



UK Health  
Security  
Agency

# **Weekly national Influenza and COVID-19 surveillance report**

Week 21 report (up to week 20 data)

26 May 2022

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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 20 (between 16 May 2022 and 22 May 2022) and for some indicators daily data up to 24 May 2022.

Due to the upcoming Spring Bank Holiday and Jubilee Bank Holiday, the week 22 report will be published on Monday 6 June 2022.

Please note that this week's report will be the final week of reporting for some influenza indicators for the 2021 to 2022 influenza season. These sections will be removed from next week's report and will recommence in the autumn for the 2022 to 2023 influenza season.

Since 1 April 2022, free universal symptomatic and asymptomatic testing for the general public in England is no longer available, as outlined in the plan for [living with COVID-19](#). Data in this report should be interpreted in the context of this change to testing. [Public health guidance](#) remains in place for cases and those with symptoms of a respiratory infection.

Surveillance indicators suggest that at a national level COVID-19 activity continued to decrease in week 20 of 2022. Surveillance indicators suggest influenza activity is low and remained stable or decreased in week 20 in most indicators.

COVID-19 case rates through Pillar 1 decreased further in week 20. Case rates decreased slightly in all age groups, all regions and most ethnic groups, with decreases most notable in those aged over 80.

The overall number of reported acute respiratory incidents remained similar to the previous week. SARS-CoV-2 was identified in the majority of these.

COVID-19 hospitalisations decreased in week 20. Deaths with COVID-19 decreased in the most recent week.

COVID-19 vaccine coverage for all ages was 70.1% for dose 1 and 65.9% for dose 2 at the end of week 20. COVID-19 vaccine coverage for all ages for dose 3 was at 51.7% at the end of week 20, reaching over 80% in all cohorts over the age of 60.

Through Respiratory Datamart, influenza positivity remained low and decreased to 1.0% in week 20. Other indicators for influenza such as hospital admissions and GP influenza-like illness consultation rates remain low. Respiratory syncytial virus (RSV) positivity increased slightly to 3.2% in week 20 while rhinovirus positivity decreased to 10.7%. Adenovirus positivity increased to 4.2% overall. Parainfluenza positivity increased slightly to 5.5%, while human metapneumovirus (hMPV) positivity remained low at 0.4% in week 20.

# Laboratory surveillance

## Confirmed COVID-19 cases (England)

From 1 April 2022, the Government ended provision of free universal symptomatic and asymptomatic testing for the general public 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.

As of 9am on 24 May 2022, a total of 1,637,737 episodes have been confirmed for COVID-19 in England under Pillar 1, and 17,084,829 episodes have been confirmed for COVID-19 in England under Pillar 2, since the beginning of the pandemic.

COVID-19 case rates through Pillar 1 decreased in week 20. Case rates decreased slightly in all age groups, all regions and ethnic groups, with decreases most notable in those aged over 80.

\* 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 lateral flow device (LFD)). Each infection episode begins with the earliest positive specimen date. Further information can be found on the [UK COVID-19 dashboard](#).

