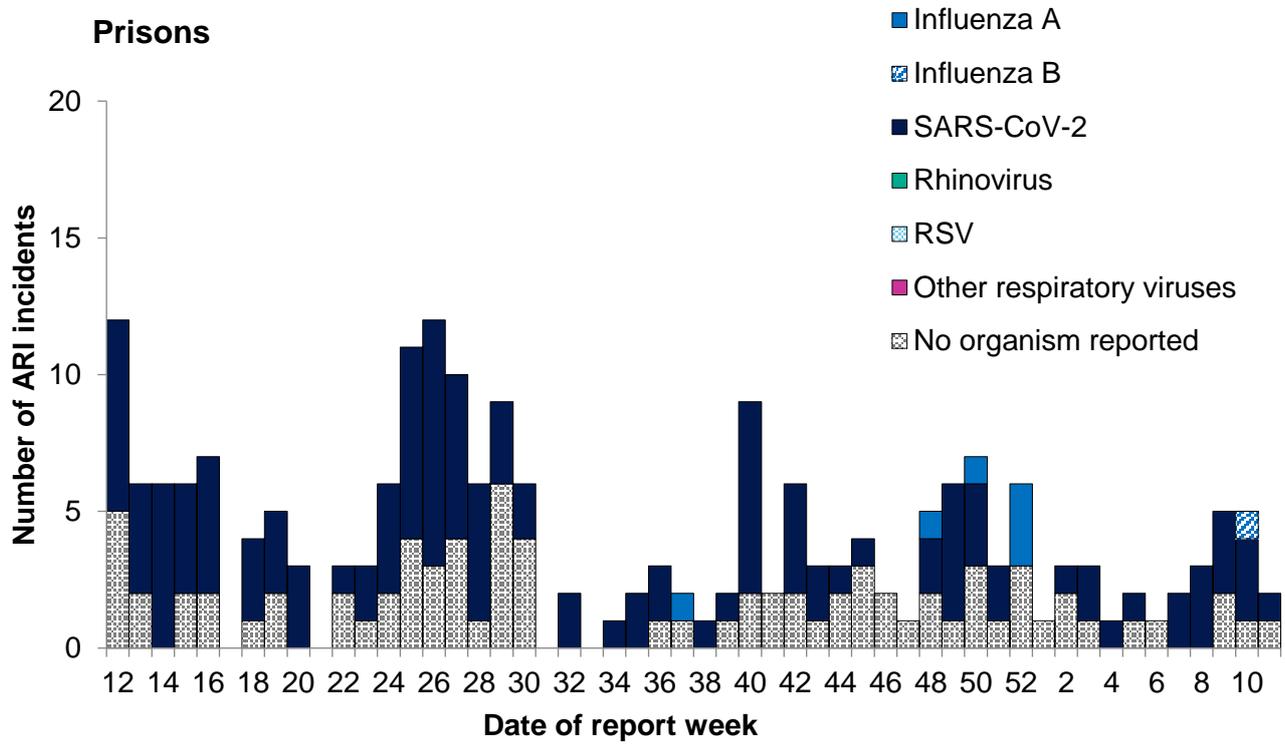


Figure 26: Number of acute respiratory infection (ARI) incidents in other settings by virus type from, England

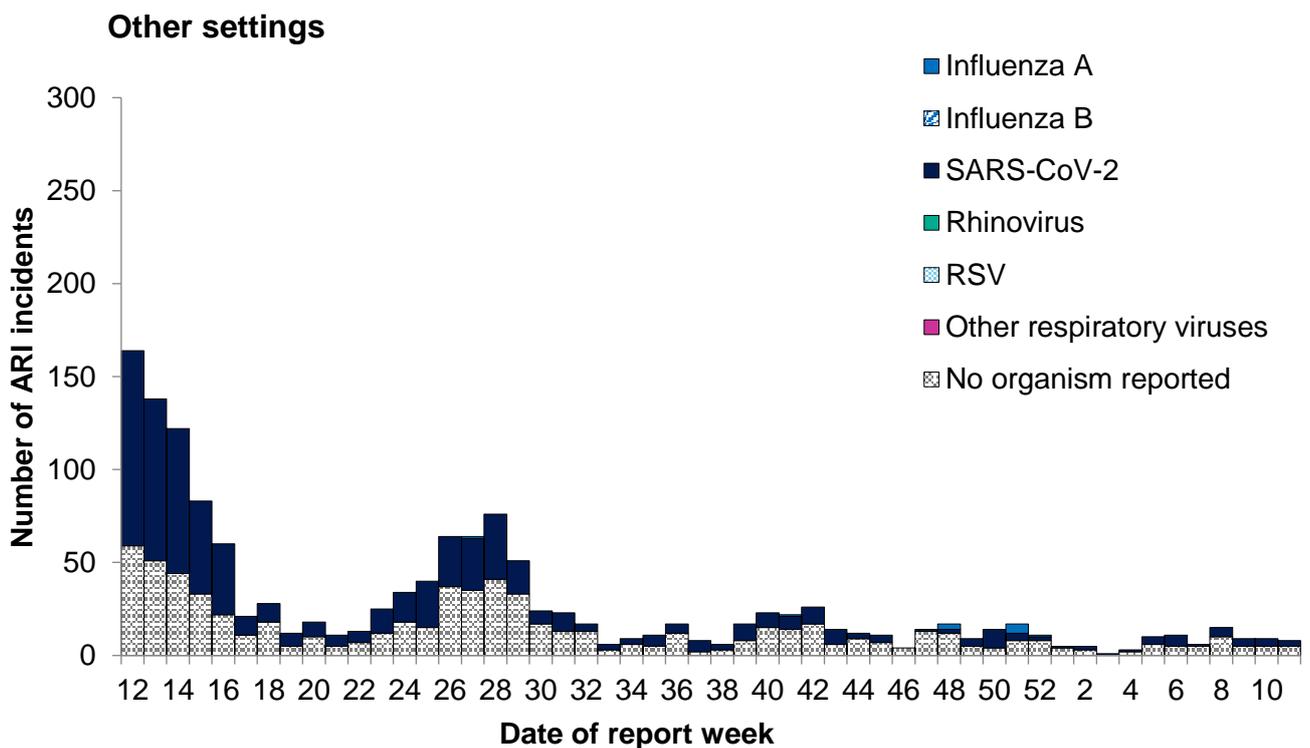


Table 1: Total number of situations and incidents by institution and UKHSA centres over the past 4 weeks with the total number in the last week in brackets

UKHSA Centres	Care Home	Hospital	Educational Setting	Prison	Workplace	Other	Grand Total
East of England	53(17)	0(0)	0(0)	1(1)	0(0)	0(0)	54(18)
East Midlands	9(2)	0(0)	0(0)	2(0)	0(0)	1(0)	12(2)
London	115(20)	77(14)	14(6)	1(0)	3(1)	18(3)	228(44)
North East	153(38)	0(0)	0(0)	0(0)	0(0)	3(1)	156(39)
North West	23(11)	0(0)	0(0)	0(0)	0(0)	0(0)	23(11)
South East	3(0)	0(0)	1(1)	8(1)	0(0)	0(0)	12(2)
South West	259(67)	0(0)	0(0)	0(0)	0(0)	6(1)	265(68)
West Midlands	36(10)	6(4)	4(1)	3(0)	0(0)	5(2)	54(17)
Yorkshire and Humber	90(15)	2(1)	1(0)	0(0)	0(0)	8(1)	101(17)
Grand Total	741(180)	85(19)	20(8)	15(2)	3(1)	41(8)	905(218)

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 11, there were 1,985 participants completing the weekly symptoms questionnaire of which 171 (8.6%) reported fever or cough and 40 (2.0%) reported influenza like illness (ILI).

In participants completing the weekly symptoms survey both COVID-19 and ILI related symptoms decreased slightly compared to week 10.

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 27).

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 28).

Figure 27: FluSurvey participants self-reporting fever or cough and ILI symptoms, and trends in healthcare seeking behaviour among these participants, England

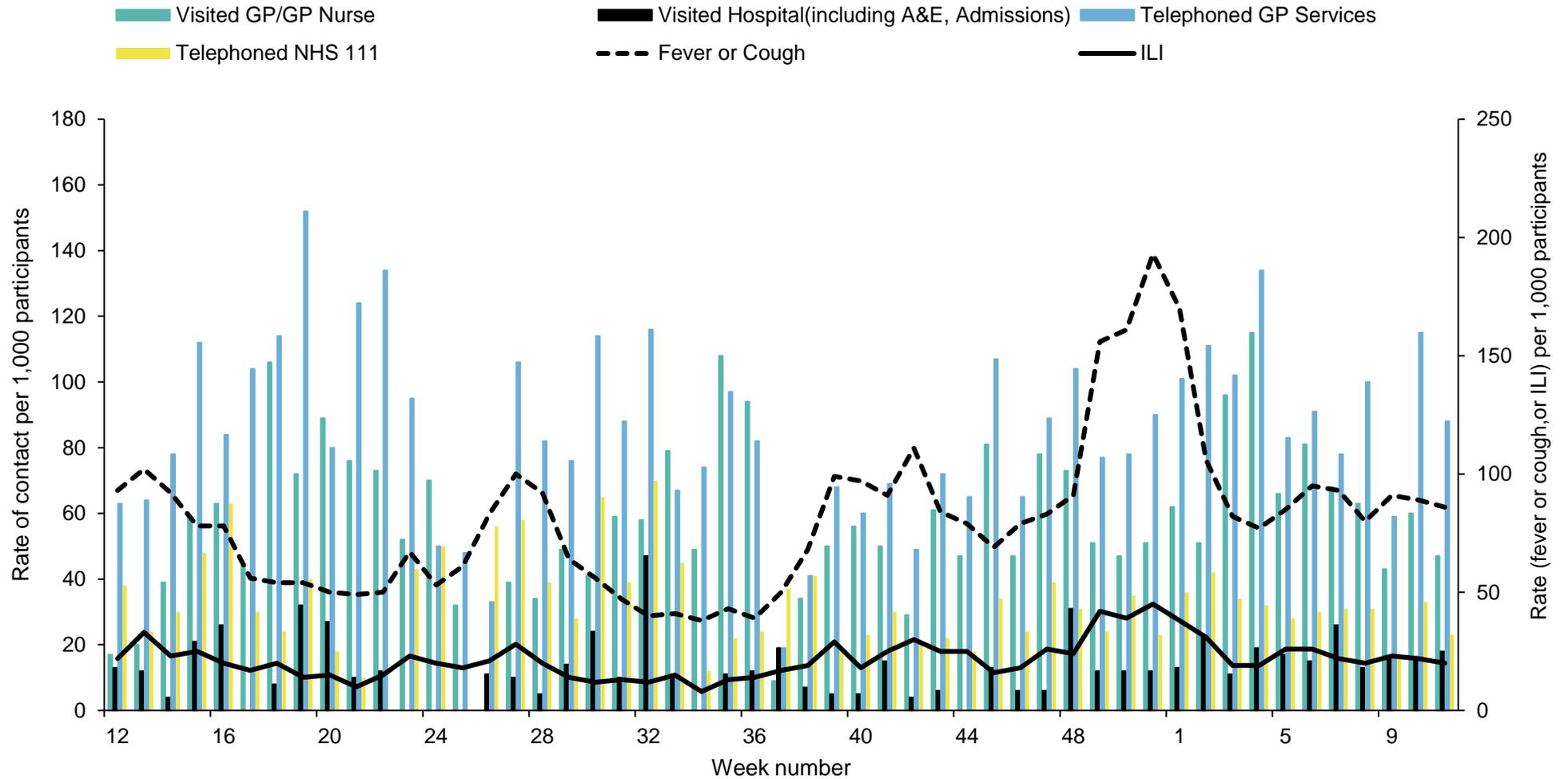
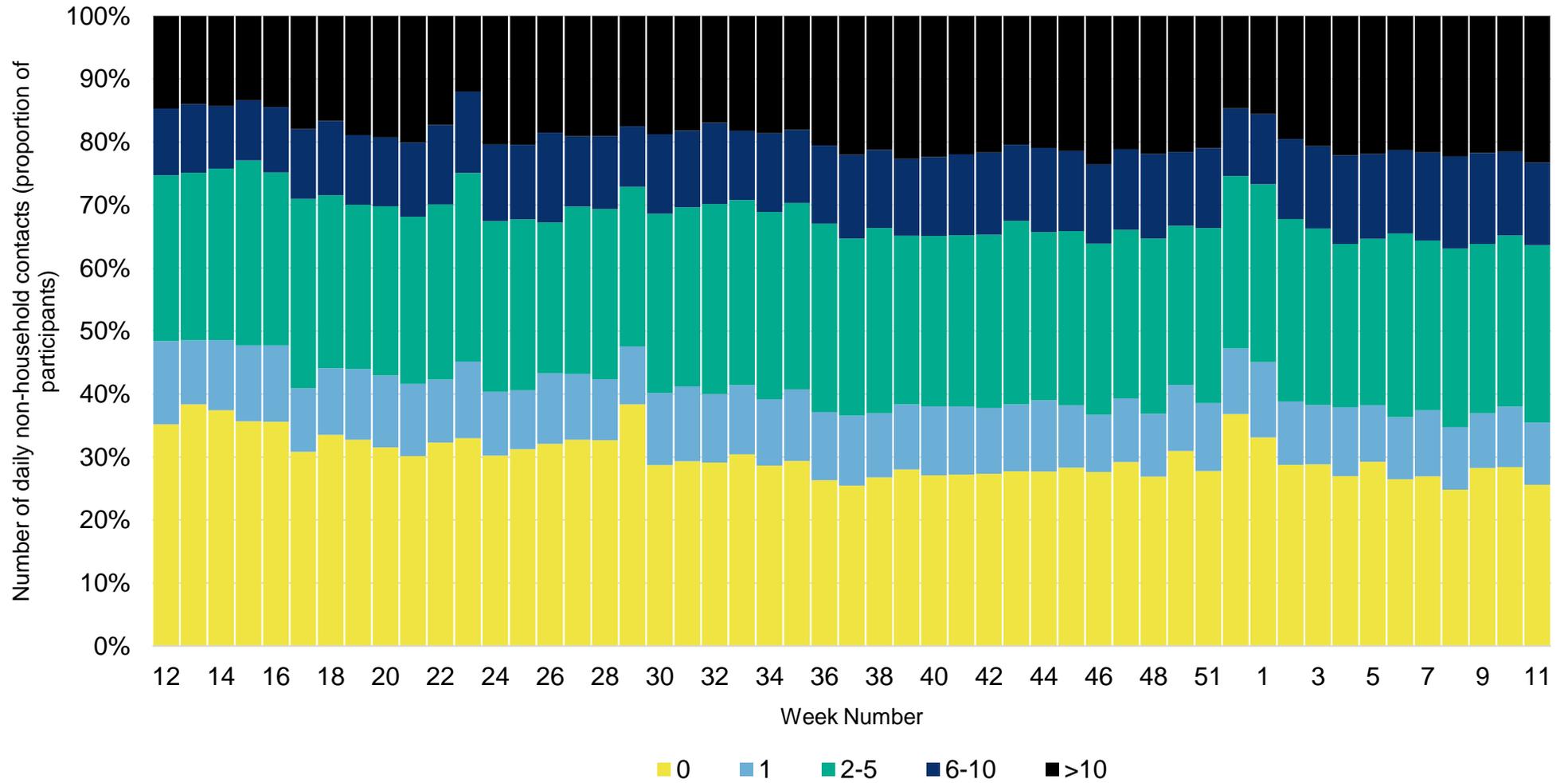


Figure 28: FluSurvey participants' self-reported number of social contacts outside the household

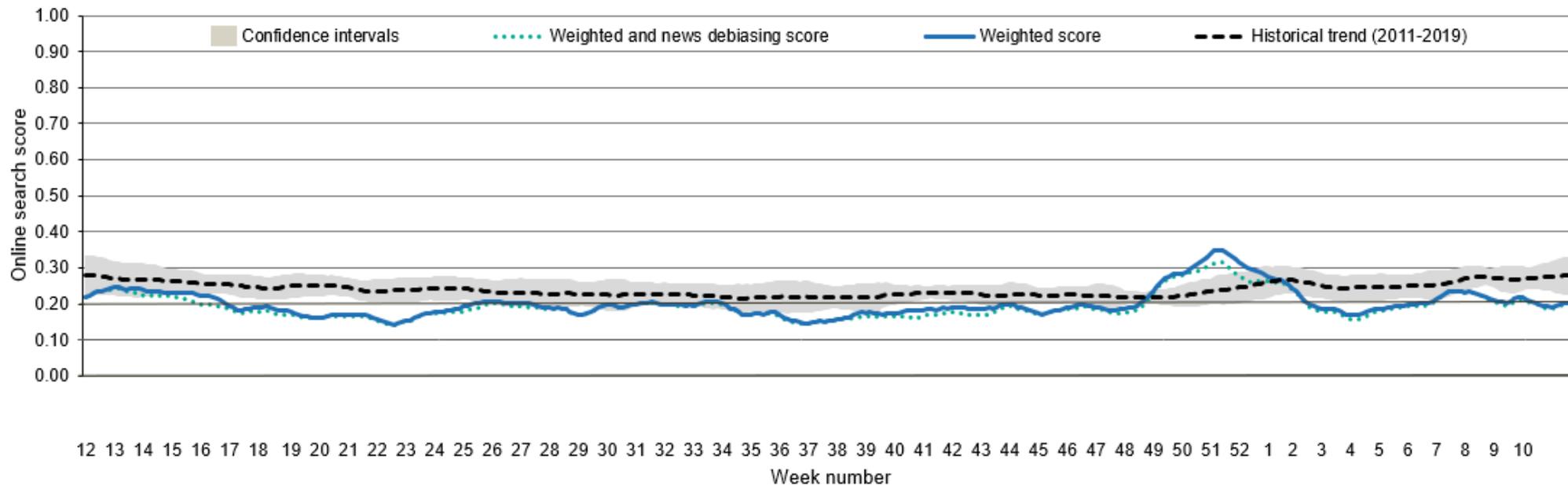


Google search queries

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 11, the overall and media-debiasing weighted Google search scores remained stable compared to week 10 (Figure 29).

Figure 29: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England



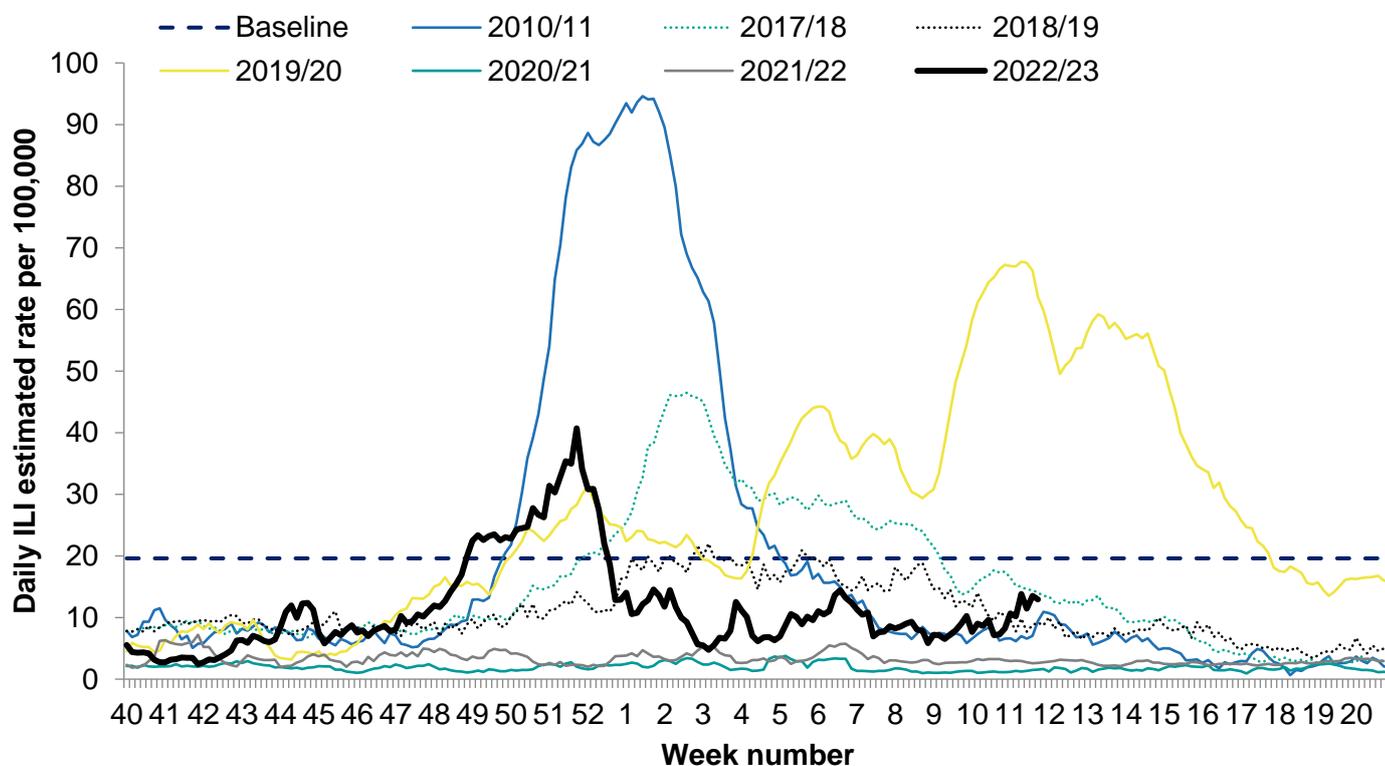
Flu Detector

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 11, the daily ILI rate increased in week 11 compared to week 10 and remained below the baseline threshold of 19.6 per 100,000 for the 2022 to 2023 season (Figure 30).

Figure 30: 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.

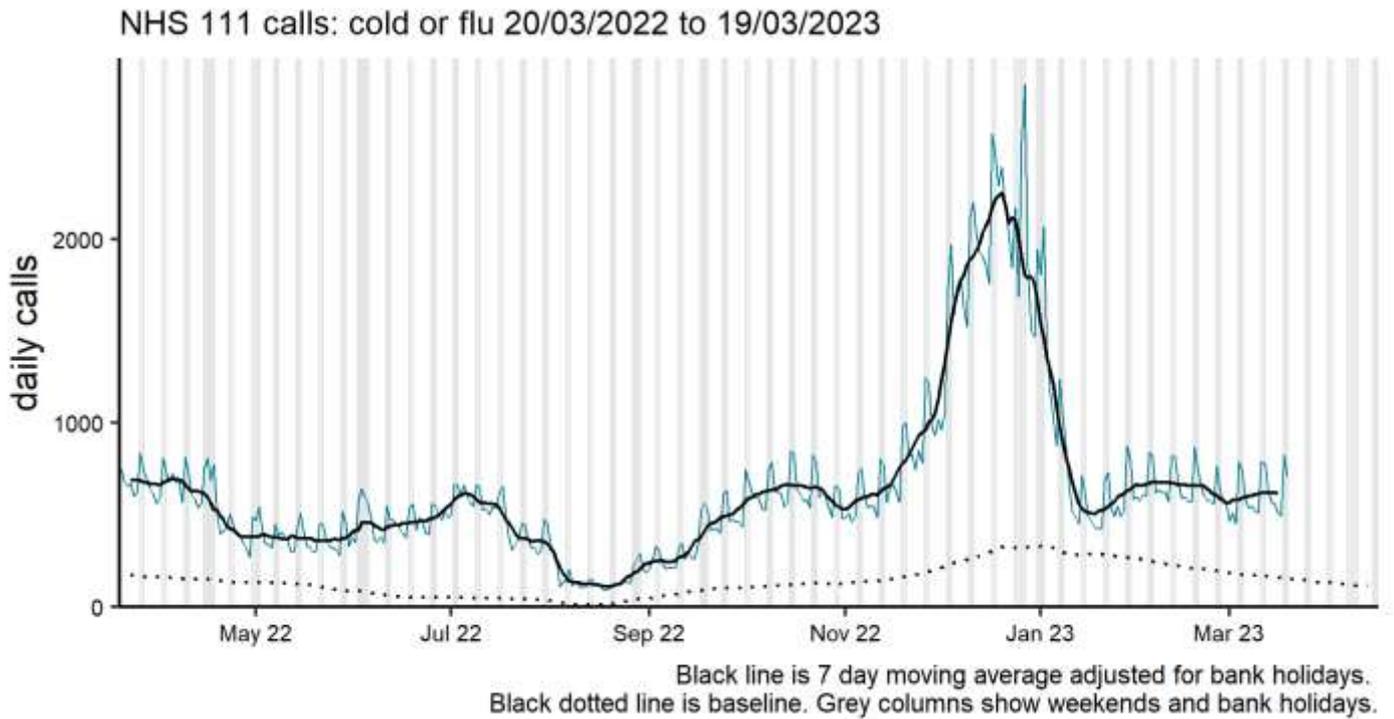
During week 11, NHS 111 calls for cough remained stable nationally. Calls for cold or flu increased slightly nationally, with increases in those aged over 65 years old (Figure 31 and 32).