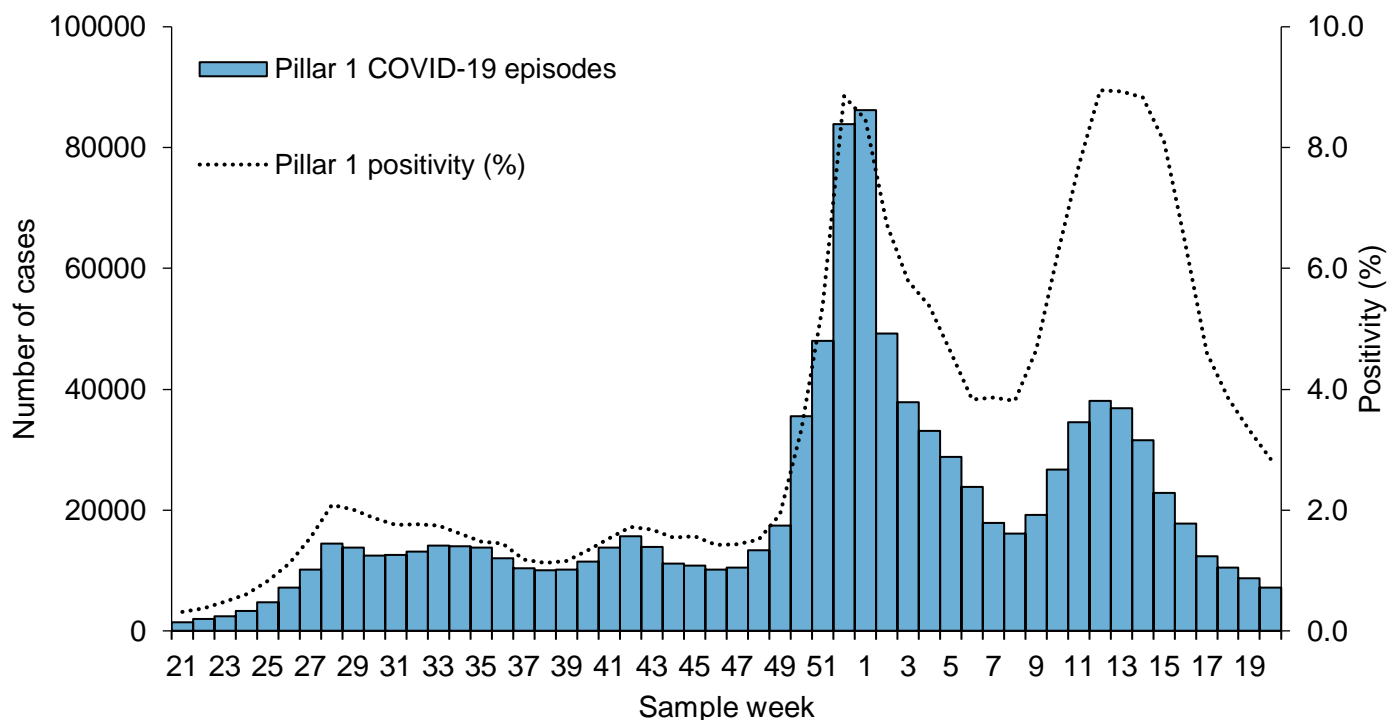
\* From the week 32 2021 report onwards, case rates have been updated to use the latest Office for National Statistics (ONS) population estimates for mid-2020. Previously case rates were calculated using the mid-2019 population estimates. Rates by ethnicity and Indices of Multiple Deprivation (IMD) quantile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