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 31: 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)

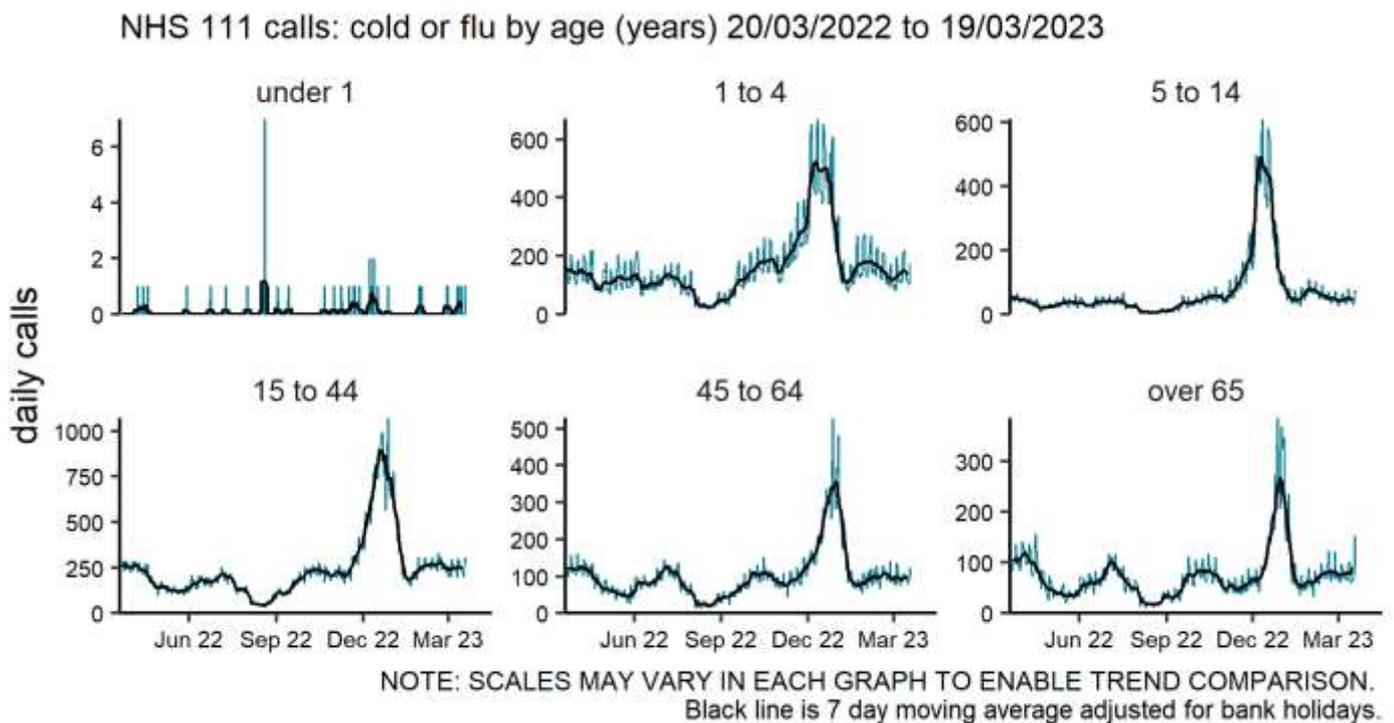
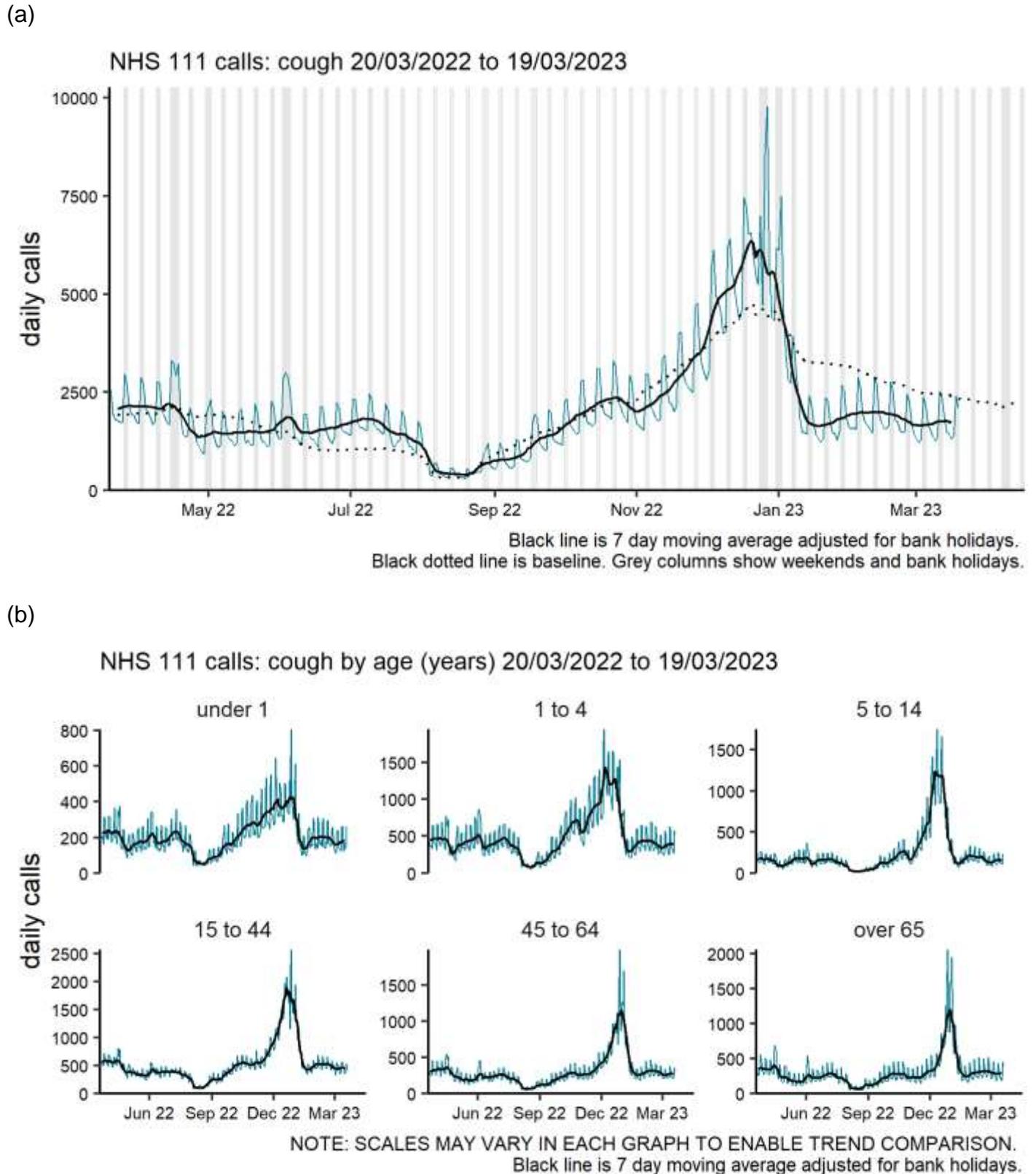


Figure 32: NHS 111 telephony indicators (and 7-day moving average) for number of daily cough calls, England (a) nationally and (b) by age group



Primary care surveillance

RCGP (England)

The weekly ILI consultation rate through the RCGP surveillance remained stable at 4.1 per 100,000 registered population in participating GP practices in week 11 compared to 3.8 per 100,000 in the previous week and remained within baseline activity levels (less than 11.47 per 100,000) (Figure 33). By age group, the highest rates were seen in 15 to 44 year olds (5.5 per 100,000) followed by children under 1 year old (4.3 per 100,000). The lower respiratory tract infections (LRTI) consultation rate decreased slightly to 64.2 per 100,000 in week 11 compared to 66.4 per 100,000 in the previous week. The COVID-19 indicator rate increased to 48.5 per 100,000 in week 11 compared to 42.8 per 100,000 in the previous week (Figure 34).

Figure 33: RCGP influenza-like illness (ILI) consultation rates, all ages, England

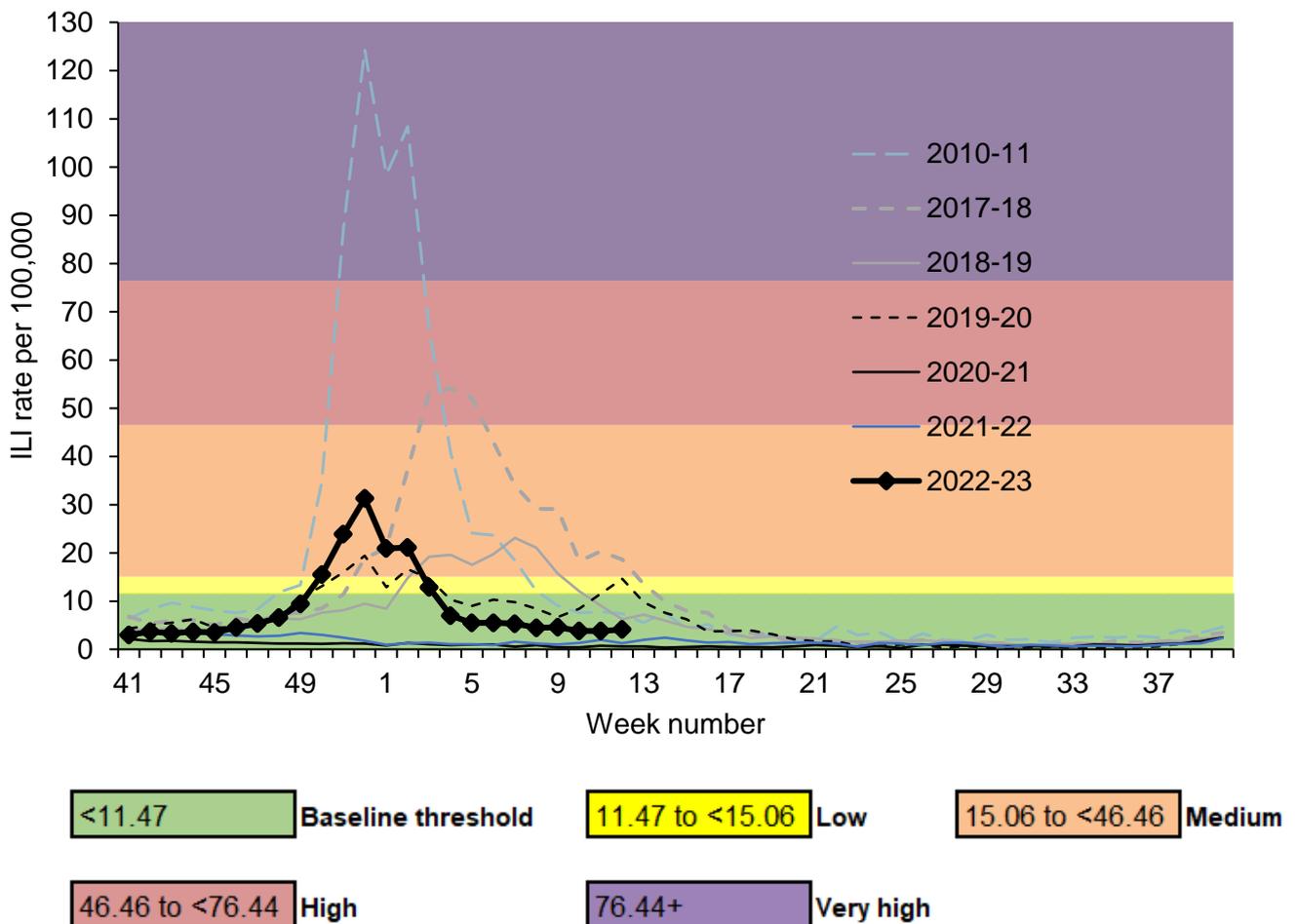
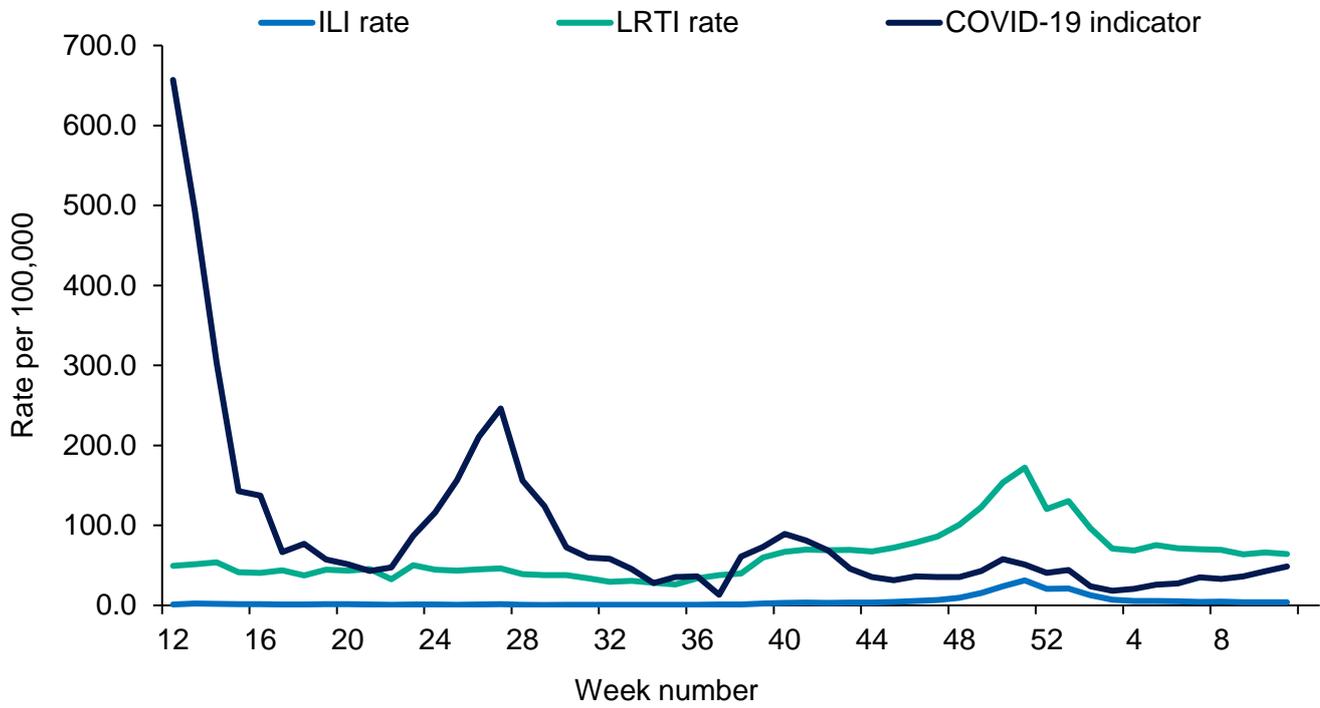


Figure 34: RCGP ILI, LRTI and COVID-19 indicator rates, England



UK

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

By age group, the highest incidence was in people aged 15 to 44 years old in England (5.5 per 100,000), in people aged 15 to 44 years old in Scotland (3.5 per 100,000), in people aged 15 to 44 in Northern Ireland (4.4 per 100,000) and in children under 1 year old in Wales (41.8 per 100,000 - note that this rate has a small population denominator).

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	8	9	10	11
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	4.6	3.8	3.8	4.1
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	3.2	3.9	5.5	2.2
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	5.9	3.0	3.9	2.5
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	3.3	2.7	3.0	3.0

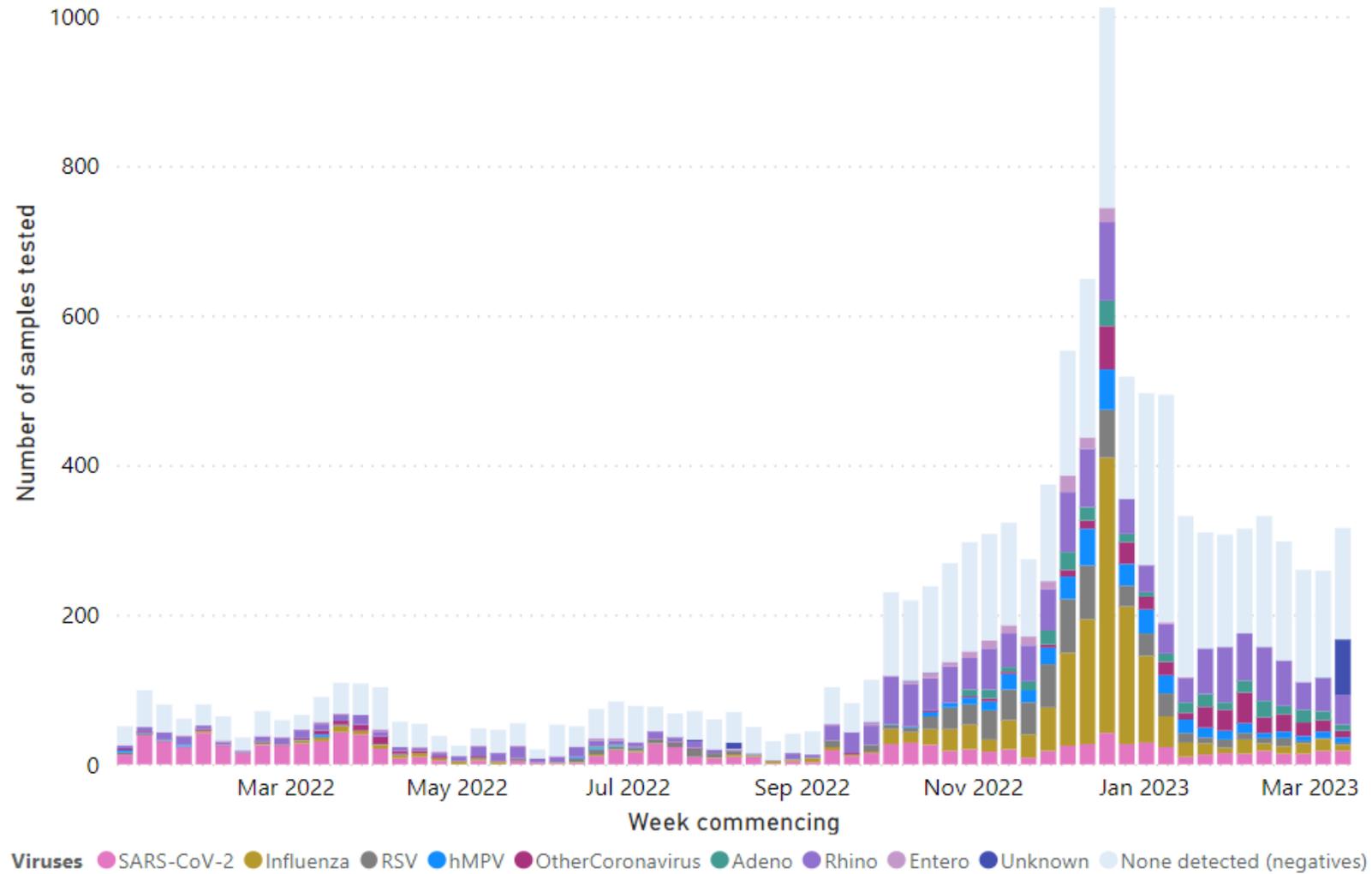
The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 2020 to 2021), in a standardised approach across Europe.

Sentinel swabbing scheme in England

Based on the date samples were received in the reference laboratory, in week 11 2023 (week commencing 13th March 2023) 308 samples were tested through the GP sentinel swabbing scheme in England, of which 93 samples tested positive (Figure 35). Among all positive samples, 43.0% were for rhinovirus, 19.4% for SARS-CoV-2, 9.7% for seasonal coronaviruses, 8.6% for influenza, 8.6% for adenovirus, 7.5% for hMPV and 3.2% for RSV (Figure 36).

Based on the date samples were taken, 110 samples were tested for influenza in week 11, of which 2 samples tested positive: 1 for influenza A (H1N1) and 1 for influenza B (Figure 37). Influenza, SARS-CoV-2 and RSV positivity decreased in week 11 compared to week 10 (Figure 38). Data for the most recent week will be updated retrospectively. Positivity (%) is not calculated when the total number tested based on sample date was less than 20 (Figure 38).

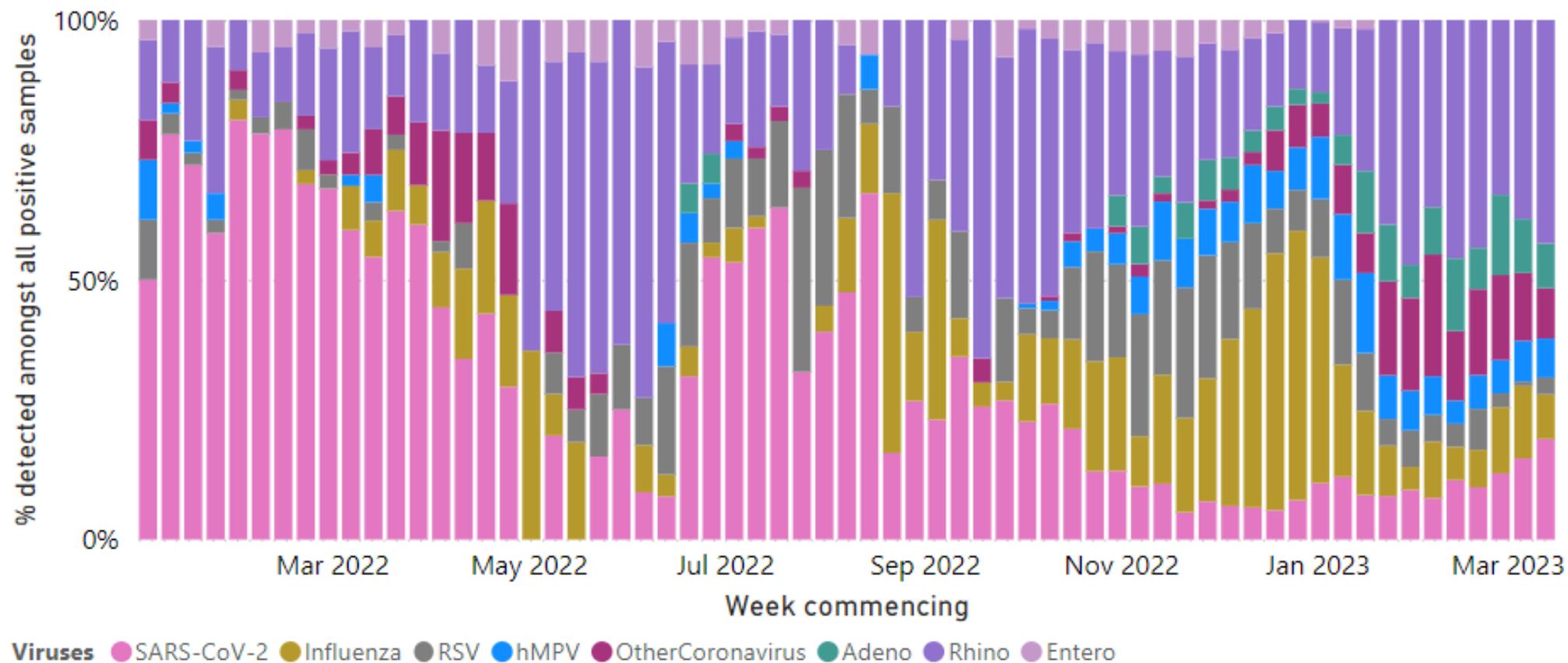
Figure 35: Number of samples tested for SARS-Cov-2, influenza, and other respiratory viruses in England by week, GP sentinel swabbing



Unknown category corresponds to samples with no result yet.