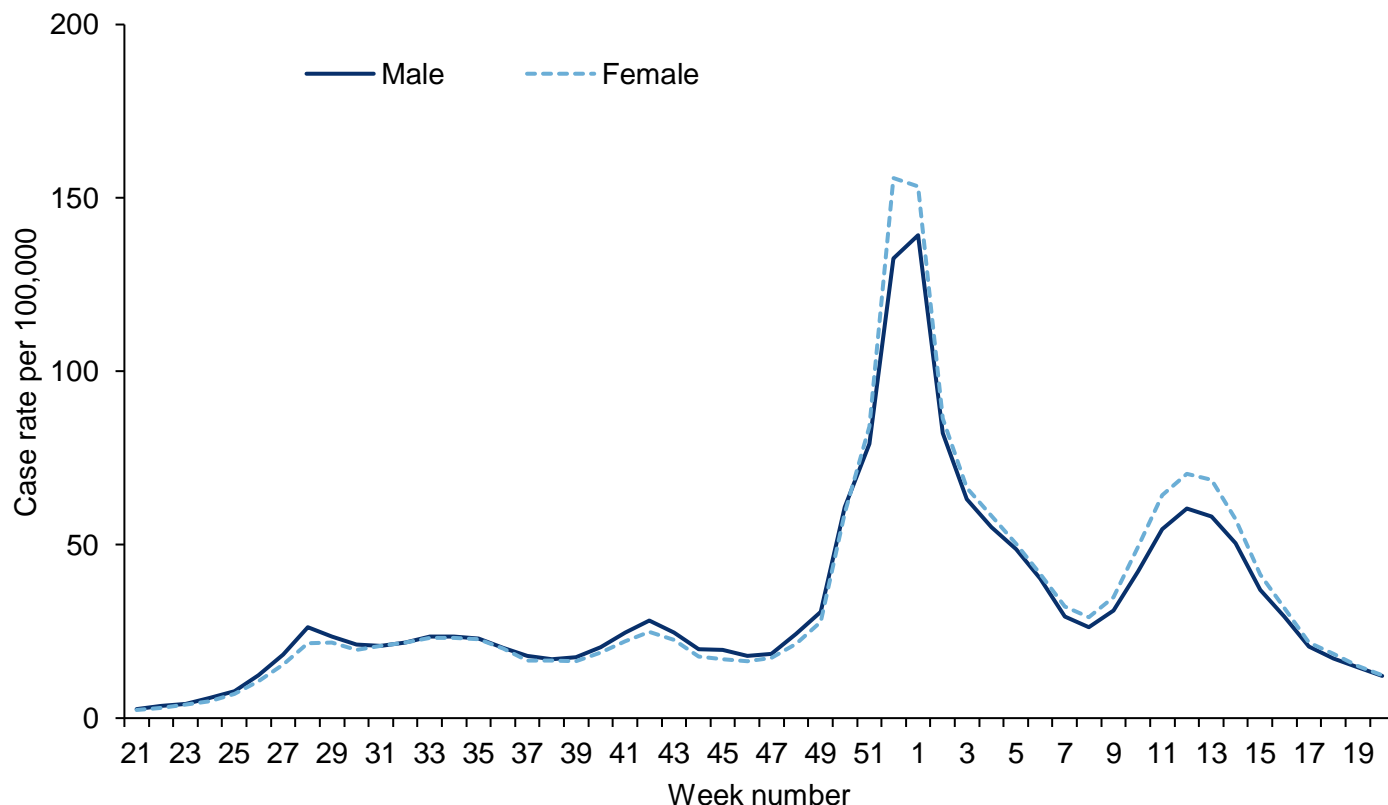
\* Data source: Second Generation Surveillance System (SGSS)

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

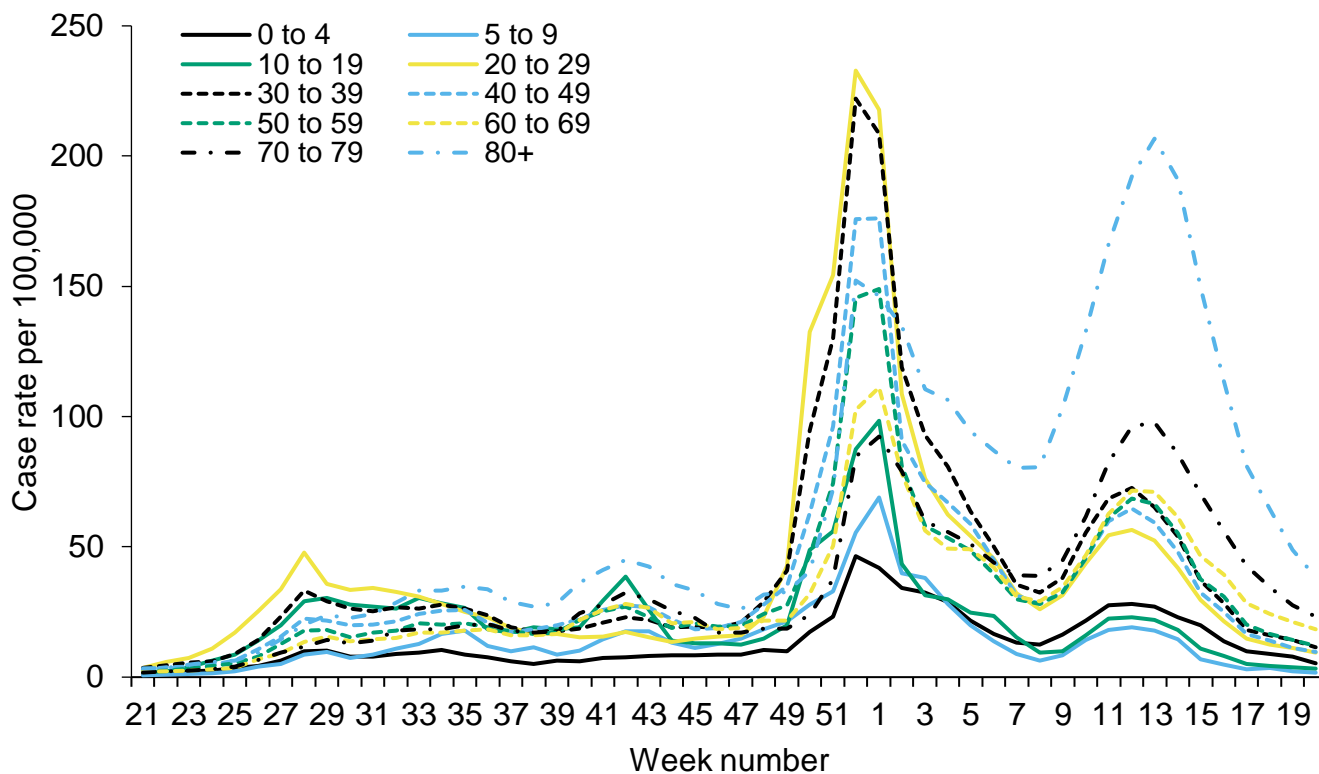


### Age and sex

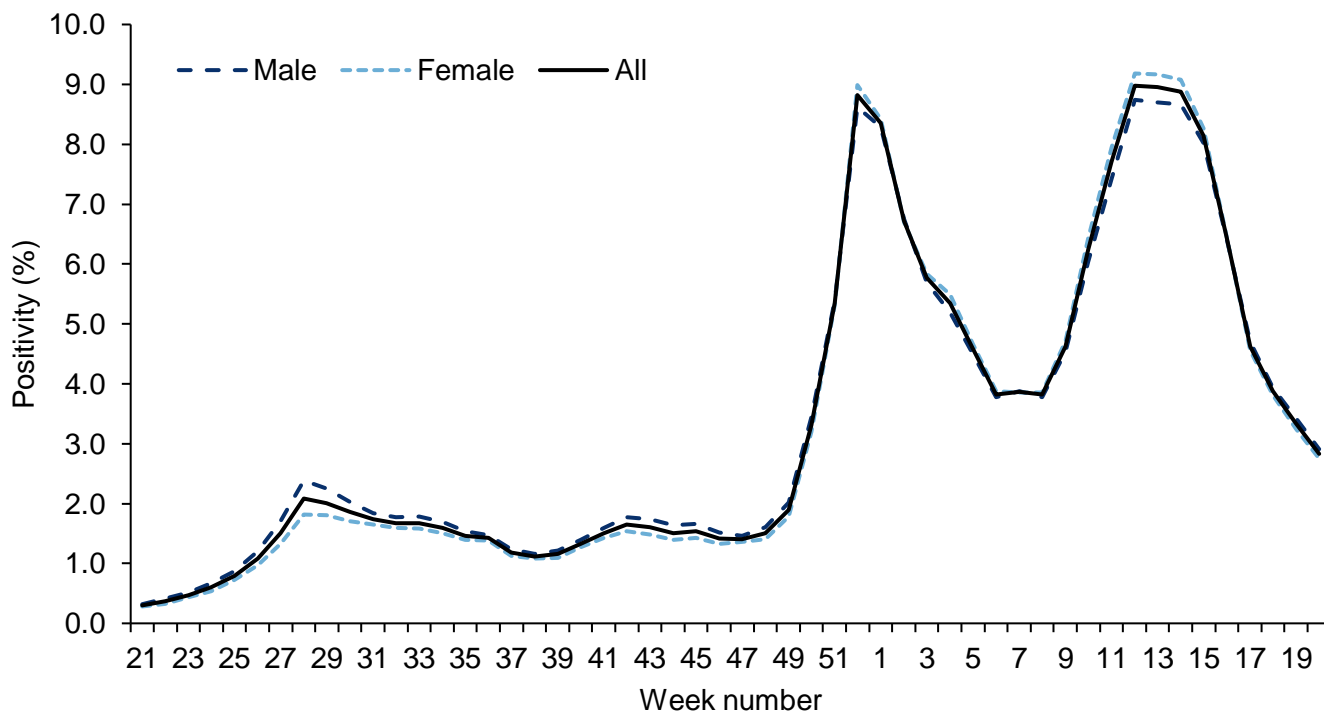
**Figure 2: Weekly confirmed COVID-19 case rates per 100,000, by episode, tested under Pillar 1, by sex**