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

Figure 36. 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 37: Number of positives samples for influenza A (by subtype) and B in England by week, GP sentinel swabbing

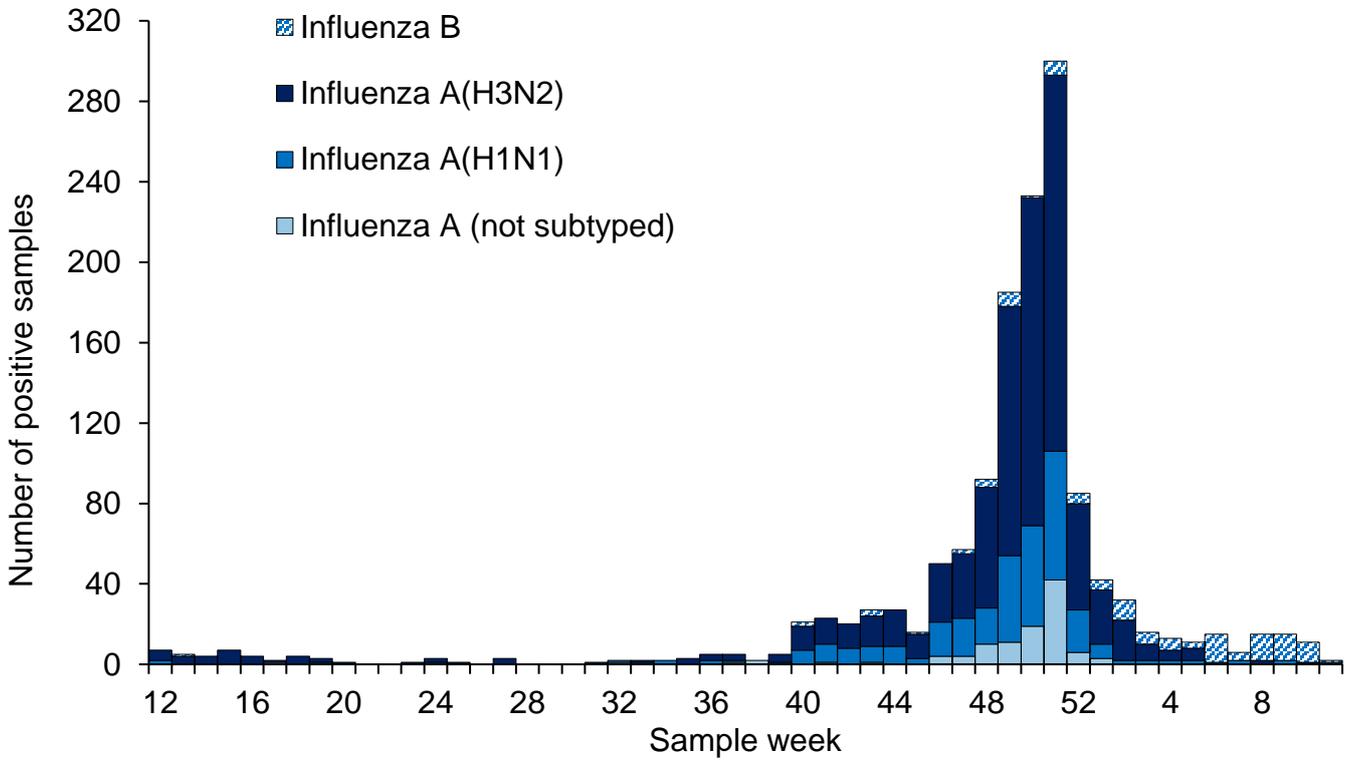
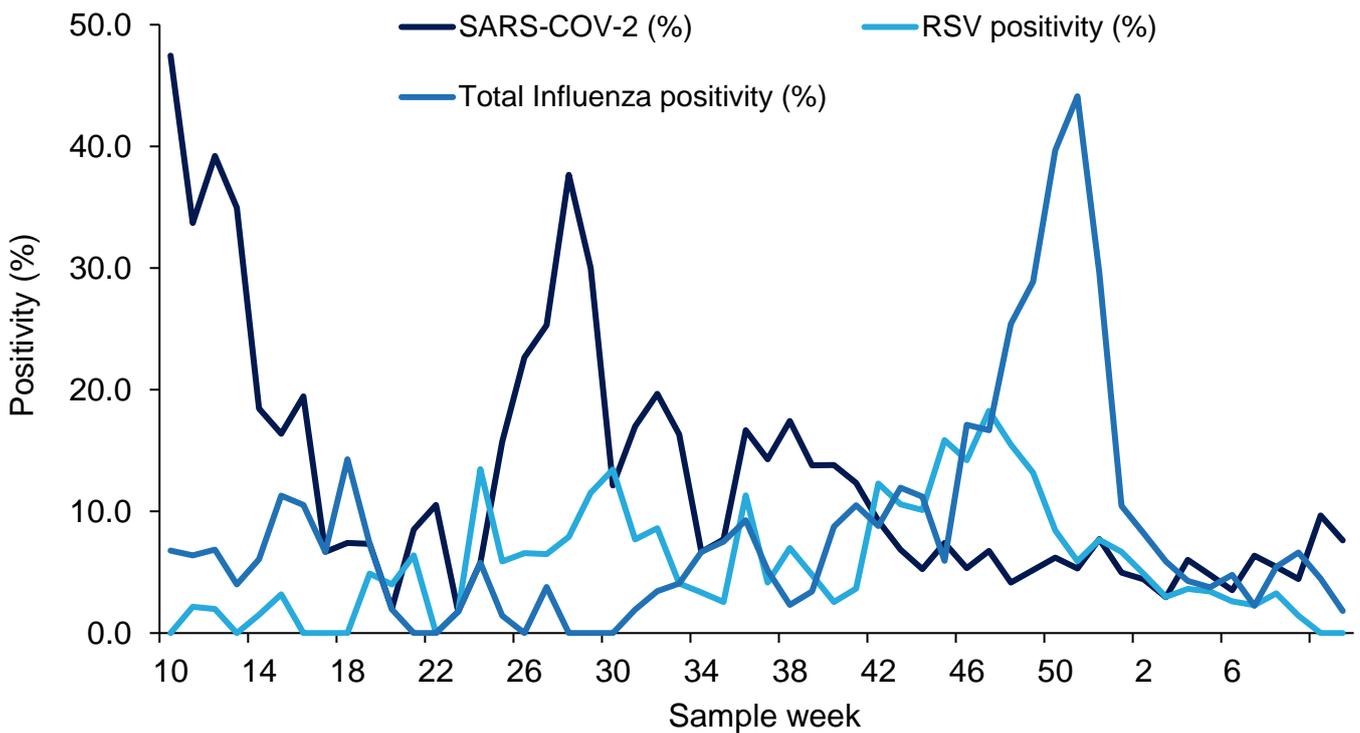


Figure 38: Weekly positivity (%) for COVID-19, Influenza and RSV in England by week, GP sentinel swabbing



GP In Hours, Syndromic Surveillance

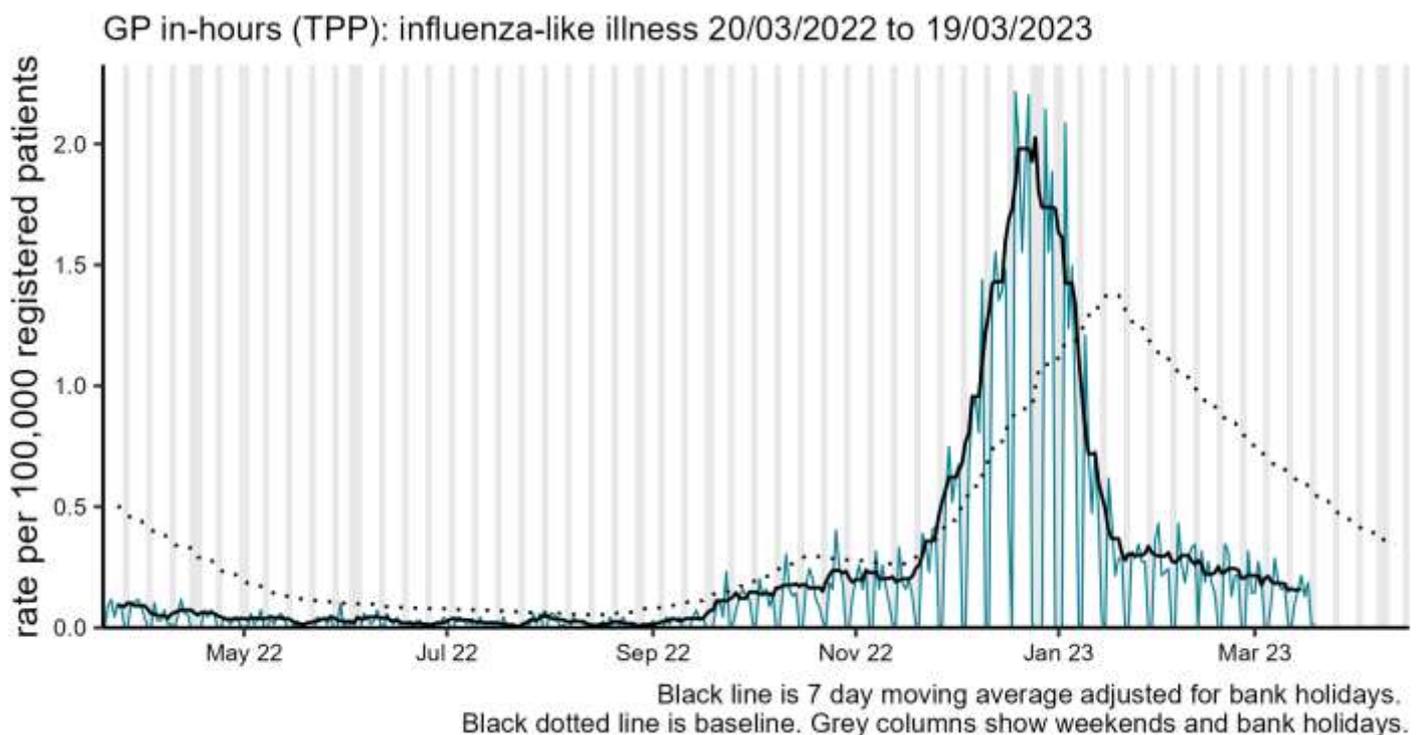
The GP In Hours (GPIH) syndromic surveillance system monitors the number of GP visits during regular hours of known clinical indicators.

During week 11, the rate of GP in hours consultations for influenza-like illness decreased nationally and remain below the baseline levels (Figure 39).

Further indicators and information about caveats are available from the [GP In Hours Syndromic Surveillance](#) bulletin.

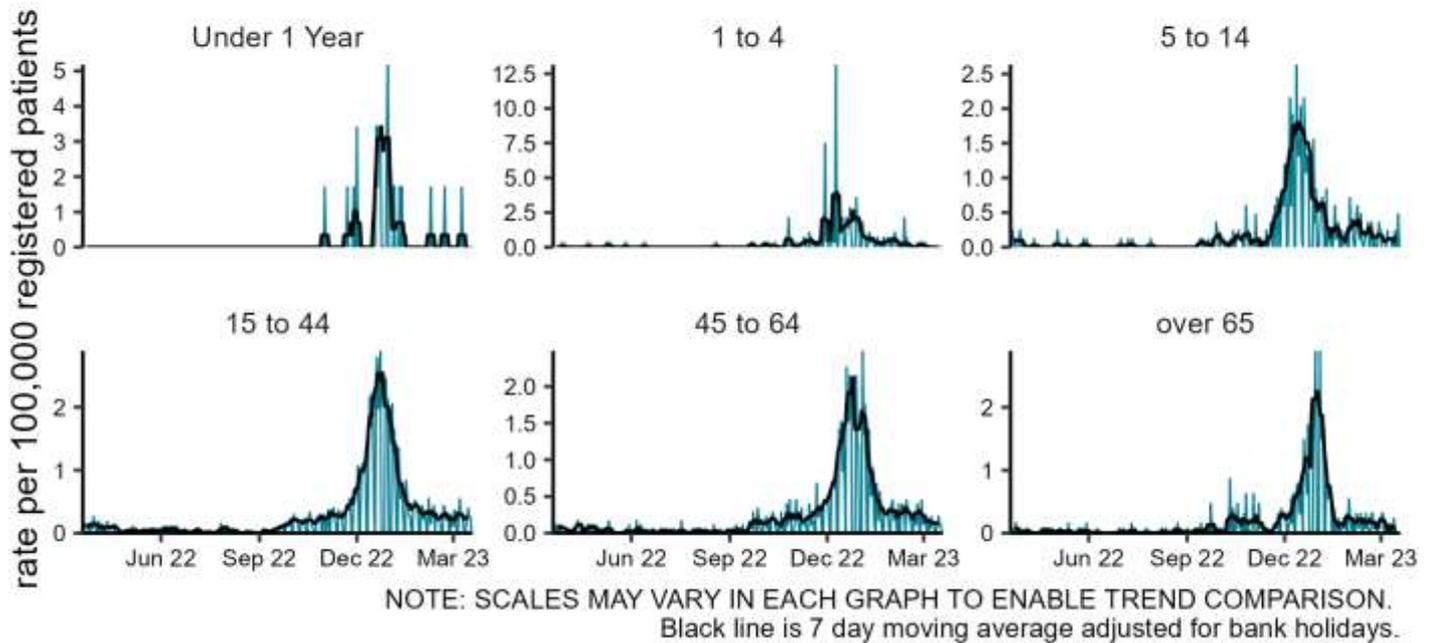
Figure 39: GPIH clinical indicators for influenza-like illness GP consultations, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)



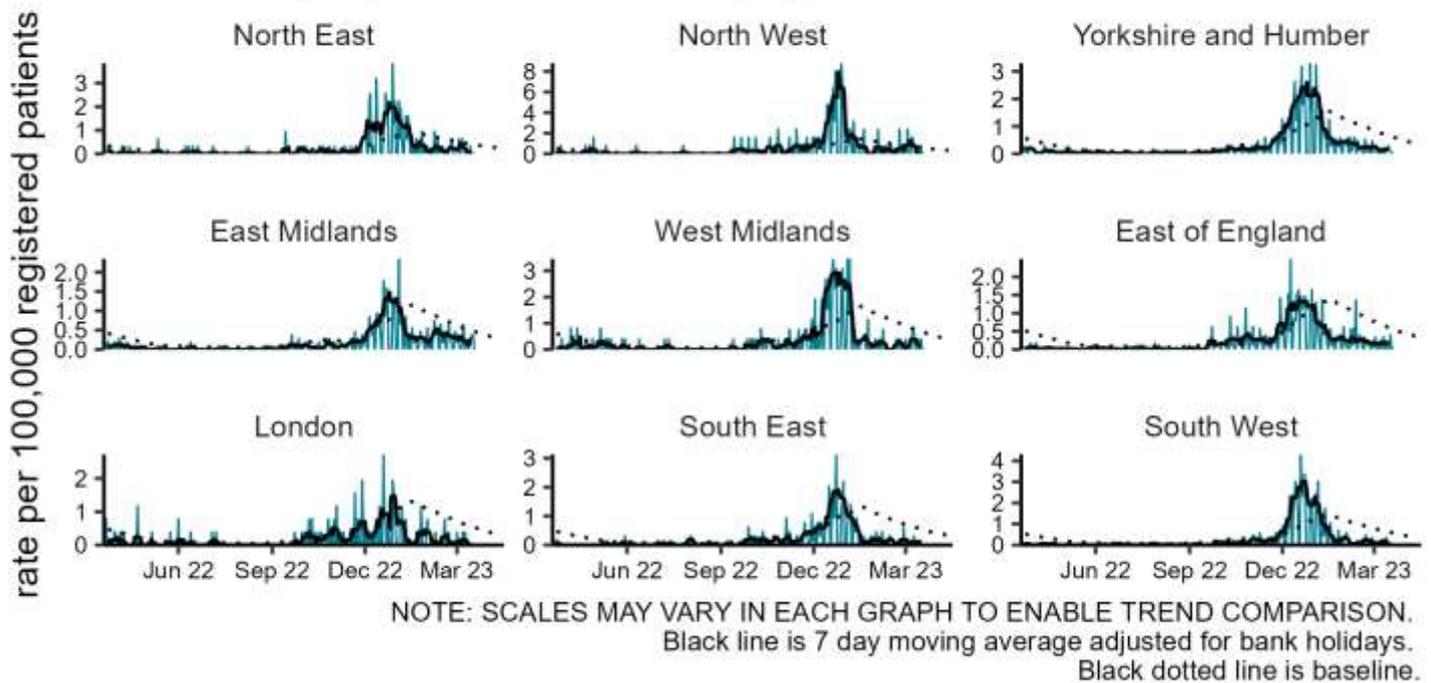
(b)

GP in-hours (TPP): influenza-like illness by age (years) 20/03/2022 to 19/03/2023



(c)

GP in-hours (TPP): influenza-like illness by region 20/03/2022 to 19/03/2023



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.

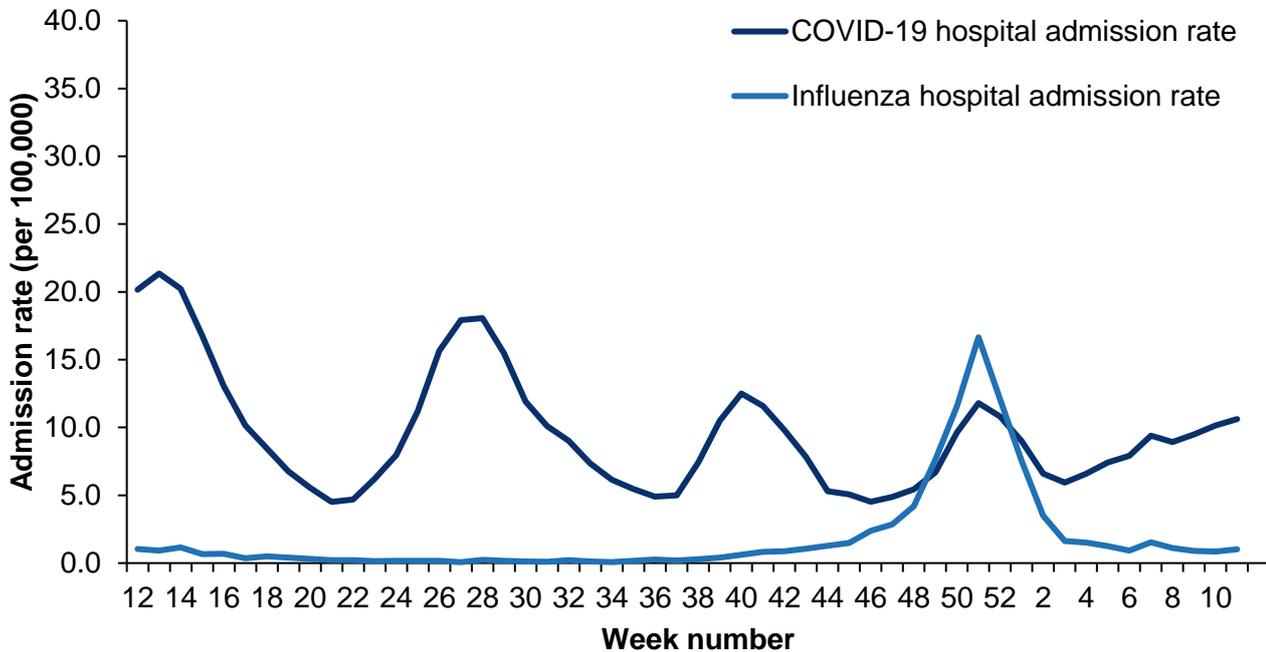
Hospitalisations, SARI Watch

In week 11 (ending 19 March 2023), the overall weekly hospital admission rate for COVID-19 increased slightly to 10.62 per 100,000 compared to 10.14 per 100,000 in the previous week.

By UKHSA centre, the highest hospital admission rate for COVID-19 was observed in the North East. By age group, the highest hospital admission rate for confirmed COVID-19 continues to be in those aged 85 year olds and over, whilst the rate in adults aged between 75 and 84 years old decreased slightly in week 11.

In week 11 (ending 19 March 2023), the overall weekly hospital admission rate for influenza increased slightly to 1.02 per 100,000 compared to 0.86 per 100,000 in the previous week. The rates from week 52 2022 onwards were revised due to retrospective updates from trusts. The rate in the latest week increased into the low activity threshold. By UKHSA Centre, the highest hospitalisation rate was observed in London (4.11 per 100,000). By age group, the highest hospital admission rate for influenza was in the under 5 years old age group (5.04 per 100,000). There were 90 new hospital admissions to sentinel Trusts for influenza (1 influenza A(H3N2), 14 influenza A(not subtyped) and 75 influenza B) in week 11.

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

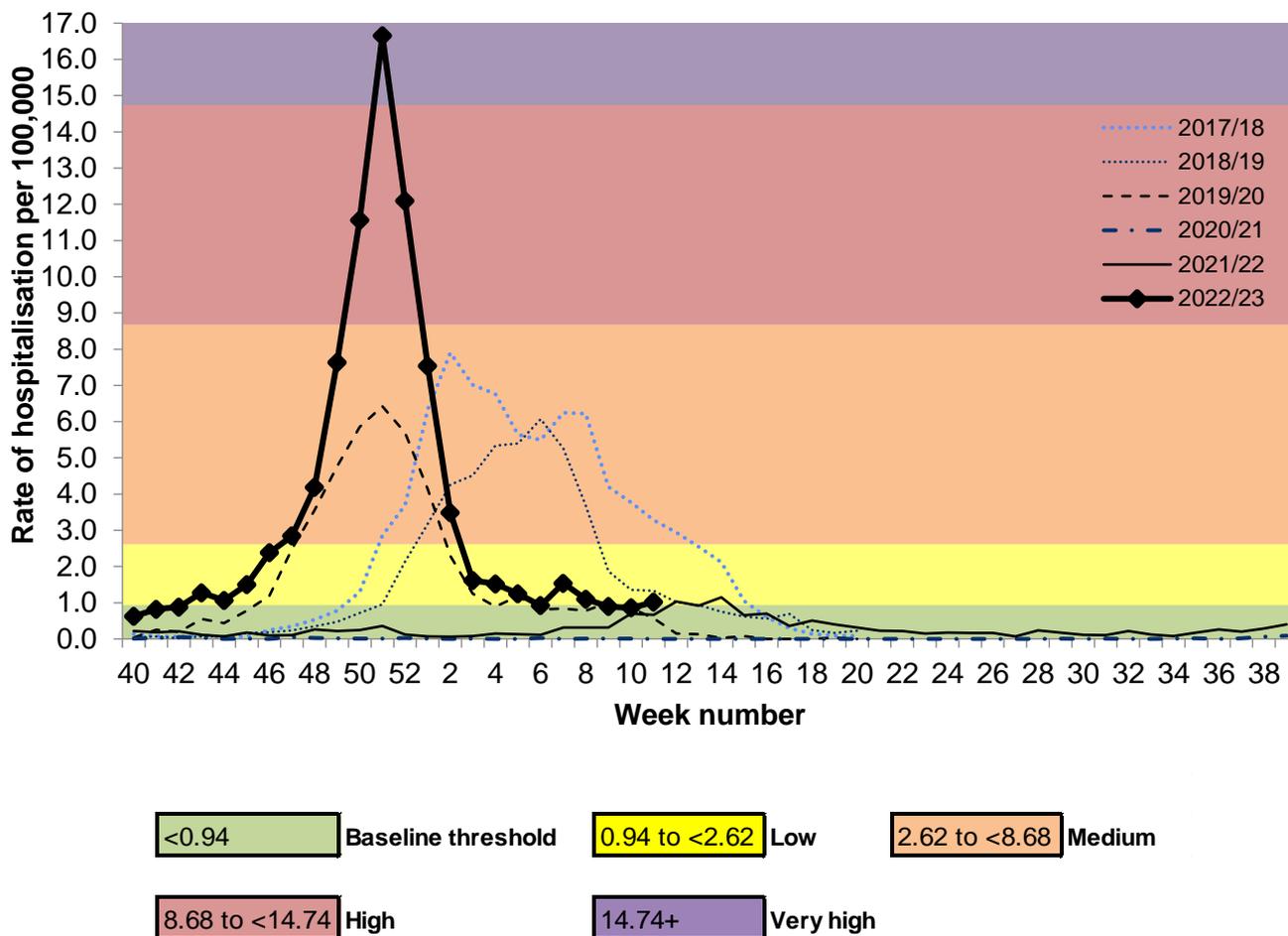


* Influenza hospital admission rate based on 20 sentinel NHS trusts for week 11

* COVID-19 hospital admission rate based on 88 NHS trusts for week 11

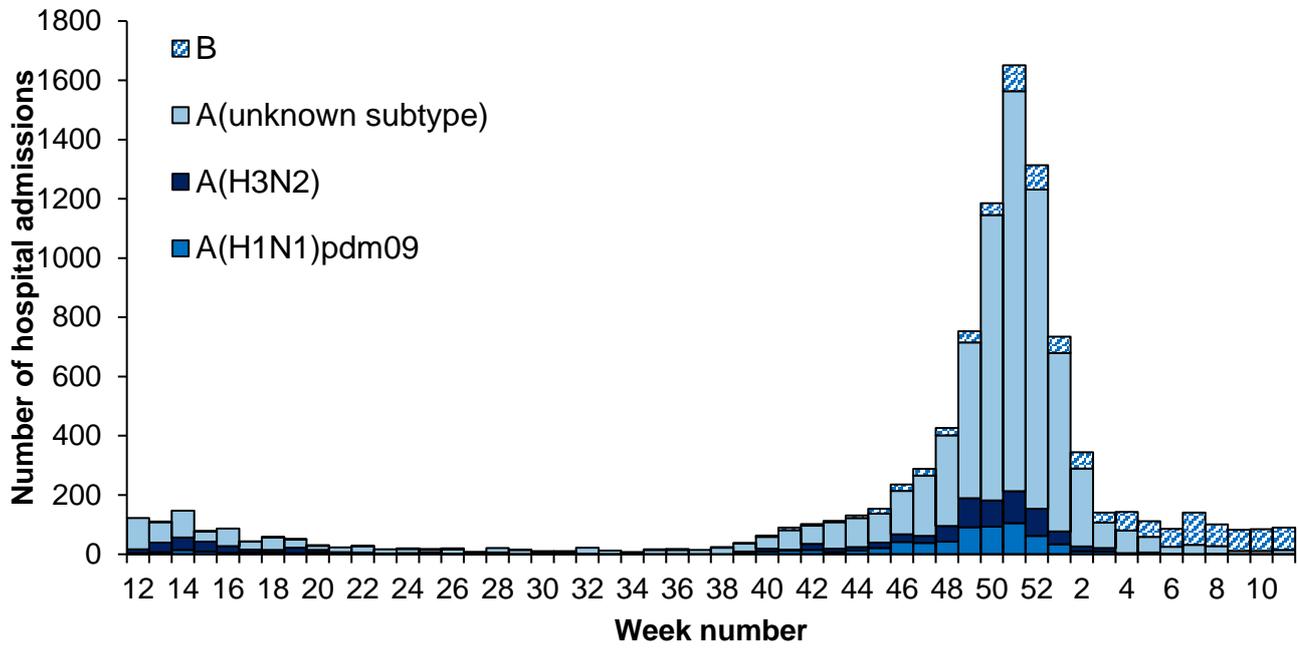
* SARI Watch data is provisional

Figure 41: Weekly overall influenza hospital admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England



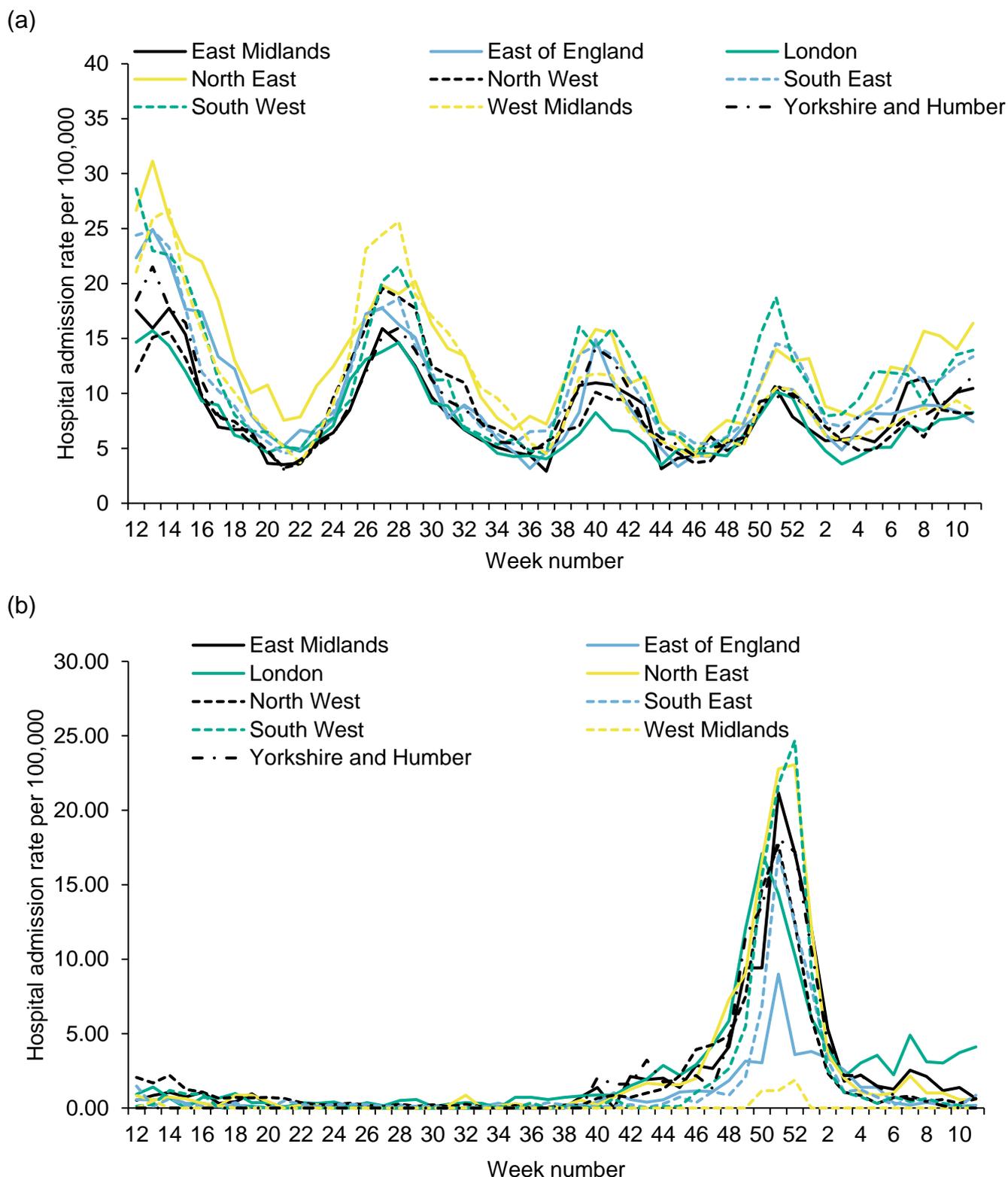
* MEM thresholds are based on data from the 2016 to 2017 to the 2021 to 2022 seasons (data from 2020 to 2021 was excluded due to the COVID-19 pandemic).

Figure 42: Weekly influenza hospital admissions by influenza type, SARI Watch, England



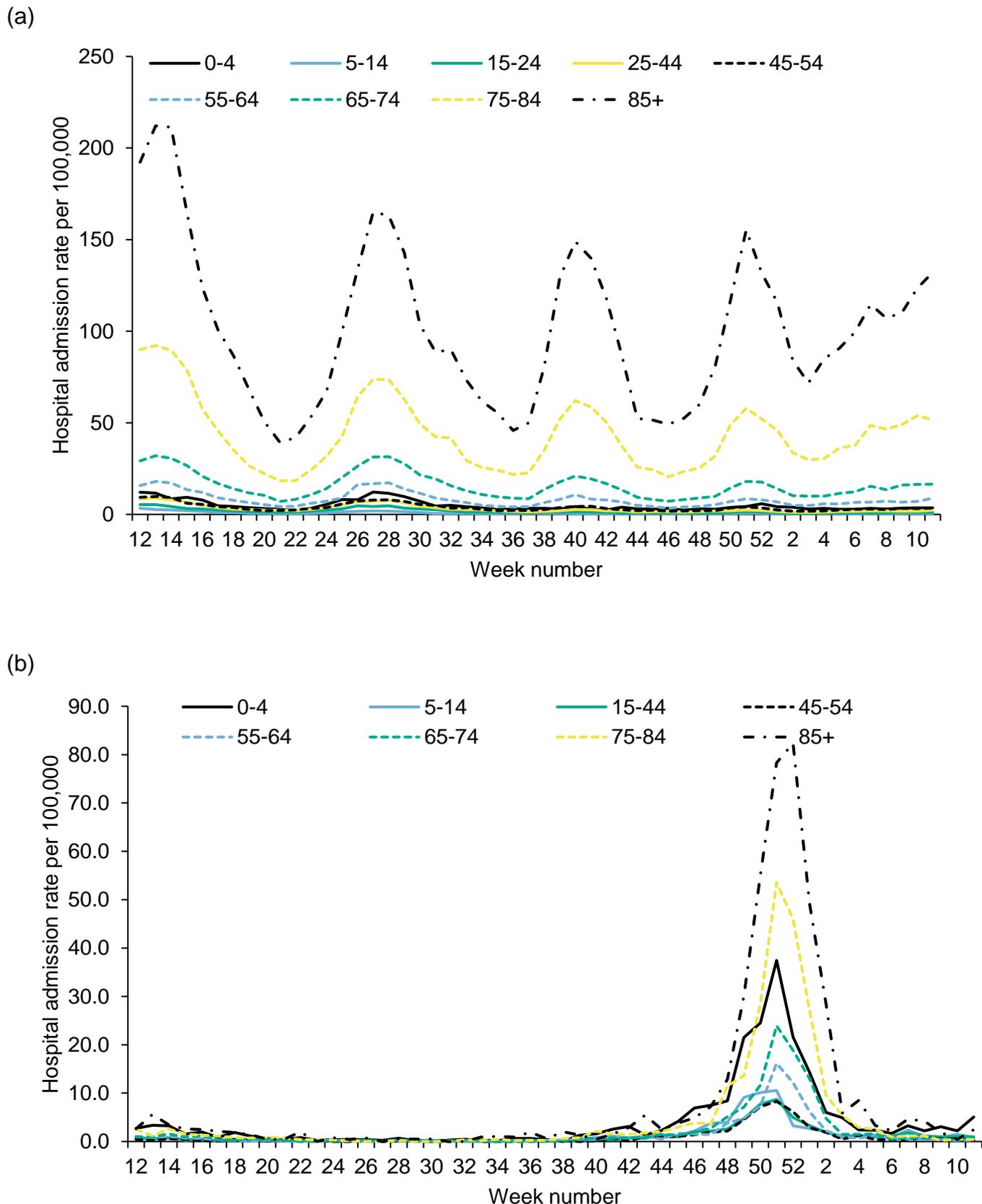
*Number of influenza hospital admissions based on sentinel NHS trusts

Figure 43: Weekly hospital admission rate by UKHSA centre for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch*



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

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



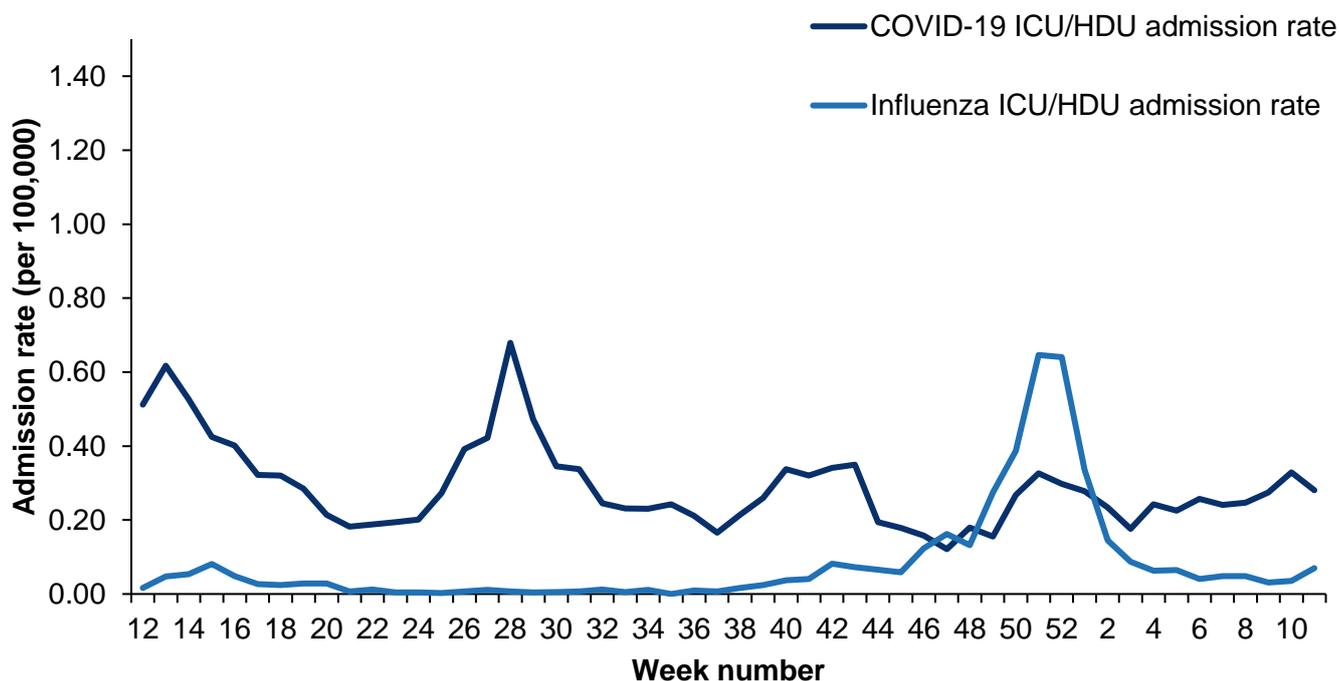
ICU or HDU admissions, SARI Watch

In week 11 (ending 19 March 2023), the overall weekly ICU or HDU admission rates for COVID-19 remained low with small fluctuations at to 0.28 per 100,000, compared to 0.33 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 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 11, the overall ICU or HDU rate for influenza increased to 0.07 per 100,000 compared to 0.04 per 100,000 in the previous week. The rate in the latest week remained within baseline activity levels. There were 28 new case reports of an ICU or HDU admission for influenza in week 11 (6 influenza A(not subtyped) and 22 influenza B).

Figure 45: 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 94 NHS trusts for week 11

* COVID-19 ICU or HDU admission rate based on 80 NHS trusts for week 11

* SARI Watch data is provisional

Figure 46: Weekly overall influenza ICU or HDU admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England

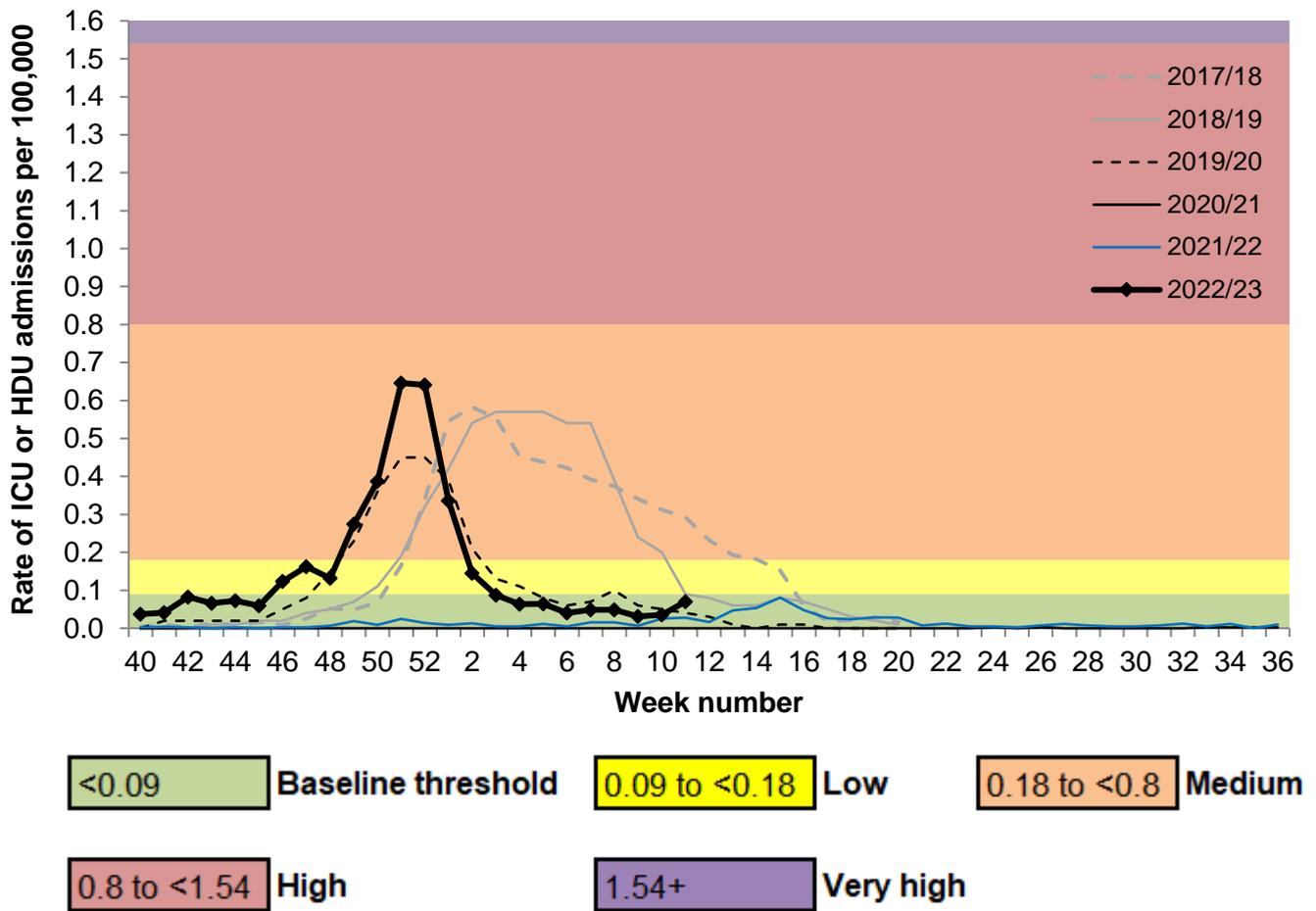


Figure 47: Weekly influenza ICU or HDU admissions by influenza type, SARI Watch, England

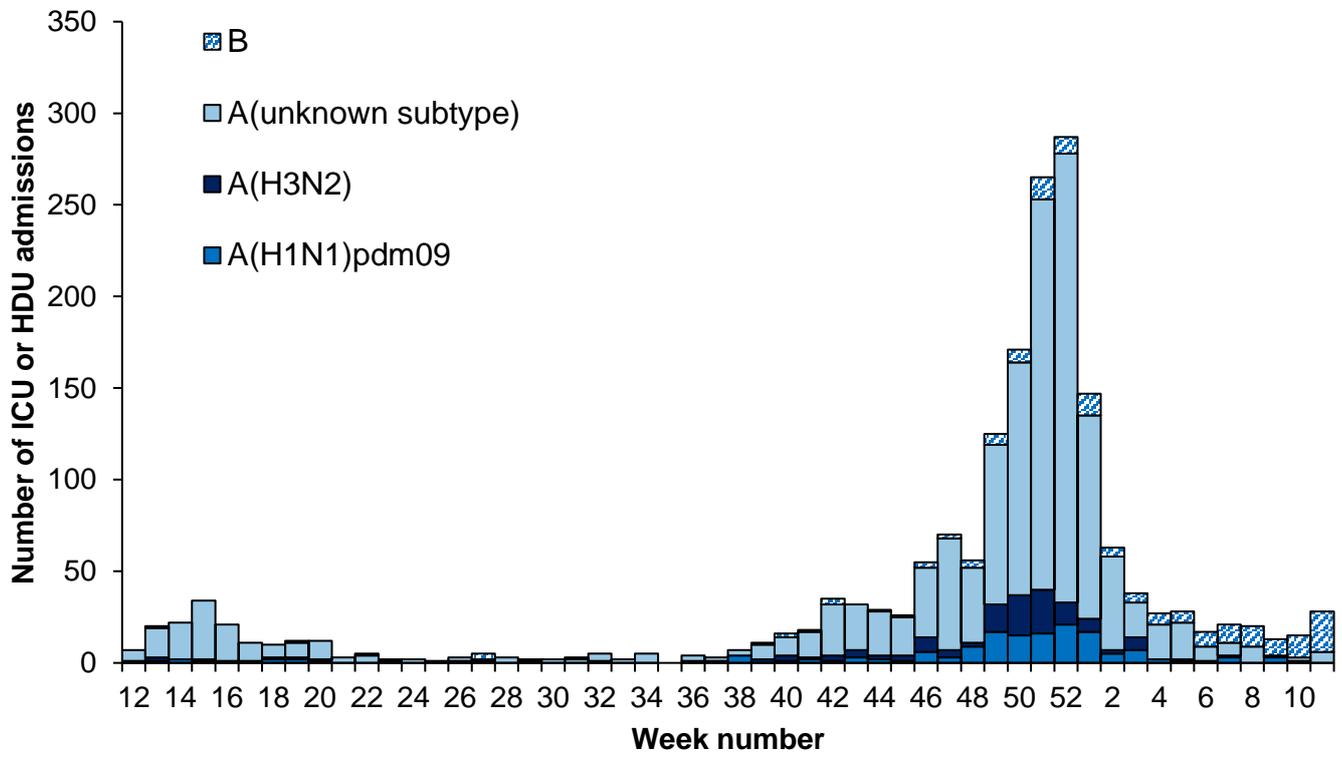


Figure 48: Weekly ICU or HDU admission rate by UKHSA centre for new (a) COVID-19 positive cases and (b) influenza, reported through SARI Watch

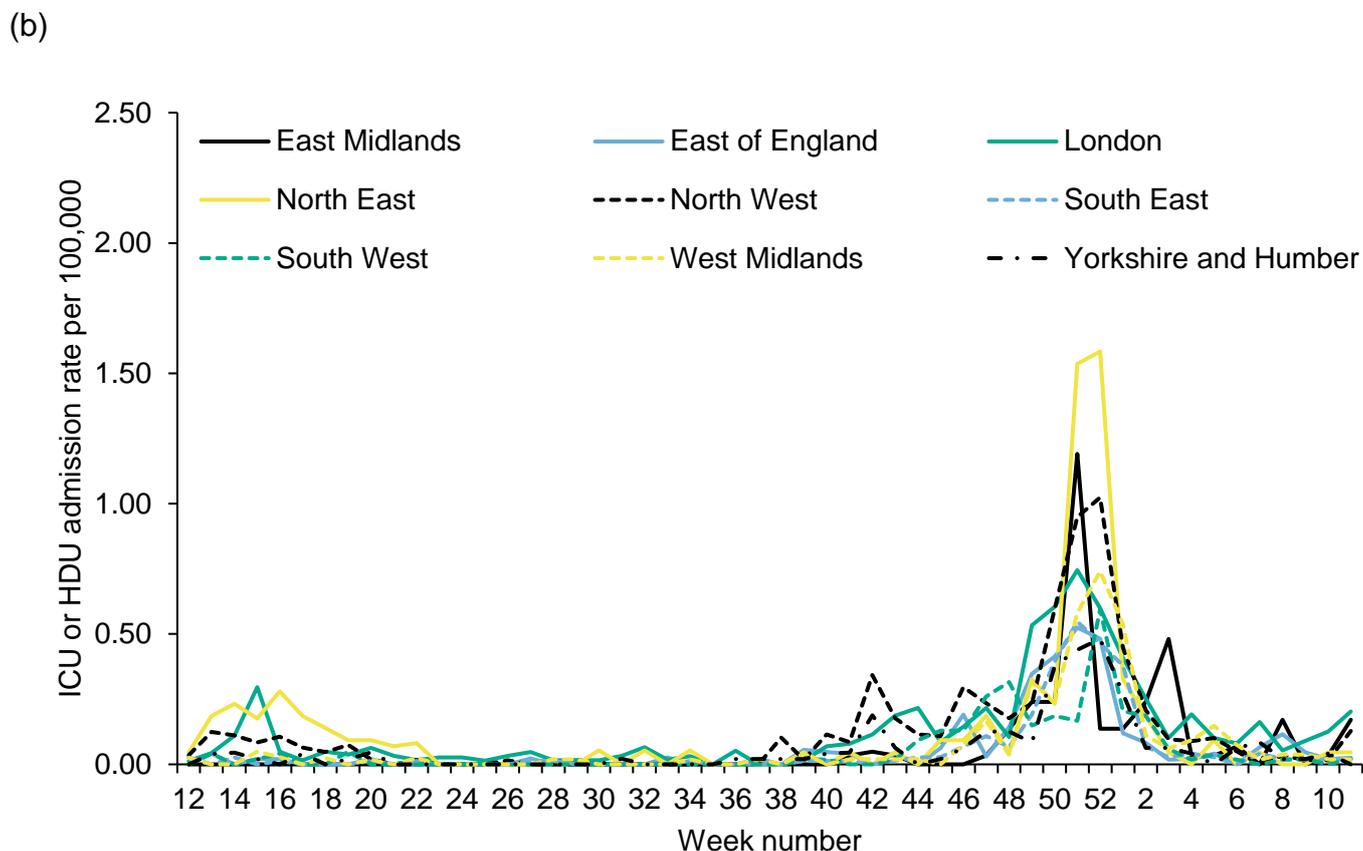
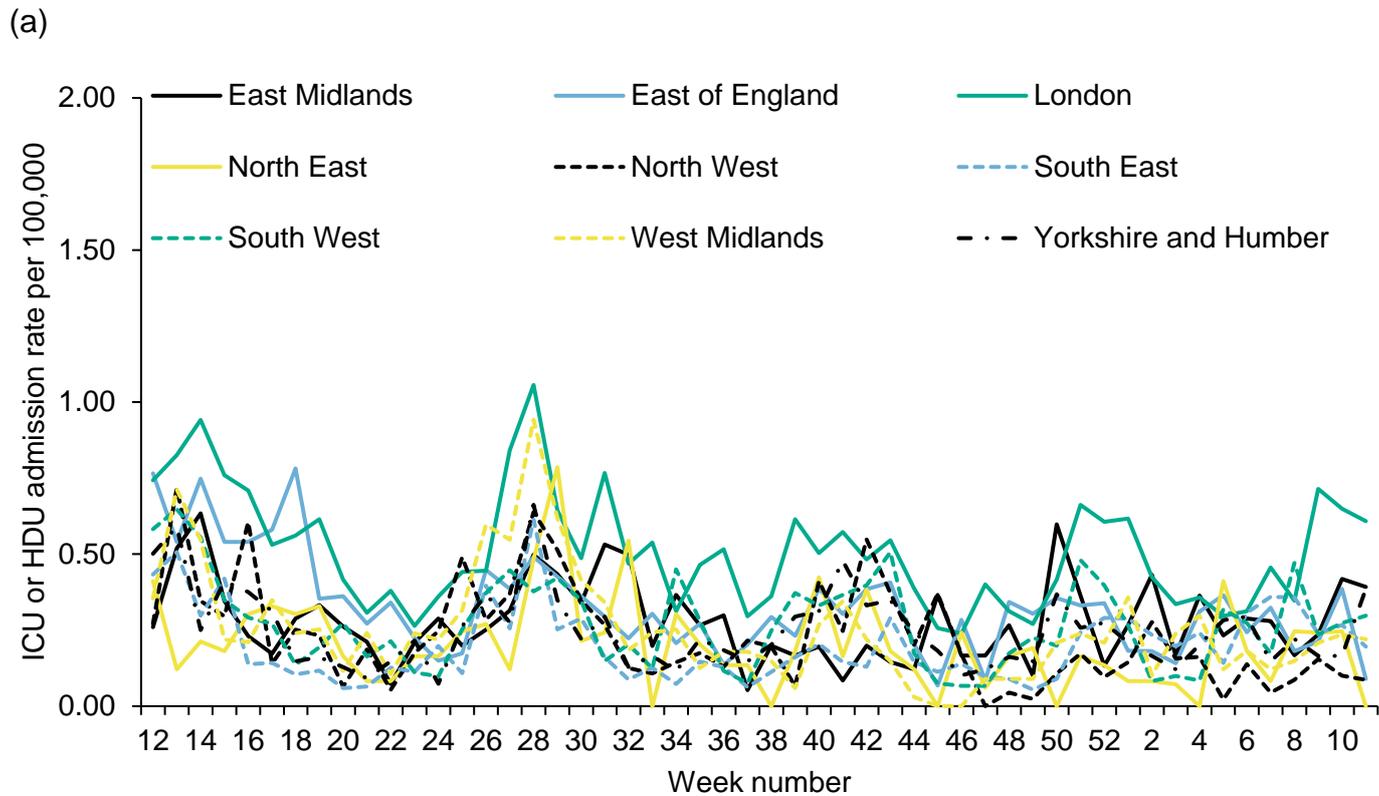
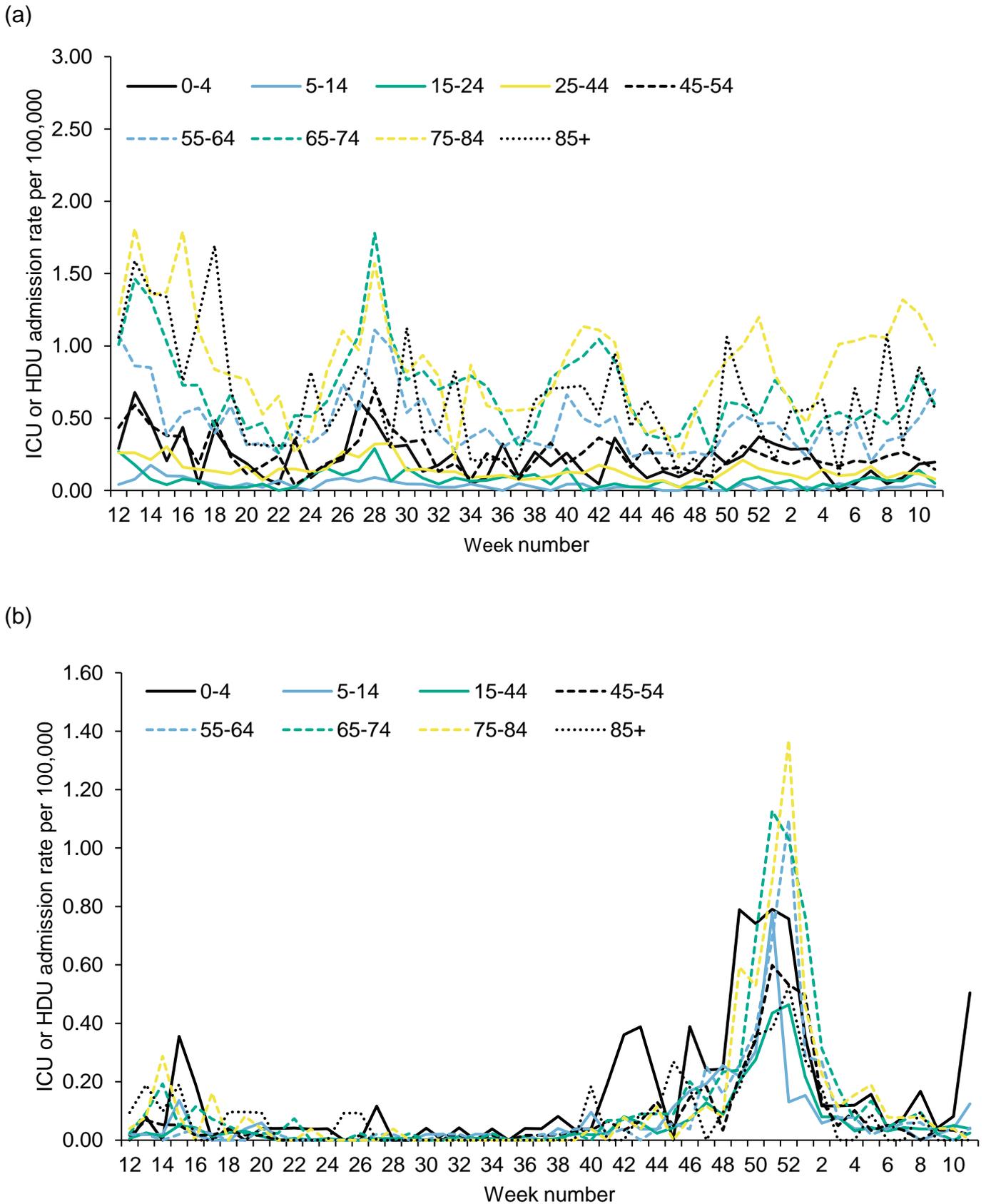


Figure 49: Weekly ICU or HDU admission rate by age group for new (a) COVID-19 positive cases and (b) influenza, reported through SARI Watch

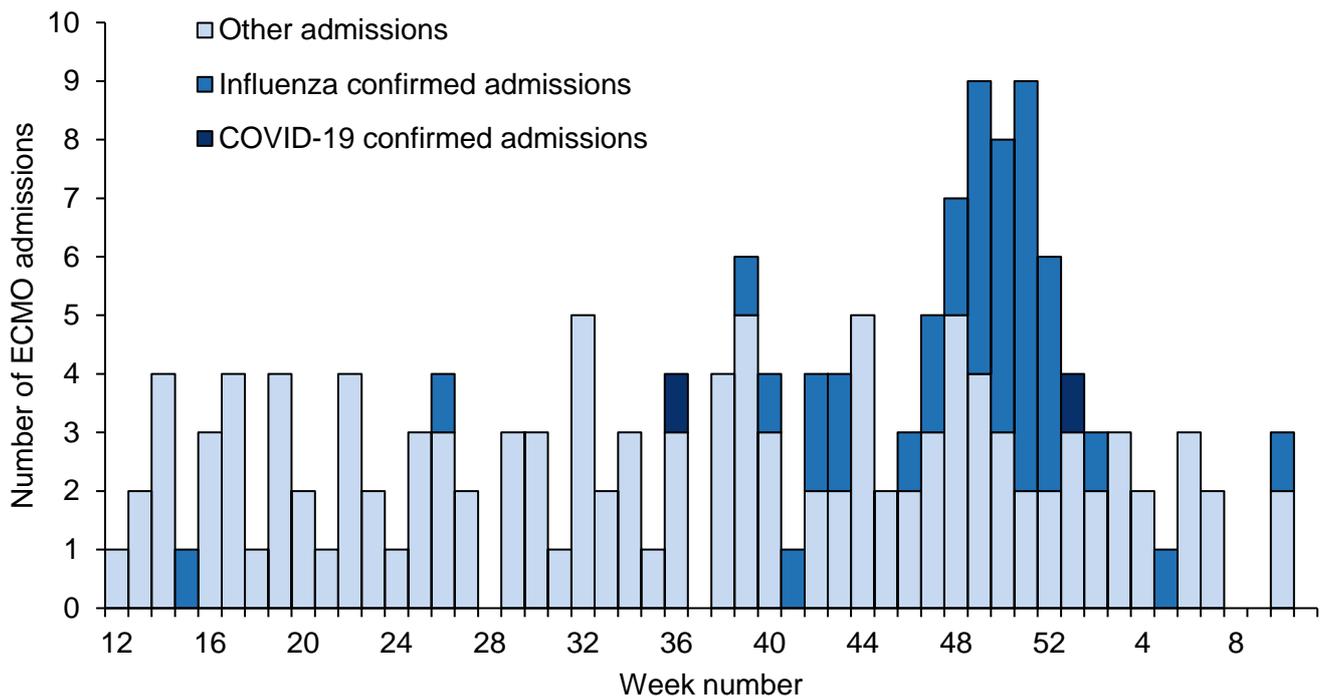


ECMO, SARI Watch

There were no new ECMO admissions in adults reported in week 11 from the 7 Severe Respiratory Failure (SRF) centres in the UK (Figure 50).

Figure 50: Laboratory confirmed ECMO admissions in adults (COVID-19, influenza and non-COVID-19 confirmed) to Severe Respiratory Failure centres in the UK

* SARI Watch data is provisional

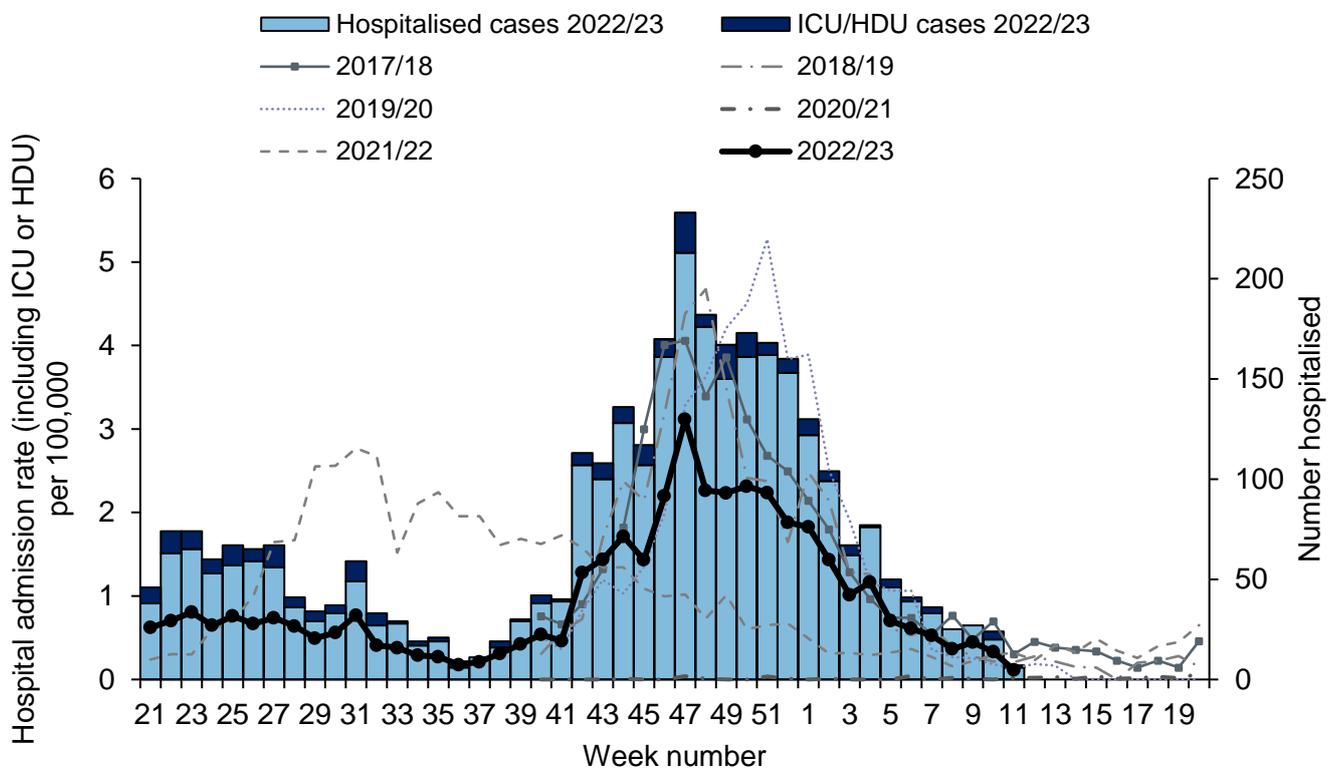


RSV admissions, SARI Watch

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

In week 11, the overall hospital admission rate for RSV remained low and decreased to 0.11 per 100,000 compared to 0.33 per 100,000 in the previous week. The highest rate was seen in the under 5 year olds at 0.80 per 100,000, with rates remaining low across all age groups.

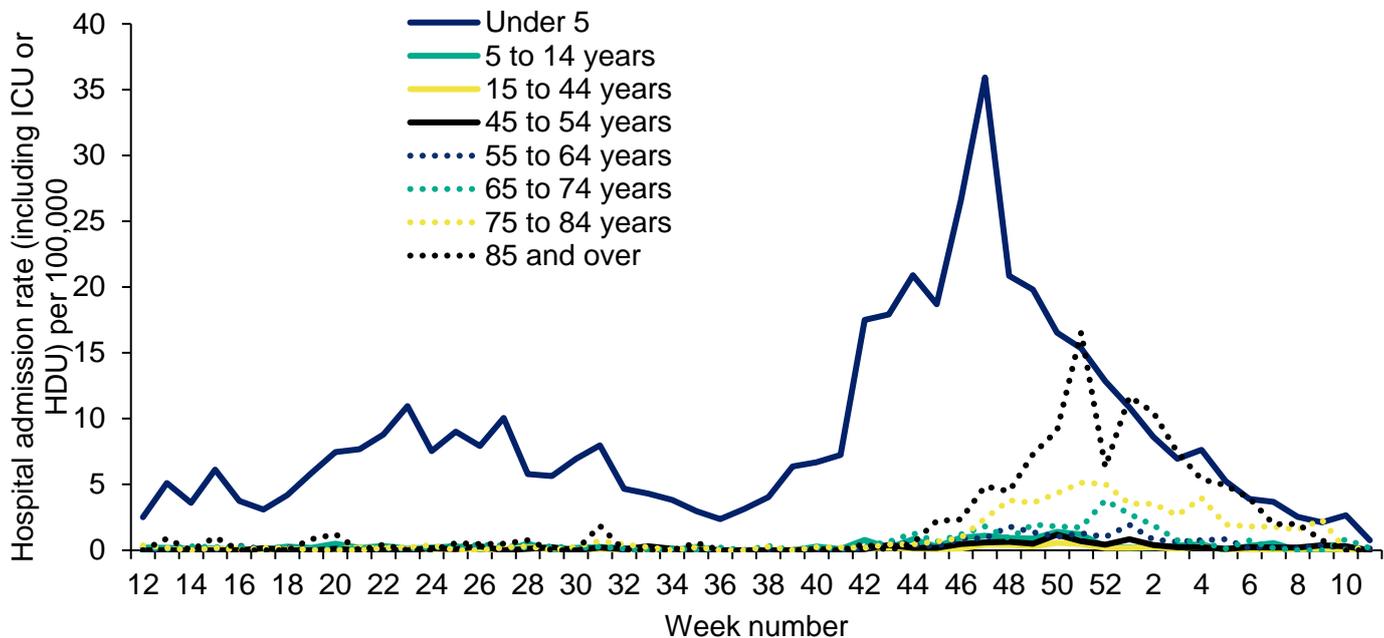
Figure 51: Weekly overall hospital admission rates (including ICU or HDU) of RSV positive cases per 100,000 population reported through SARI Watch, England



* 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 52: 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

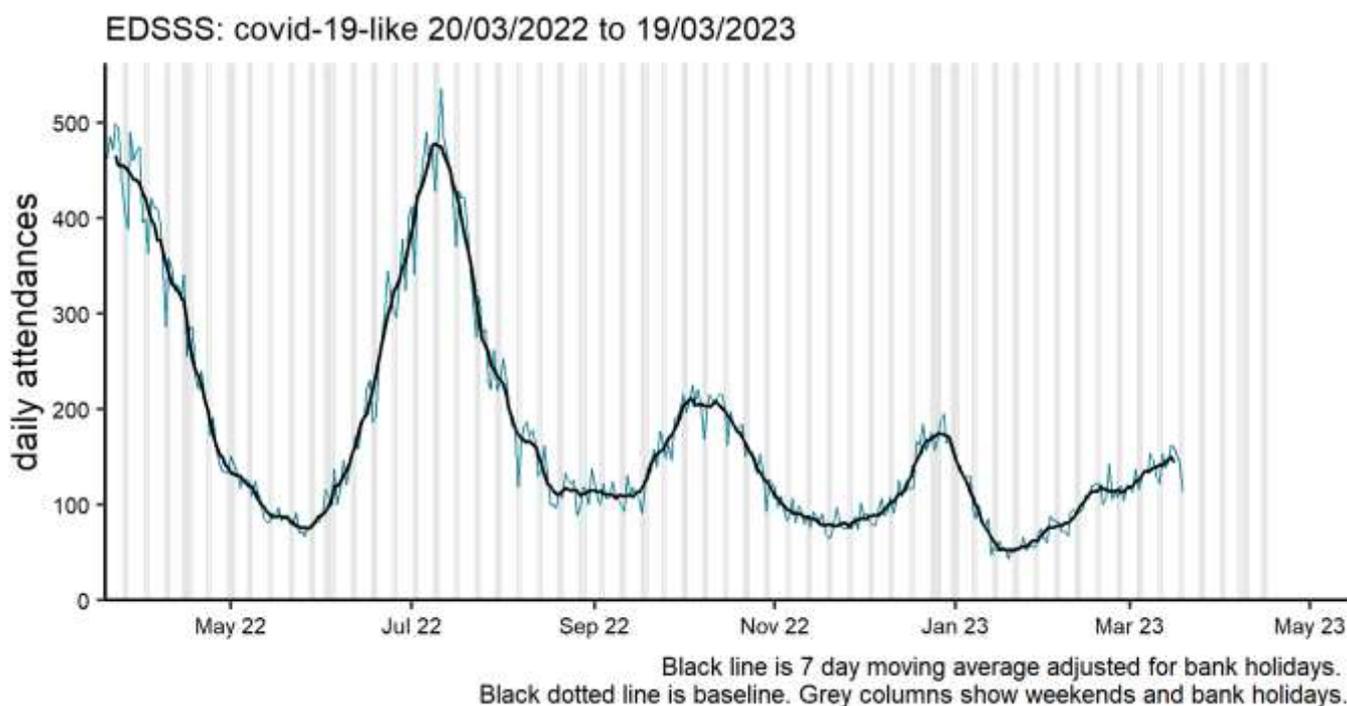
The [Emergency Department Syndromic Surveillance System \(EDSSS\)](#) monitors the daily visits in a network of emergency departments across England.

During week 11, attendances for covid-like illness increased nationally, particularly in those aged 65 years and over in the North West, East Midlands, West Midlands and South East regions (Figure 53). Attendances for acute respiratory infection increased slightly nationally, particularly in those aged 65 years and over (Figure 54). Attendances for influenza-like-illness and acute bronchiolitis remained stable nationally (Figures 55 and 56).

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.

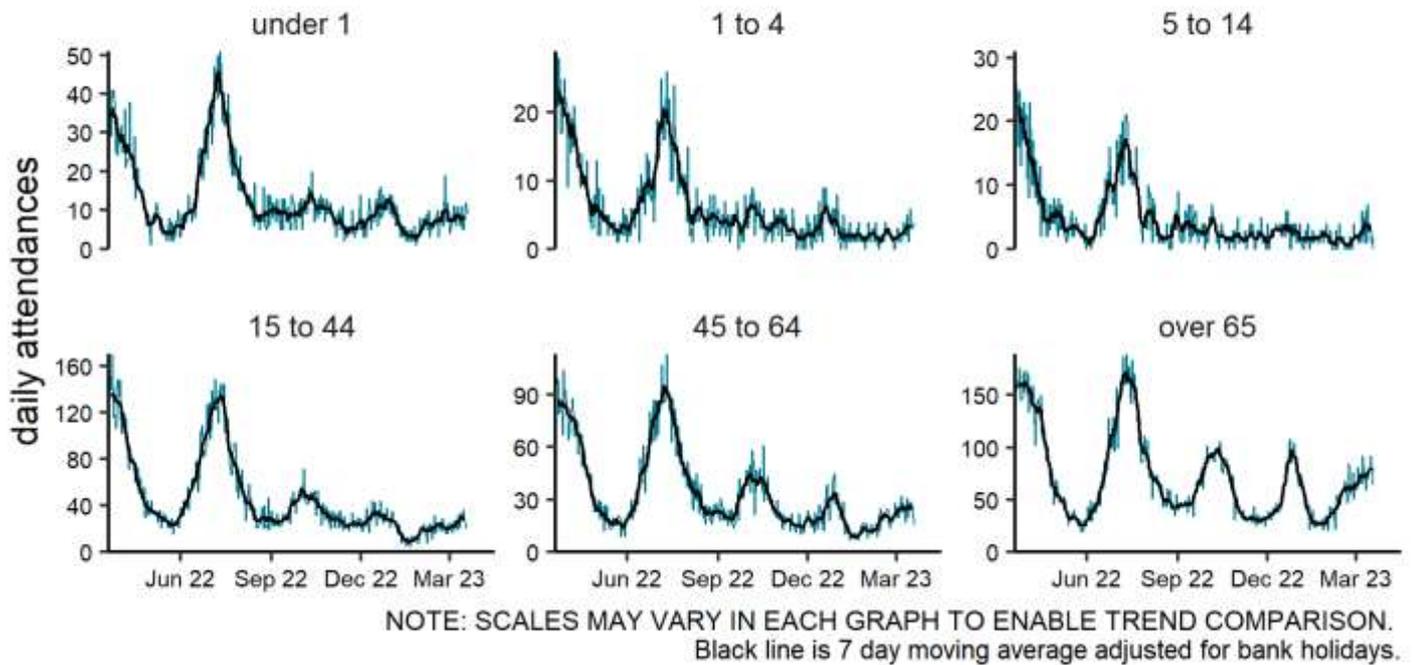
Figure 53: Daily ED attendances for COVID-19-like infections, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)



(b)

EDSSS: covid-19-like by age (years) 20/03/2022 to 19/03/2023



(c)

EDSSS: covid-19-like by region 20/03/2022 to 19/03/2023

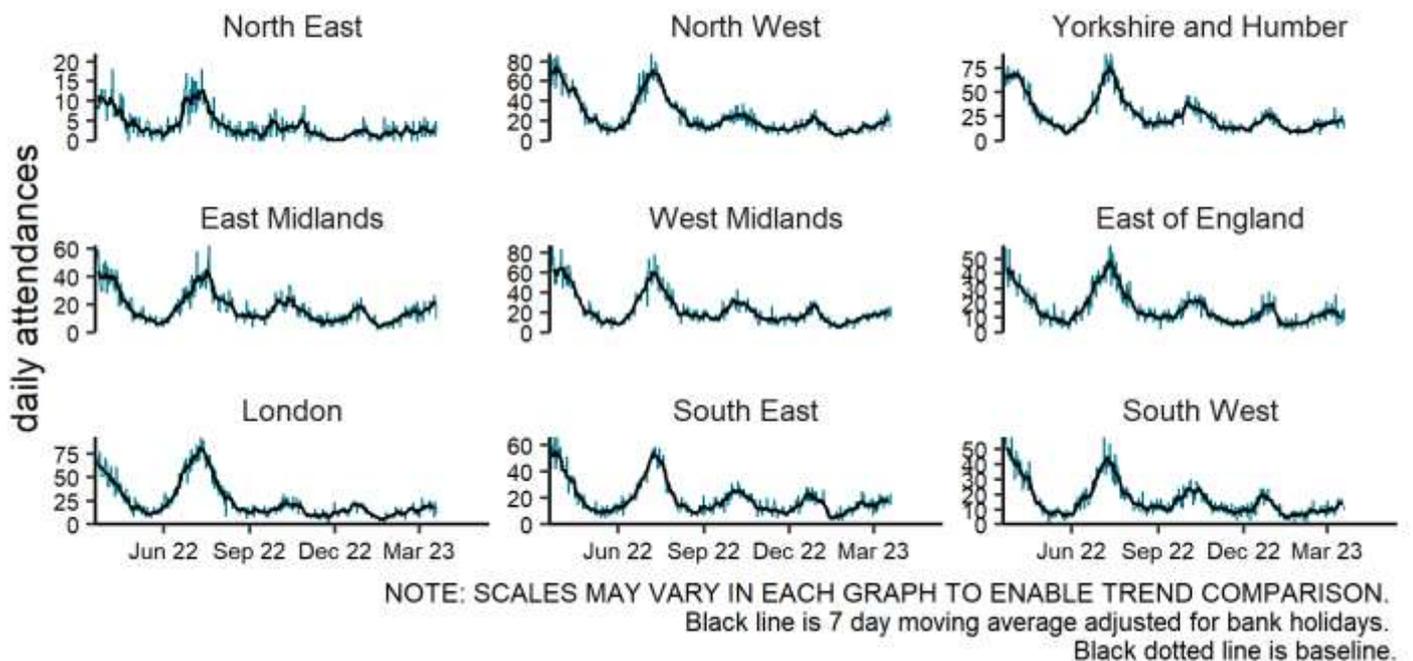
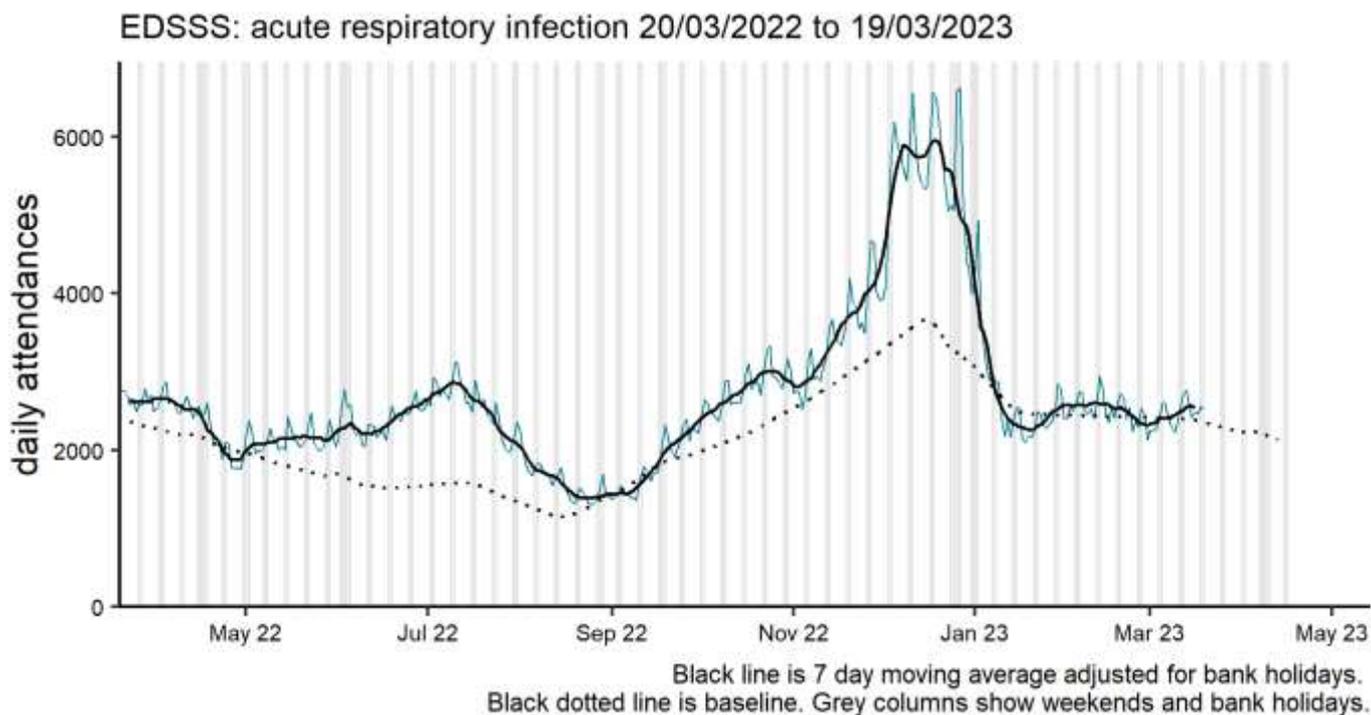
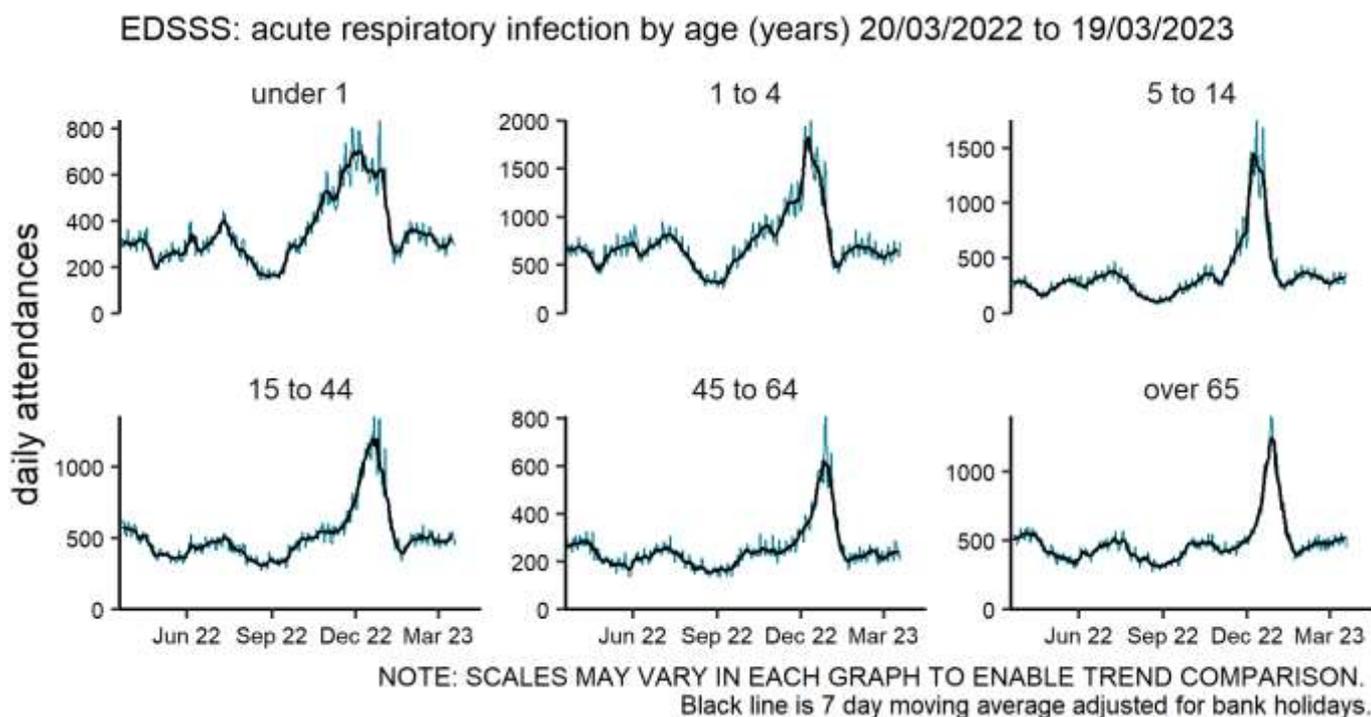


Figure 54: Daily ED attendances for acute respiratory infection, England (a) nationally, (b) by age group and (c) by UKHSA centre

(a)



(b)



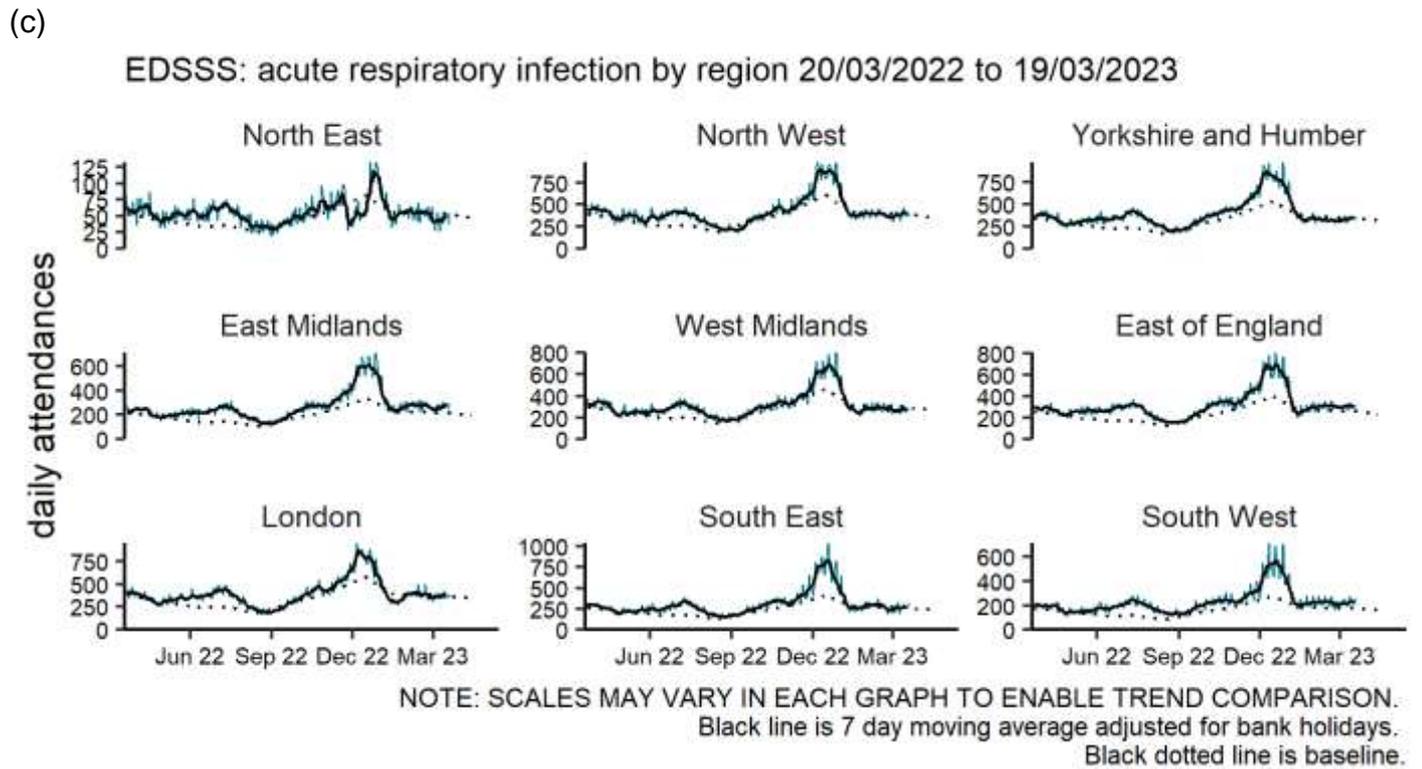
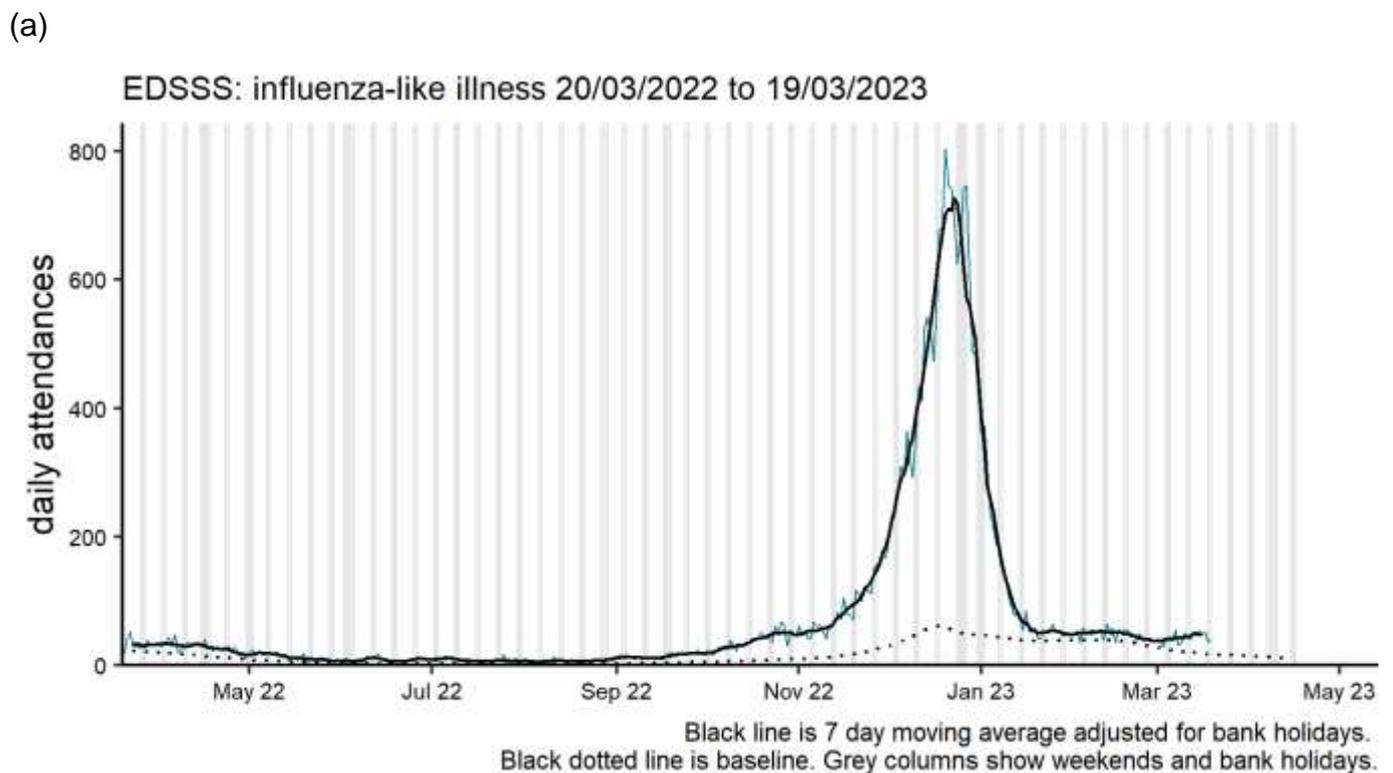
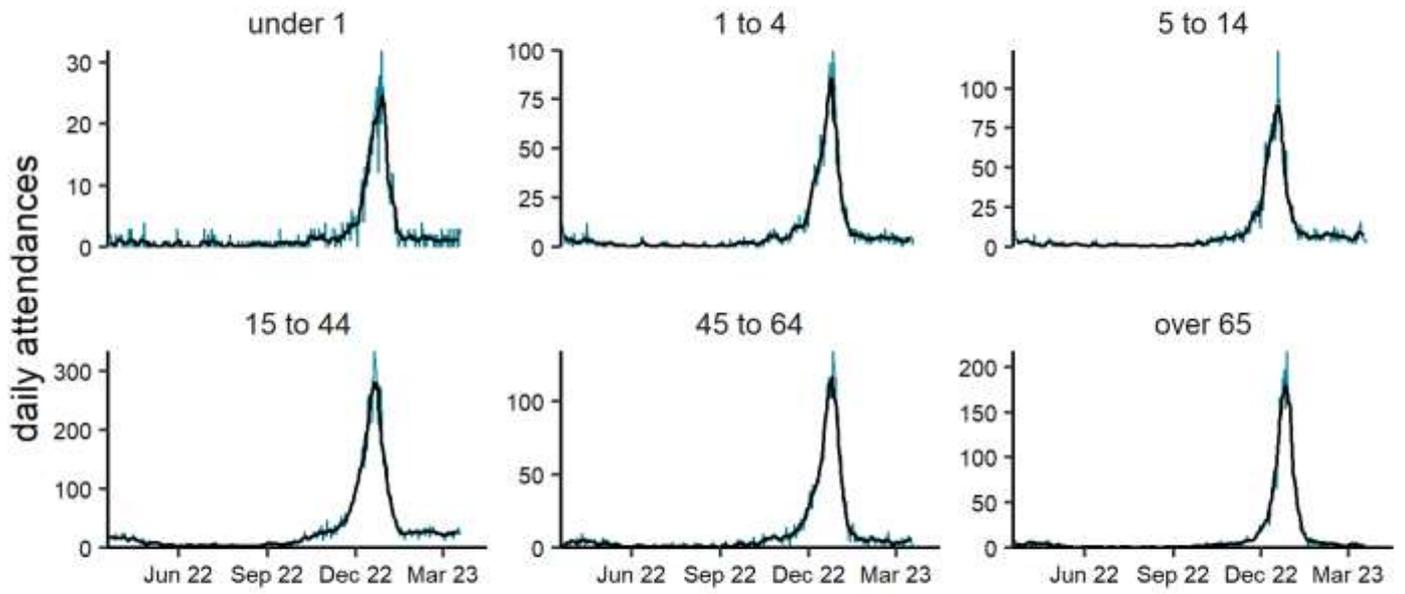


Figure 55: Daily ED attendances for influenza-like illness, England (a) nationally, (b) by age group and (c) by UKHSA centre



(b)

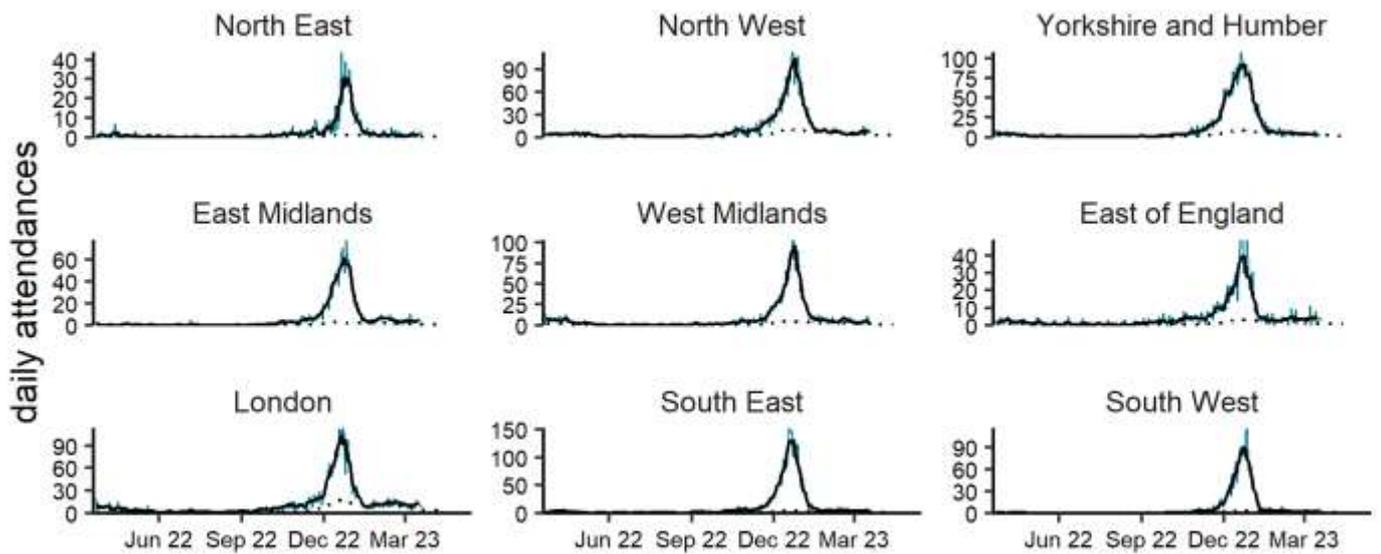
EDSSS: influenza-like illness by age (years) 20/03/2022 to 19/03/2023



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

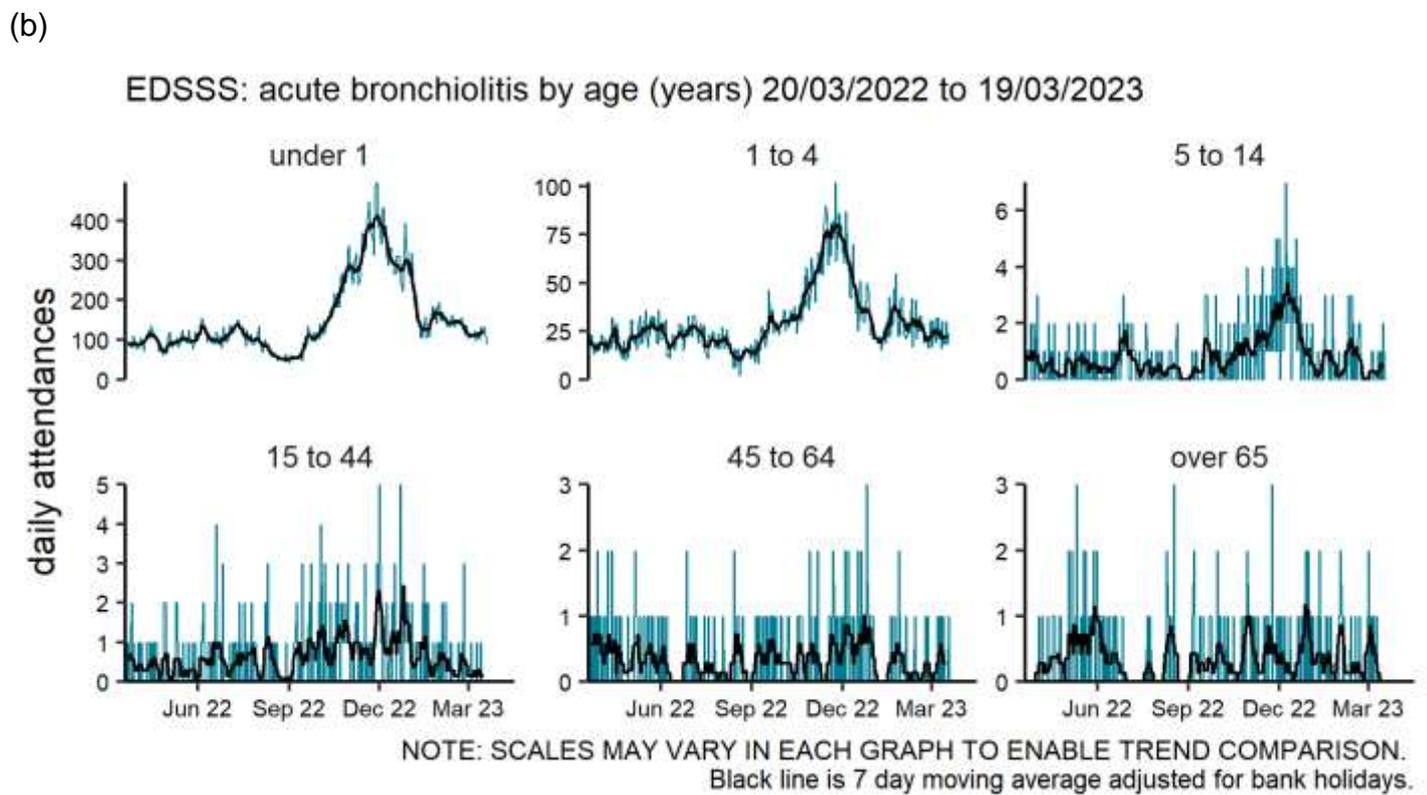
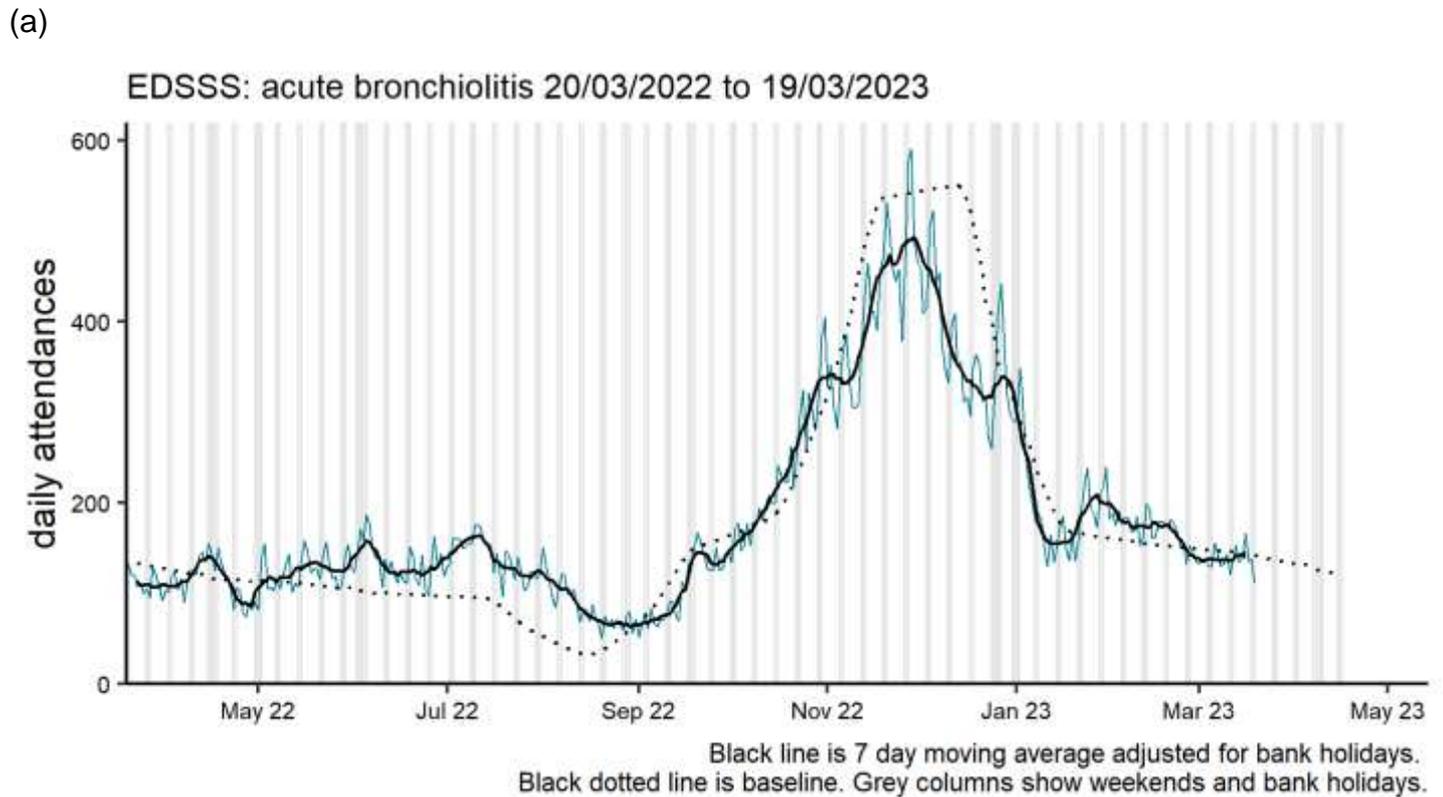
(c)

EDSSS: influenza-like illness by region 20/03/2022 to 19/03/2023



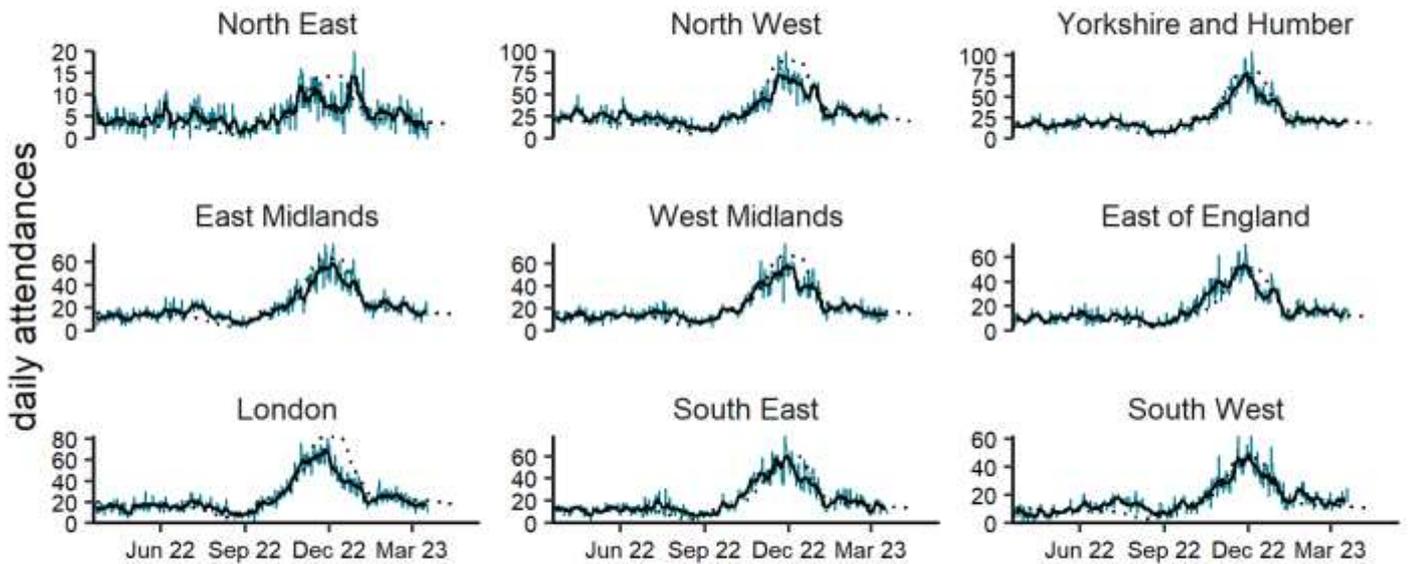
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.

Figure 56: Daily ED attendances for acute bronchiolitis, England (a) nationally, (b) by age group and (c) by UKHSA centre



(c)

EDSSS: acute bronchiolitis by region 20/03/2022 to 19/03/2023



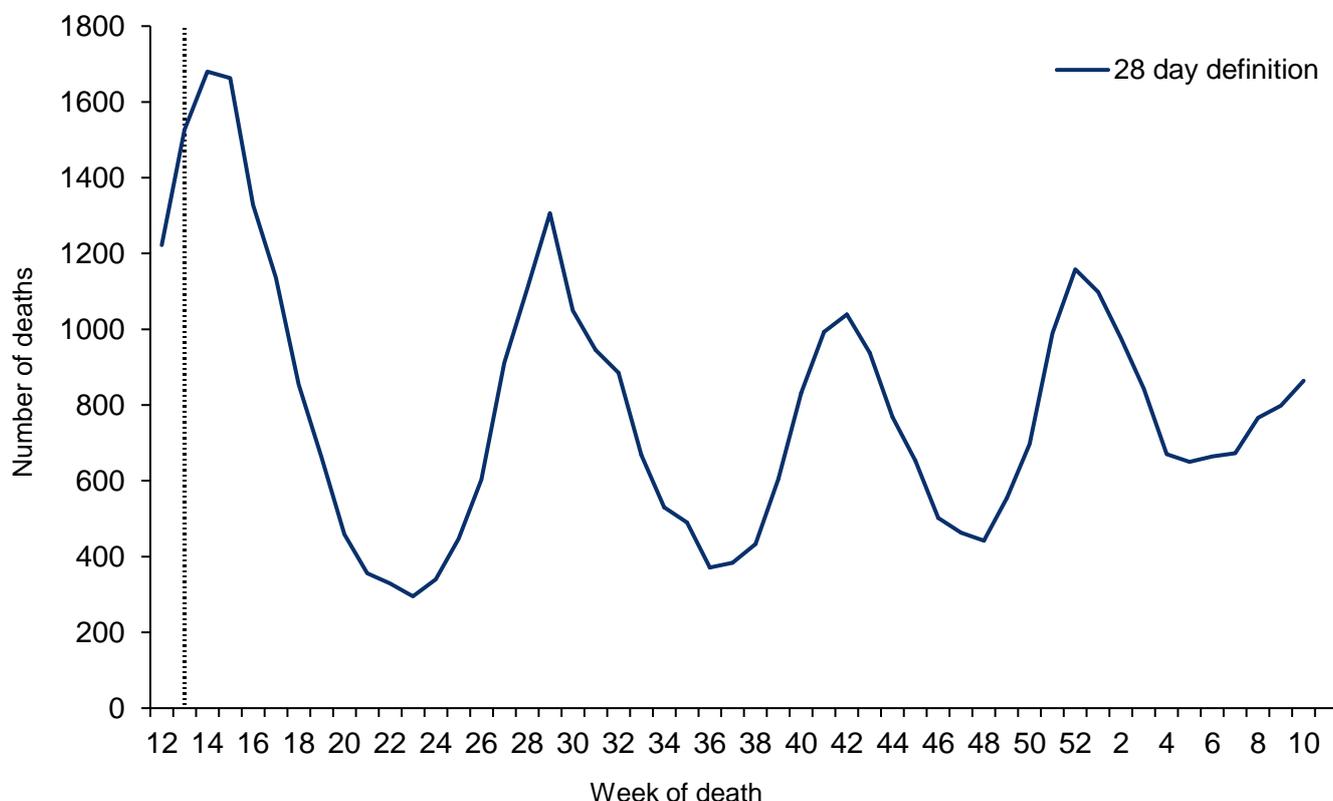
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.
Black line is 7 day moving average adjusted for bank holidays.
Black dotted line is baseline.

Mortality surveillance

COVID-19 deaths

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

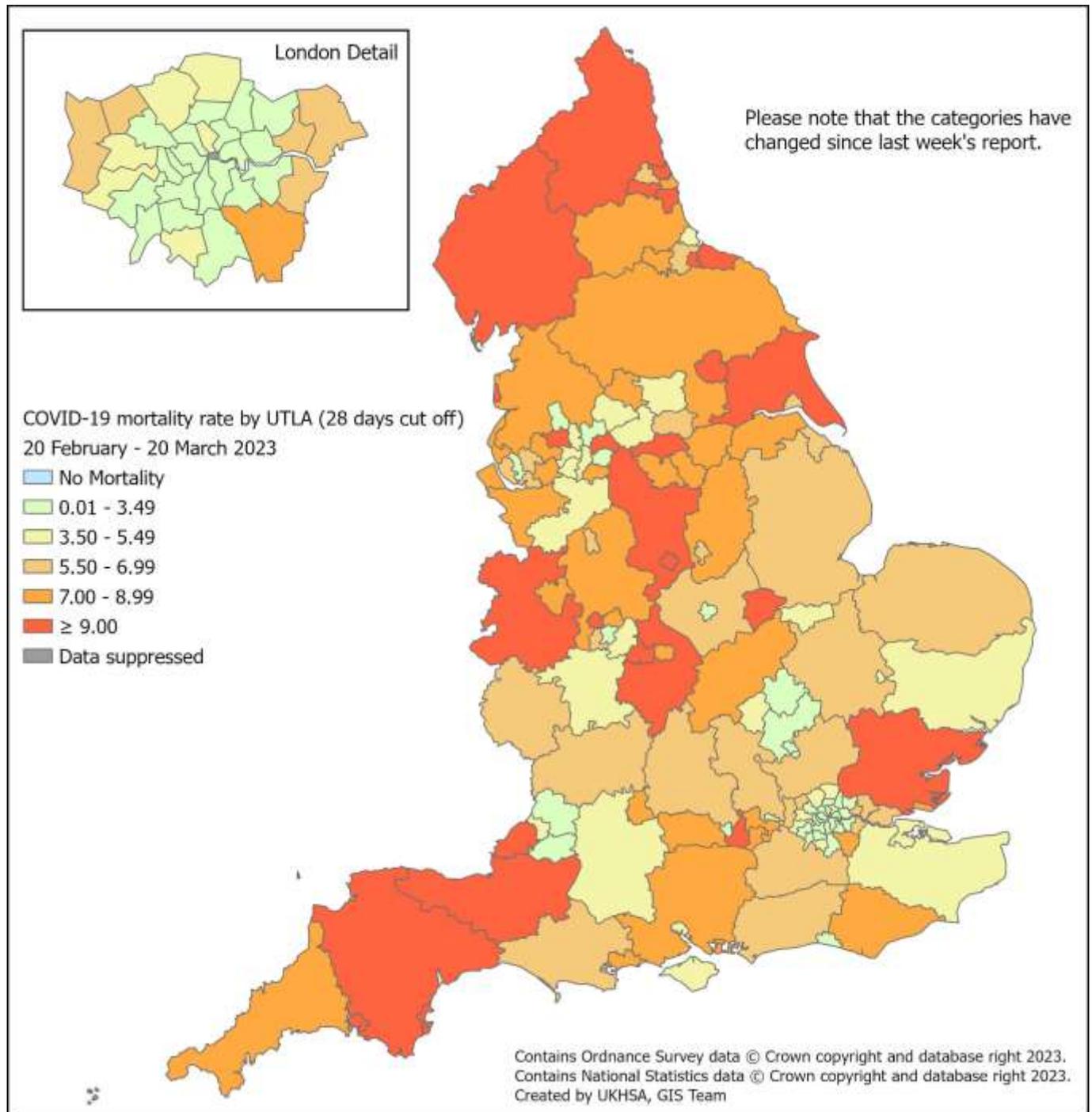
Figure 57: Number of deaths by week of death and time since a positive COVID-19 test (28 day definition), England



* 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 58: Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillars 1 and 2 for the weeks 8 to 11 by 28 day definition



Daily excess all-cause mortality (England)

Deaths occurring from 1 January 2020 to 15 March 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 59).

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 60 and 61.

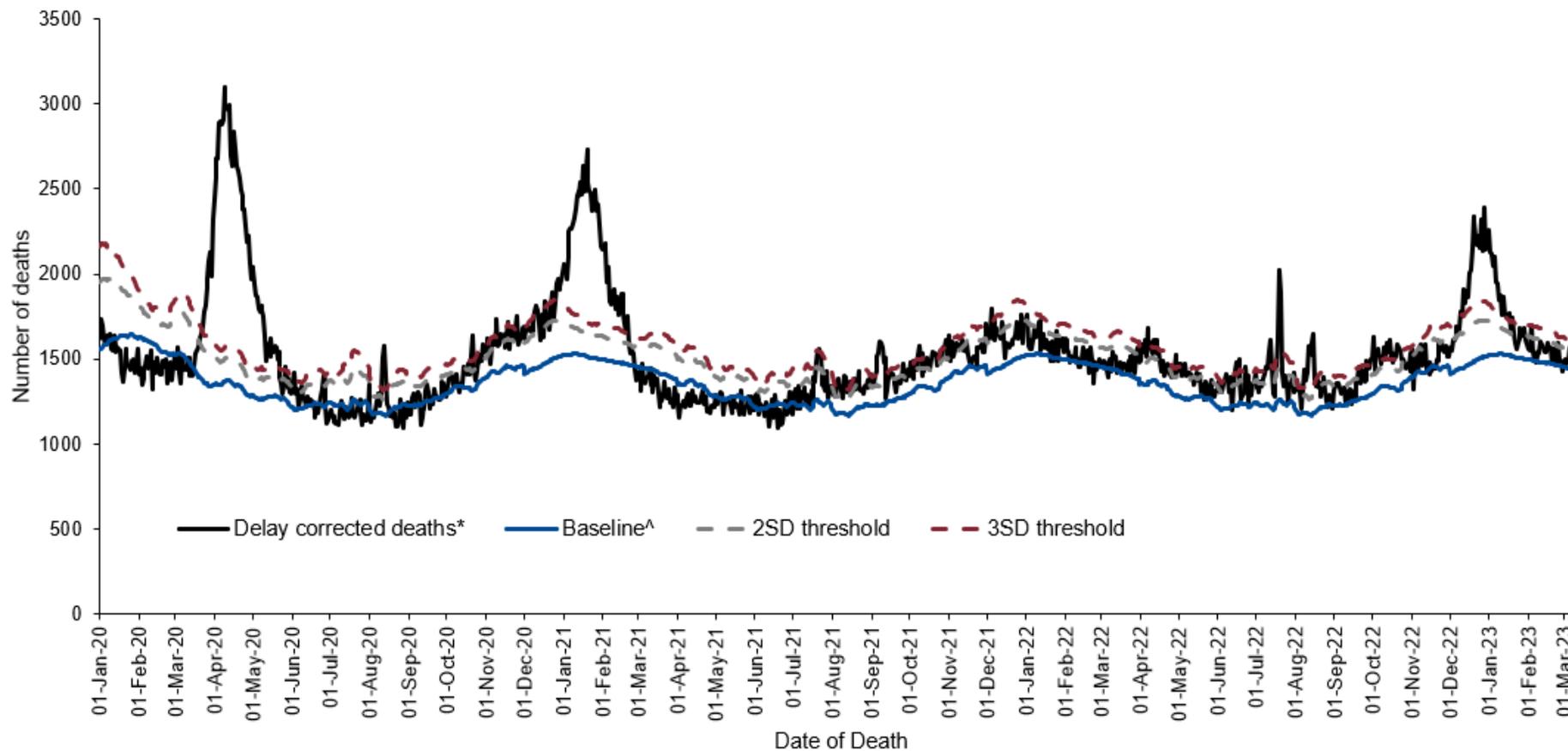
Note that as this data is by date of death with delay corrections, numbers are subject to change each week, particularly for more recent days. The current week's model supersedes models presented in previous week.

No excess all-cause mortality was observed in week 10.

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 59: Daily excess all-cause deaths in all ages, England, 1 January 2020 to 15 March 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 10 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, 35 to 36, 40 to 44, 48	14 to 15, 17 to 18, 23 to 24, 27 to 29, 31 to 33, 39 to 42, 49 to 52	01 to 02
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, 36, 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, 50 to 52	01 to 02

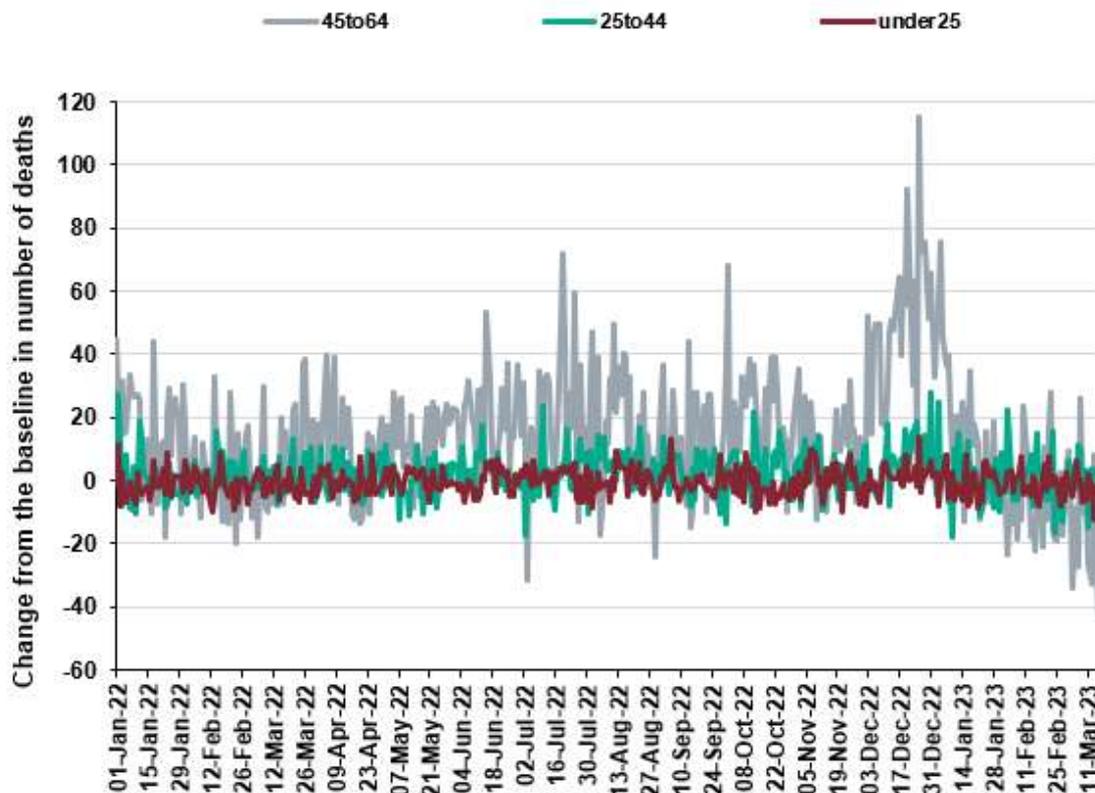
Weekly National Influenza and COVID-19 Report: week 12 report (up to week 11 data)

(b)

UKHSA Centres	Excess detected in week 10 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	27, 29, 51 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, 39, 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 to 18, 29, 32, 34, 39, 50 to 52	01
West Midlands	No	13 to 20, 45, 48	01 to 07, 29, 36, 40, 48	13, 28 to 29, 32, 41 to 42, 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 60: Daily excess all-cause deaths by age group, England, 1 January 2022 to 15 March 2023

(a)



(b)

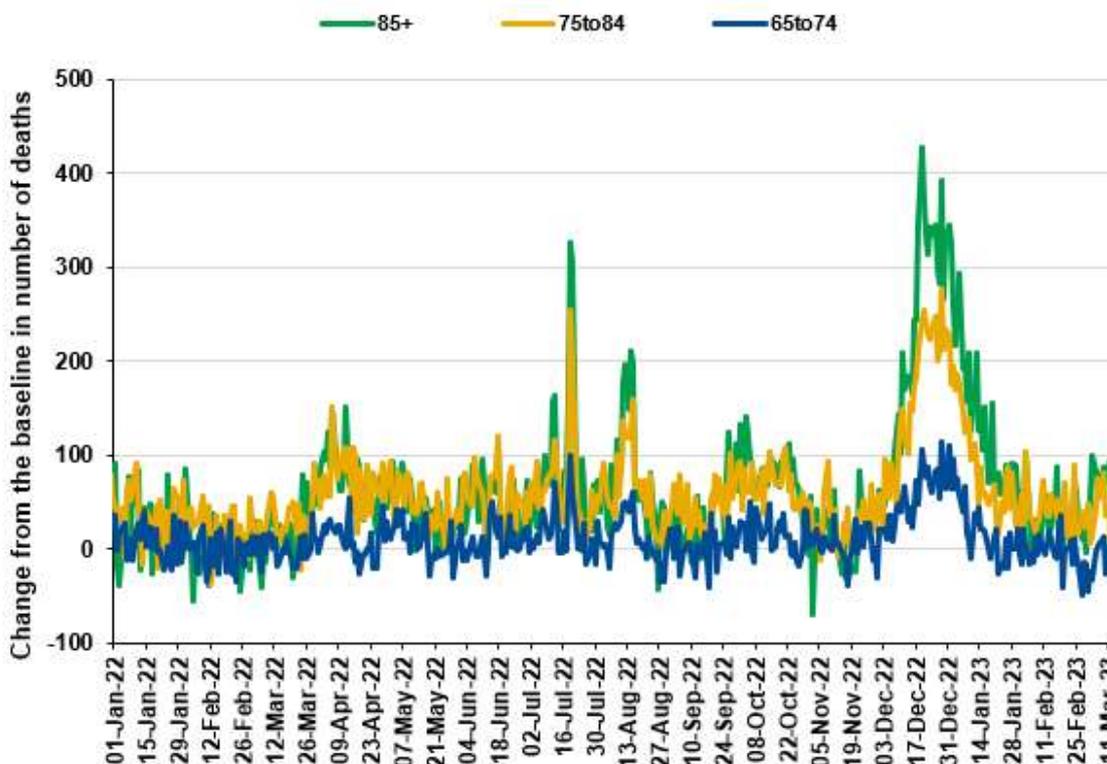
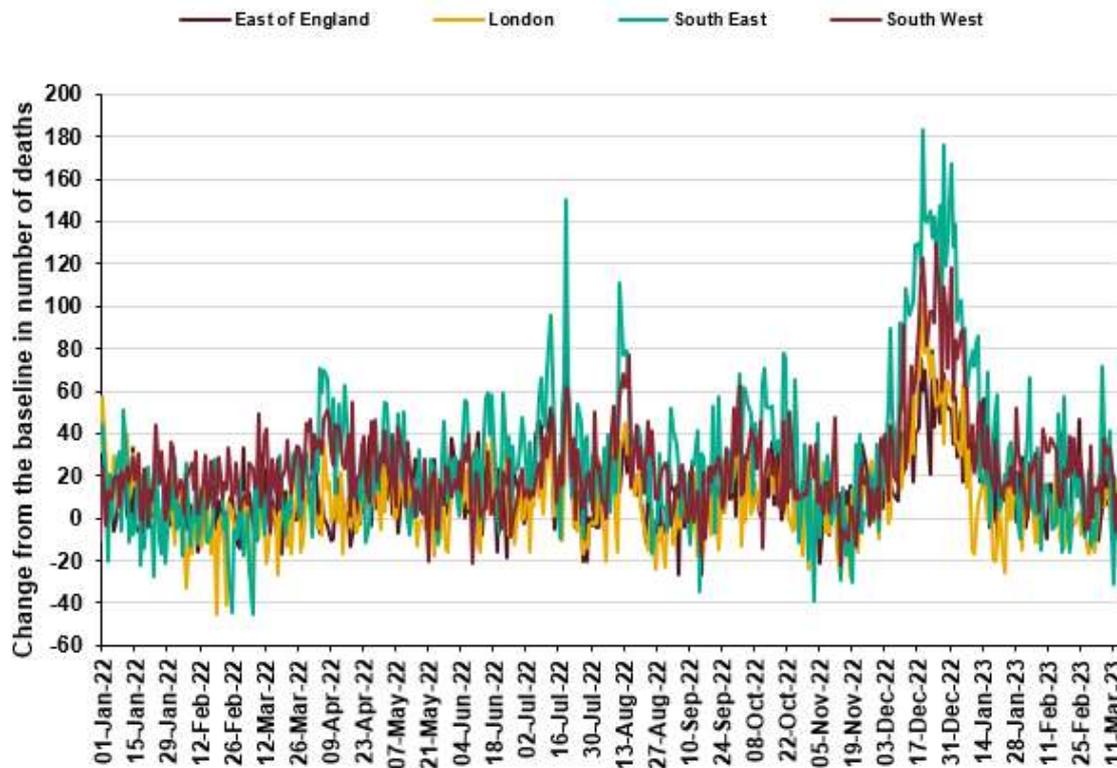
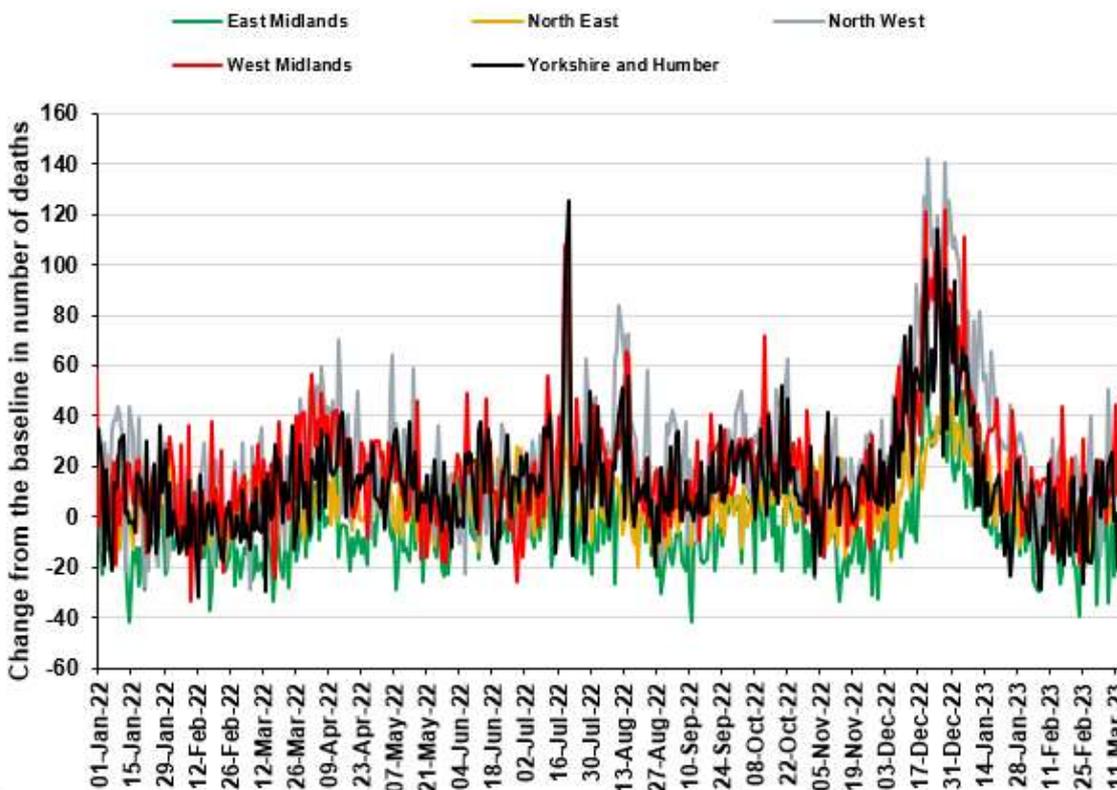


Figure 61: Daily excess all-cause deaths by UKHSA centre, England, 1 January 2022 to 15 March 2023

(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 11 2023, the UKHSA Respiratory Virus Unit have genetically characterised, by sequencing of the haemagglutinin (HA) gene, 2,534 influenza A viruses (1,676 A(H3N2) and 858 A(H1N1)pdm09 viruses) and 98 influenza B viruses.

The 1,676 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 858 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 98 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 nine influenza B positive samples collected since week 40, all from children aged between 2 and 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 11 2023 have been analysed. Analysis of 1,476 A(H3N2) viruses by sequencing found one oseltamivir resistant virus with an E119V amino acid substitution present as a mixed population (80% E119V). The sample was collected from an adult, post oseltamivir treatment, in January 2023. Of 798 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 neuraminidase inhibitors were detected in 95 influenza B NA sequences analysed.

No viruses with known markers of resistance to baloxavir marboxil were detected in 1,187 A(H3N2), 603 A(H1N1)pdm09 and 78 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)	1,475	1	1,187	0
A(H1N1)pdm09	797	1	603	0
B/Victoria-lineage	95	0	78	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.

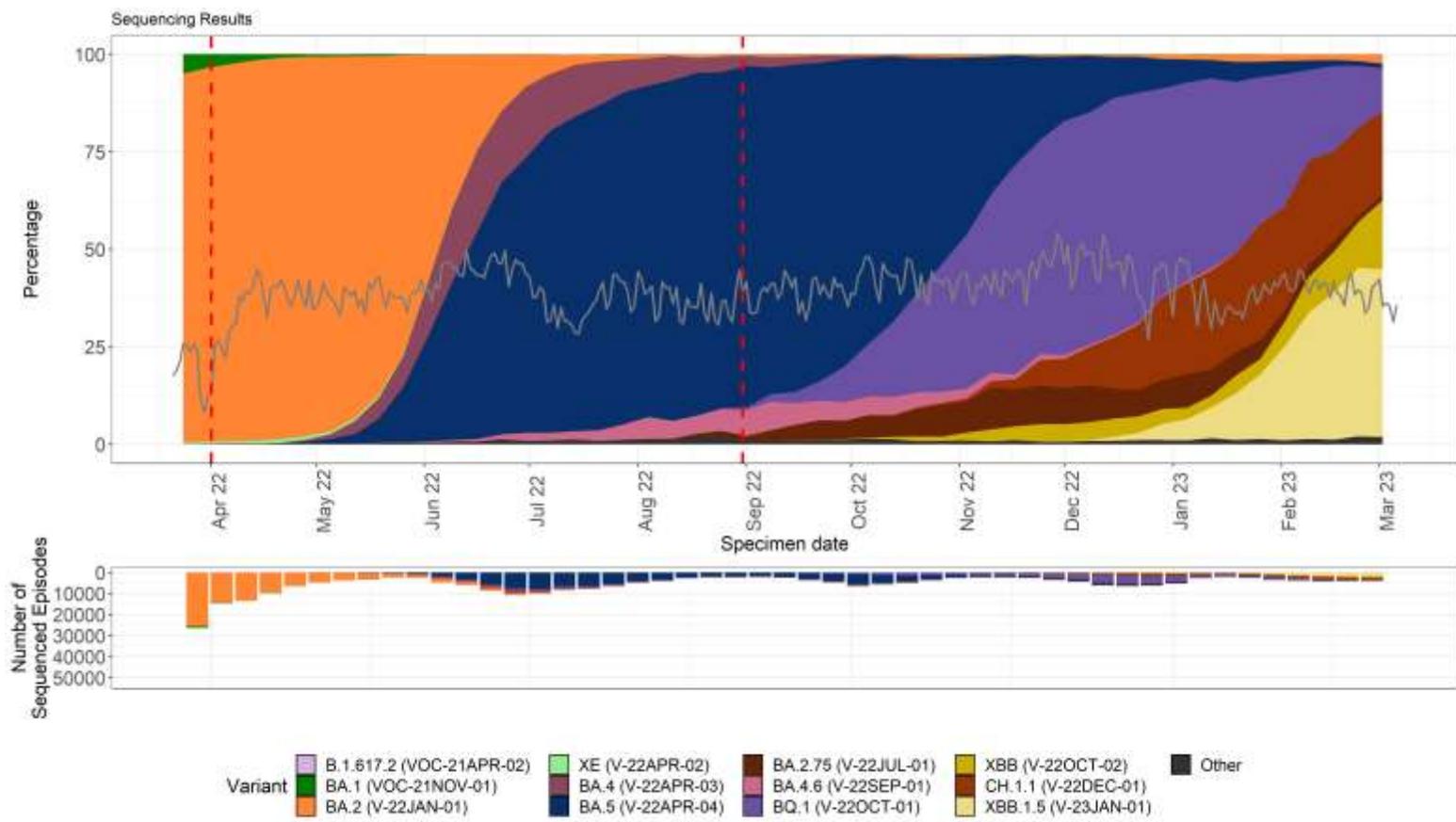
Detailed surveillance of particular variants of concerns can be found in recent [technical briefings](#).

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 62.

To account for sequencing delays, we report the proportion of variants from sequenced episodes between 6 March 2023 and 12 March 2023. Of those sequenced in this period, 46.0% were classified as XBB.1.5 (V-23JAN-01), 15.9% as CH.1.1 (V-22DEC-01), 9.9% as BQ.1 (V-22OCT-01), 19.2% as XBB (V-22OCT-02), 1.7% as BA.2.75 (V-22JUL-01), 3.2% as BA.2 (V-22JAN-01), 0.6% as BA.5 (V-22APR-04), and 3.5% as Other.

Figure 62. Prevalence of SARS-CoV-2 variants amongst available sequences episodes for England from 1 February 2022 to 12 March 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 10 2023, XBB.1.5 remains 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 10 (week ending 12 March 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	6	22-01-2023
V-22JAN-01	Omicron BA.2	746	09-03-2023
V-22APR-03	Omicron BA.4	15	16-02-2023
V-22APR-04	Omicron BA.5	2,157	11-03-2023
V-22JUL-01	Omicron BA.2.75	2,341	09-03-2023
V-22SEP-01	Omicron BA.4.6	121	23-02-2023
V-22OCT-01	Omicron BQ.1	17,886	11-03-2023
V-22OCT-02	Omicron XBB	3,671	12-03-2023
V-22DEC-01	Omicron CH.1.1	11,105	11-03-2023
V-23JAN-01	Omicron XBB.1.5	10,119	12-03-2023

*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 11 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 (%)
<i>S. pneumoniae</i>	Penicillin	3,317	88
	Macrolides	3,731	83
	Tetracycline	3,509	82
<i>H. influenzae</i>	Amoxicillin/ampicillin	21,286	39
	Co-amoxiclav	25,601	46
	Macrolides	4,984	4
	Tetracycline	25,084	98
<i>S. aureus</i>	Methicillin	6,722	93
	Macrolides	7,986	70
MRSA	Clindamycin	341	53
	Tetracycline	425	74
MSSA	Clindamycin	4,582	76
	Tetracycline	5,451	93

* 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 vaccination

Please note that we are pausing the update for this section whilst we prepare for the Spring 2023 vaccination campaign which will begin from the 3 April 2023.

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 10 2023 (week ending 12 March 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. To understand the data in the context of vaccine waning

across the whole COVID-19 programme, we present Table 8 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. Now that the Autumn booster campaign has come to a close, we have removed tables related to the eligible population at the end of December 2022, and the immunosuppression cohort. We will provide new data on the anticipated Spring booster campaign when data becomes available.

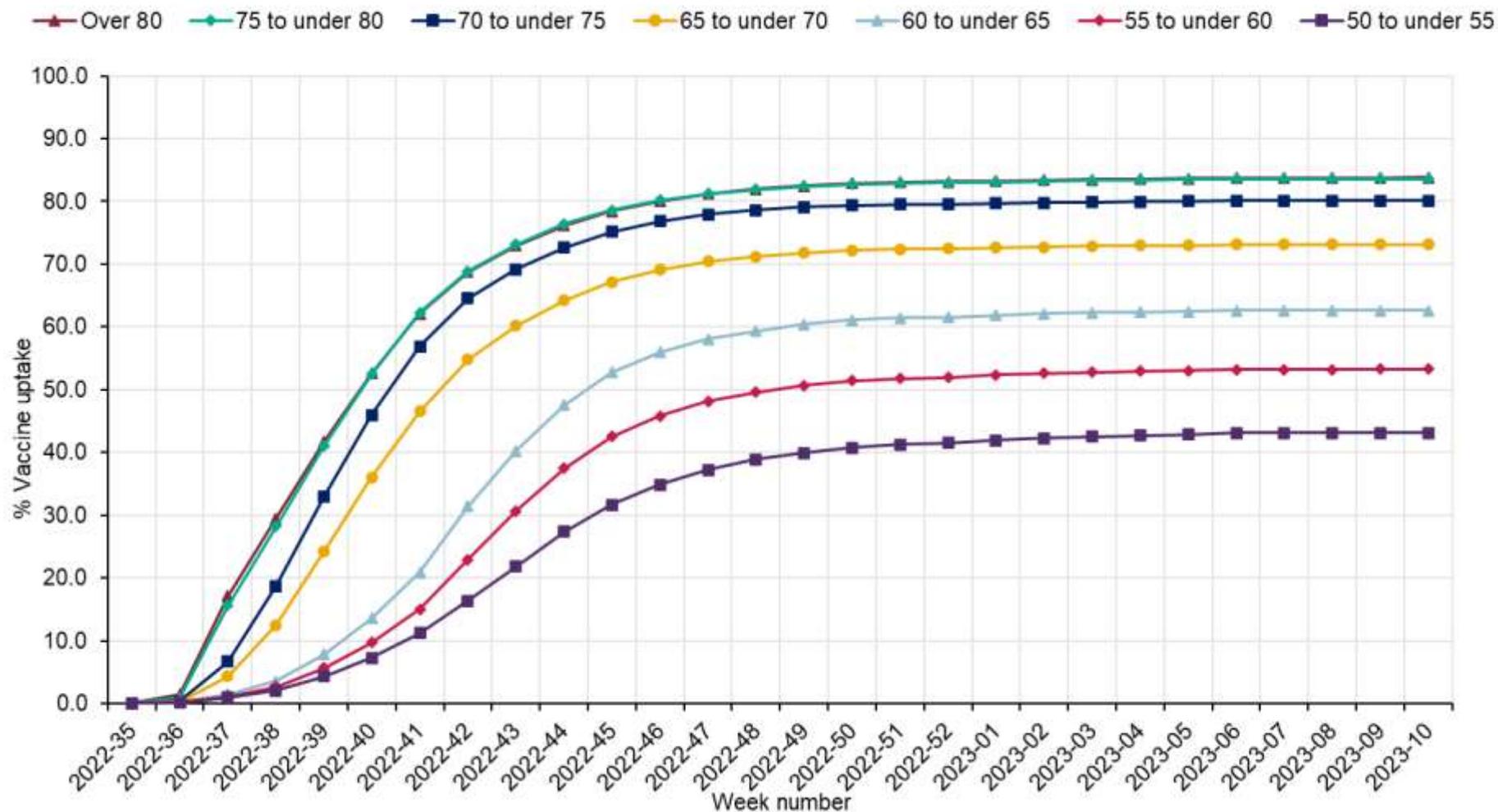
By the end of week 10 2023 (week ending 12 March 2023), 65.7% (15,098,879 out of 22,970,162) of all people aged over 50 years old who are living and resident in England who had been vaccinated with an Autumn booster dose since 1 September 2022, Table 7 and Figure 63. Vaccine uptake of those aged over 80 years old was 83.8% (2,469,906 out of 2,948,380).

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	2,948,380	2,469,906	83.8
75 to under 80	2,414,946	2,018,140	83.6
70 to under 75	2,681,947	2,148,906	80.1
65 to under 70	2,998,038	2,192,140	73.1
60 to under 65	3,637,027	2,278,631	62.7
55 to under 60	4,129,437	2,198,448	53.2
50 to under 55	4,160,387	1,792,708	43.1
Aged 50 and over	22,970,162	15,098,879	65.7

*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 63: 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



Proportion of people vaccinated by time since last vaccination

Table 8: 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	Numbers vaccinated
Over 80	2,948,379	30,161	1.0	1,601,777	54.3	1,211,920	41.1
75 to under 80	2,414,946	24,218	1.0	1,342,809	55.6	959,367	39.7
70 to under 75	2,681,947	25,497	1.0	1,660,357	61.9	858,346	32.0
65 to under 70	2,998,038	32,958	1.1	1,819,359	60.7	939,999	31.4
60 to under 65	3,637,027	60,903	1.7	2,104,436	57.9	1,164,315	32.0
55 to under 60	4,129,437	80,489	1.9	2,023,489	49.0	1,594,721	38.6
50 to under 55	4,160,387	101,721	2.4	1,618,083	38.9	1,895,846	45.6
45 to under 50	3,868,231	41,326	1.1	483,408	12.5	2,644,896	68.4
40 to under 45	4,353,677	34,002	0.8	379,299	8.7	2,946,666	67.7
35 to under 40	4,658,685	31,568	0.7	315,470	6.8	3,041,320	65.3
30 to under 35	4,783,825	30,220	0.6	265,882	5.6	3,043,071	63.6
25 to under 30	4,404,988	25,245	0.6	197,374	4.5	2,818,512	64.0
20 to under 25	3,823,570	19,588	0.5	134,165	3.5	2,572,355	67.3
18 to under 20	1,399,061	10,150	0.7	40,394	2.9	926,847	66.2
16 to under 18	1,411,538	16,434	1.2	45,324	3.2	825,758	58.5
12 to under 16	2,972,034	22,040	0.7	71,217	2.4	1,306,026	43.9
5 to under 12	5,011,923	36,742	0.7	108,107	2.2	387,771	7.7

Table 8 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 64: 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

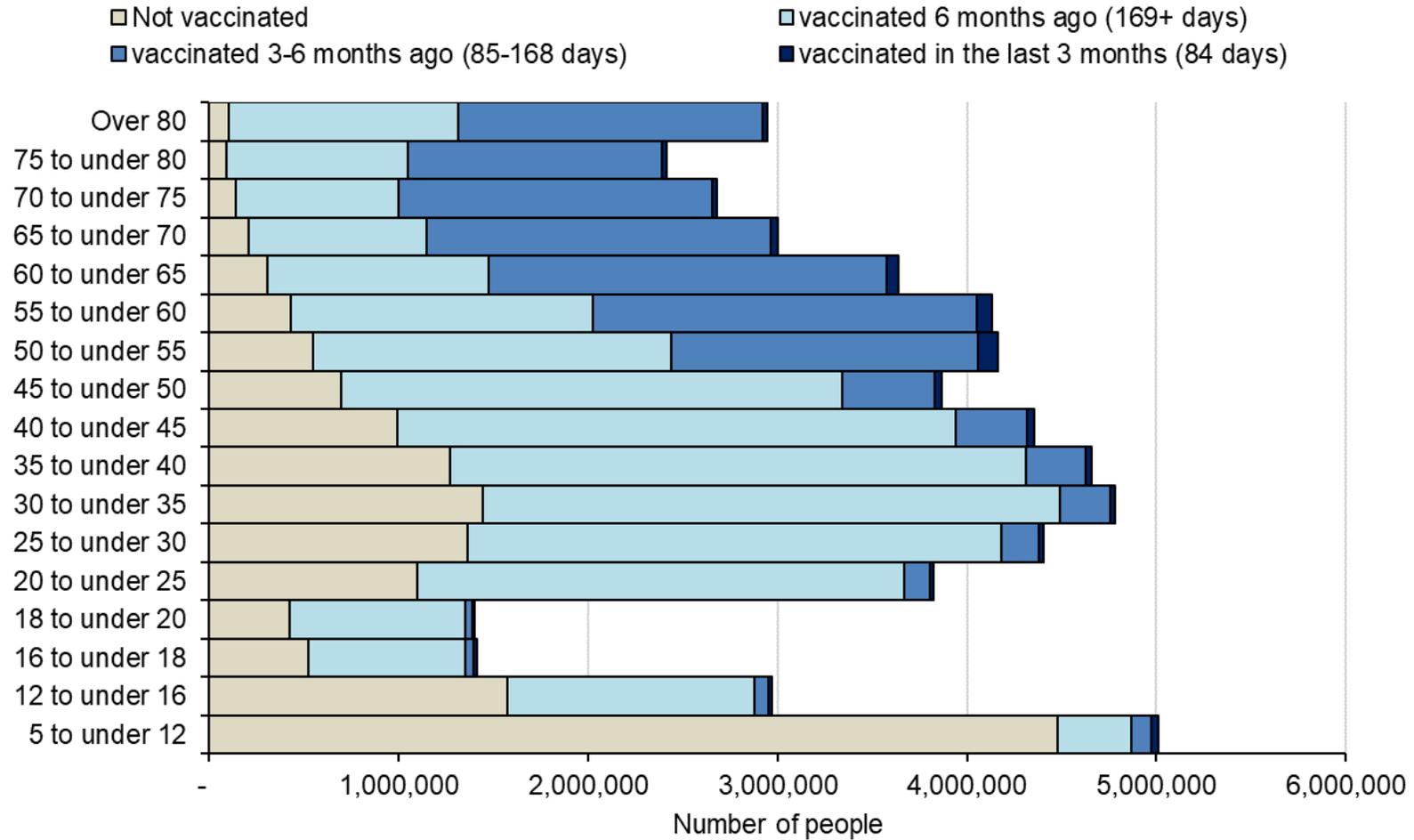


Figure 65: Provisional data on the proportion of people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago by ethnicity in those living and resident in England, aged 50 and over

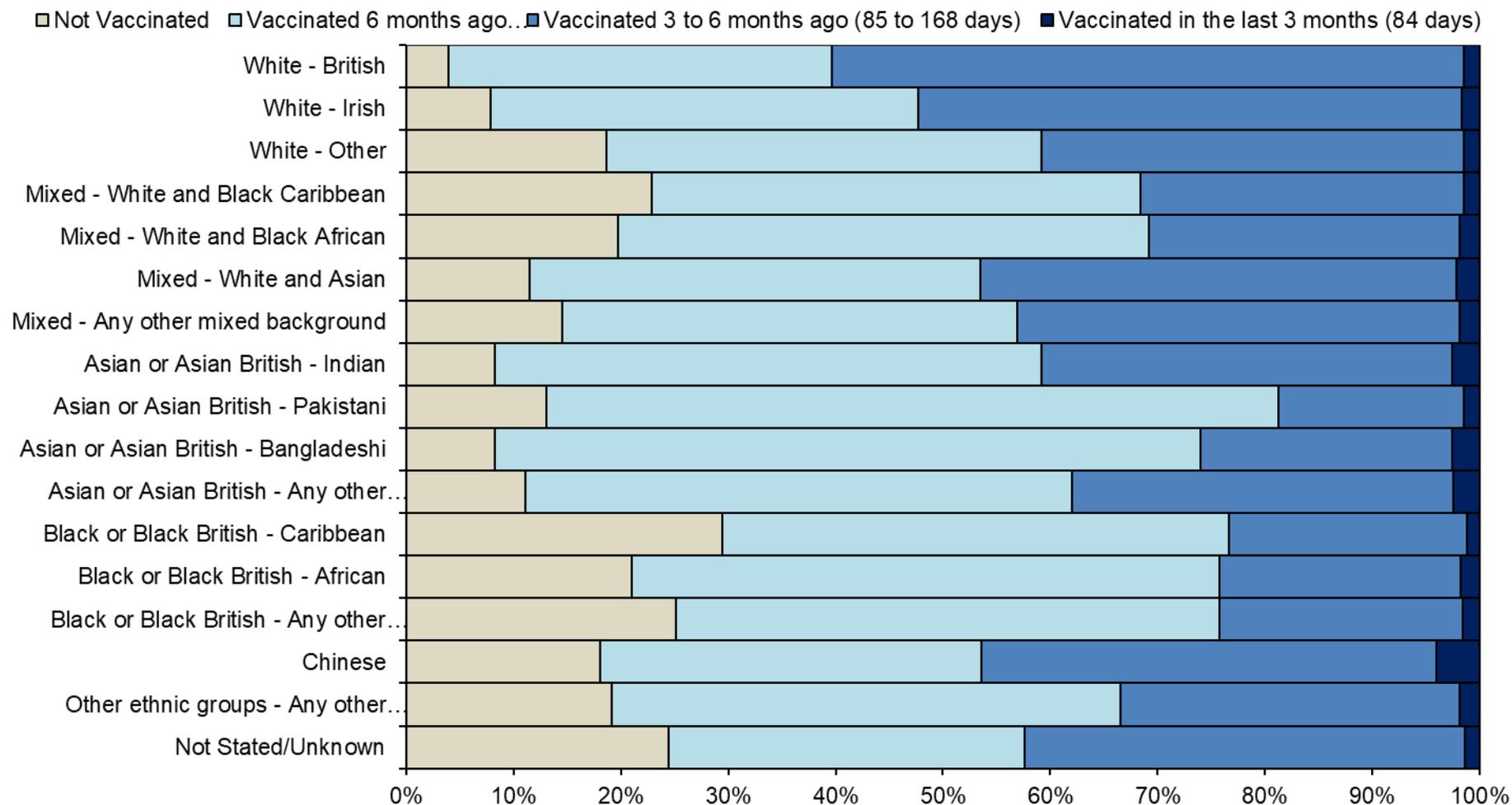
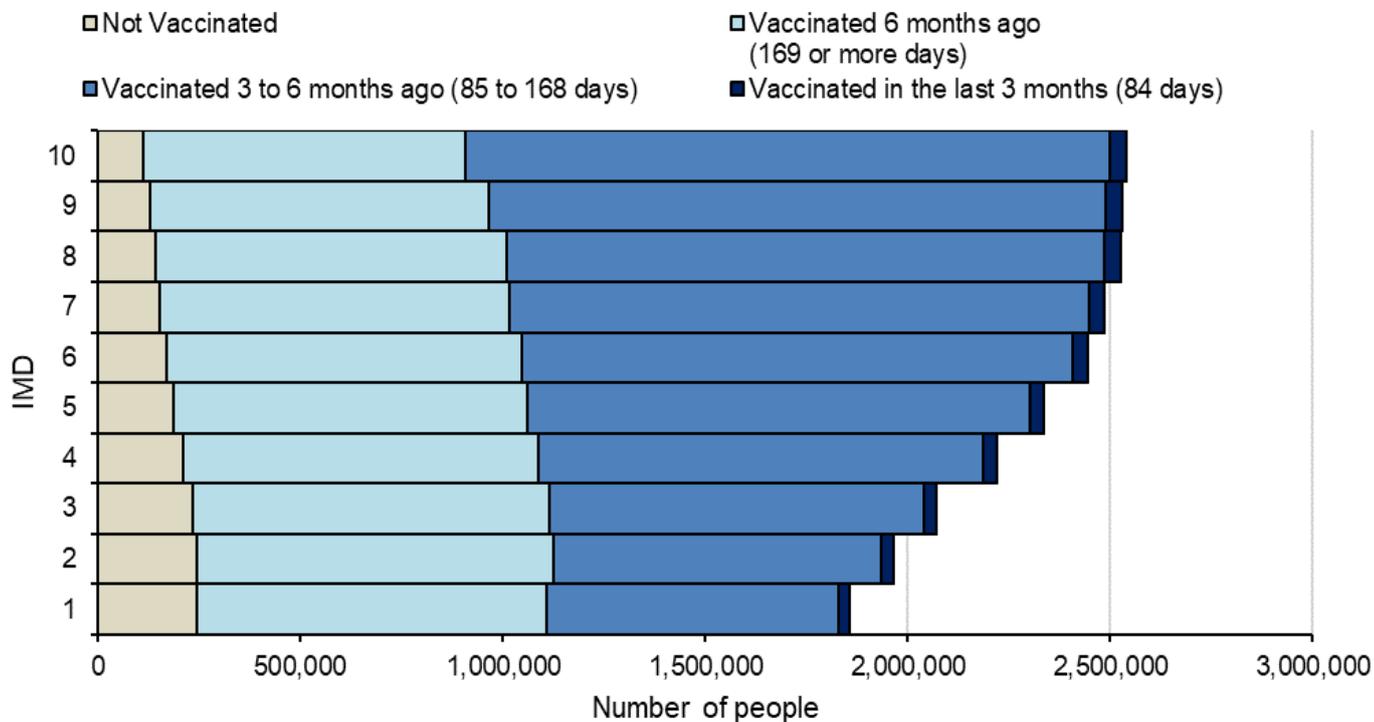


Figure 66: Provisional cumulative people vaccinated with any dose of COVID-19 vaccine in the last 3 months, 3 to 6 months and vaccinated more than 6 months ago by indices of multiple deprivation (IMD)* in those living and resident in England, aged 50 and over



*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.

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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 28 February 2023 for GP patients and frontline healthcare workers has been published for the sixth 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 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 28 February 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 March 2023 (based on data up to 5 March 2023) ([WHO website](#)).

Globally, influenza activity continued to decrease following 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 in recent weeks.

In the countries of North America, most indicators of influenza activity were at levels typically observed towards the end of the season. Influenza A viruses predominated overall, with influenza A(H3N2) accounting for the majority of subtyped influenza A viruses in the United States of America (USA), whereas influenza A and B viruses circulated at similar level in Canada.

In Europe, overall influenza detections decreased slightly and influenza positivity from sentinel sites decreased although remaining above the epidemic threshold at the regional level. Out of 39 countries, 17 reported high or moderate intensity, and over half continued to report widespread activity. Overall, influenza B viruses were predominated in both sentinel and non-sentinel surveillance as all subregions experienced a wave of influenza B activity after an initial influenza A wave.

In Central Asia, influenza activity decreased overall.

In Northern Africa, detections of influenza A and B viruses continued to decrease in Morocco and Tunisia.

In Western Asia, influenza activity continued to be reported in some countries with detections of all seasonal influenza subtypes.

In East Asia, influenza activity of predominantly A(H1N1)pdm09 steeply increased in China but decreased in the other reporting countries.

In the Caribbean and Central American countries, influenza activity of mainly influenza A(H3N2) and B viruses continued to decrease.

In the tropical countries of South America, influenza remained low with all seasonal subtypes co-circulating and influenza B/Victoria predominant.

In tropical Africa, influenza activity increased in some countries of Western Africa while detections were low across reporting countries in Middle and Eastern Africa.

In Southern Asia, influenza activity remained low with influenza A(H3N2) and B/Victoria lineage viruses mostly detected.

In South-East Asia, influenza activity remained elevated with influenza B mainly detected in Malaysia and A(H3N2) in Singapore and Thailand.

In the temperate zones of the southern hemisphere, influenza activity remained at interseasonal level.

The WHO GISRS laboratories tested more than 354,698 specimens between 20 February 2023 and March 5 2023. 42,459 were positive for influenza viruses, of which 29,522 (69.5%) were typed as influenza A and 12,937 (30.5%) as influenza B. Of the sub-typed influenza A viruses, 16,188 (74.5%) were influenza A(H1N1)pdm09 and 5,549 (25.5%) were influenza A(H3N2). Of the characterized B viruses, 100% (1,411) belonged to the B/Victoria lineage.

Influenza in Europe

Updated data for week 10 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 increased from 24% in the previous week to 26% in week 10 2023 which remains above the epidemic threshold (10%). Influenza activity had been decreasing across the Region until week 4 2023, following a peak at week 51 2022, but has fluctuated around 25% since week 6 2023. Influenza type A and type B viruses were detected in sentinel and non-sentinel surveillance, with influenza type B predominating in both systems.

For week 10 2023, of 40 countries and areas reporting on intensity of influenza activity, 6 reported baseline-intensity (Iceland, Netherlands, Ukraine, United Kingdom (England, Northern Ireland and Scotland), 15 reported low-intensity (across the Region), 18 reported medium-intensity (across the Region) and 1 reported high-intensity (Croatia).

Of 39 countries and areas reporting on geographic spread of influenza viruses, 1 reported no activity (Georgia), 7 reported sporadic spread (Azerbaijan, Belgium, Bulgaria, Kazakhstan, North Macedonia, United Kingdom (England and Northern Ireland)), 4 reported local spread (Belarus, Lithuania, Malta and Slovakia), 7 reported regional spread (Albania, Austria, Moldova, Romania, Serbia, United Kingdom (Scotland) and Kosovo) and 20 reported widespread activity (across the Region).

For week 10 2023, 939 (26%) of 3,671 sentinel specimens tested positive for an influenza virus; 72% were type B and 28% were type A. Of 186 subtyped A viruses, 93% were A(H1)pdm09 and 7% A(H3). All 184 type B viruses ascribed to a lineage were B/Victoria. Of 33 countries and areas across the Region that each tested at least 10 sentinel specimens in week 10 2023, 21 reported a rate of influenza virus detections above 10%: Romania (68%), Hungary (52%), France (52%), Slovenia (46%), Armenia (35%), Spain (35%), Denmark (34%), Serbia (33%), Kosovo (32%), Luxembourg (29%), Ukraine (26%), Germany (25%), Slovakia (24%), Poland (24%), Moldova (23%), Austria (23%), Netherlands (21%), Norway (21%), Switzerland (19%), Italy (16%) and Ireland (13%).

For the season to date, 23,541 (24%) of 100,053 sentinel specimens tested positive for an influenza virus. More influenza type A (n=18,332, 78%) than type B (n=5,209, 22%) viruses have been detected. Of 14,934 subtyped A viruses, 9,820 (66%) were A(H3) and 5,114 (34%) were A(H1)pdm09. All 1,564 influenza type B viruses ascribed to a lineage were B/Victoria (70% of type B viruses were reported without a lineage).

For week 10/2023, 6,693 of 55,690 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; 4,035 (60%) were type B and 2,658 (40%)

were type A. Of 362 subtyped A viruses, 272 (75%) were A(H1)pdm09 and 90 (25%) A(H3). Of 135 type B viruses ascribed to a lineage, all were B/Victoria.

For the season to date, more influenza type A (n=183,847, 81%) than type B (n=44,358, 19%) viruses have been detected. Of 53,954 subtyped A viruses, 29,581 (55%) were A(H1)pdm09 and 24,373 (45%) were A(H3). Of 2,985 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 3 March 2023](#)

From 27 January to 3 March 2023, 3 human cases of infection with influenza A(H5N1) viruses, 1 human case of infection with an influenza A(H5N6) virus and 2 human cases of infection with influenza A(H9N2) viruses were reported officially. Additionally, 2 human cases of infection with influenza A(H9N2) viruses and 2 human cases of infection with influenza A(H1N1) variant viruses were detected.

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.

[Latest UKHSA avian influenza technical briefing 23 February 2023](#)

See also the [WHO Disease Outbreak News Reports](#) for more information.

Middle East respiratory syndrome coronavirus (MERS-CoV)

From April 2012 to February 2023, a total of 2,604 laboratory-confirmed cases of MERS-CoV and 936 associated deaths were reported globally to [WHO](#) under the International Health Regulations (IHR 2005).

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

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

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

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

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

Related links

[Previous national COVID-19 reports](#)

[Previous weekly influenza reports](#)

[Annual influenza reports](#)

[COVID-19 vaccine surveillance reports](#)

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

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

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

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

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

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

About the UK Health Security Agency

The [UK Health Security Agency](#) is an executive agency, sponsored by the [Department of Health and Social Care](#).

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