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

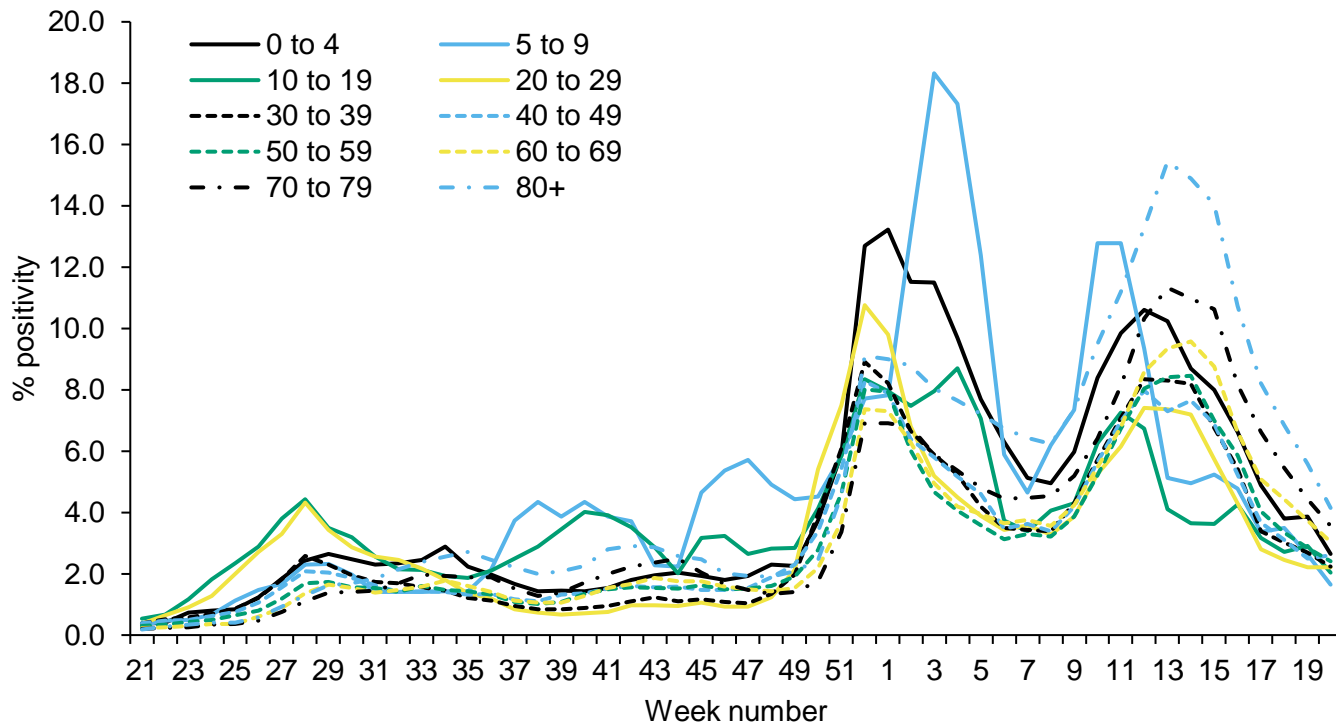


**Figure 4: Weekly PCR positivity (%) of confirmed COVID-19 cases tested overall and by sex under Pillar 1**

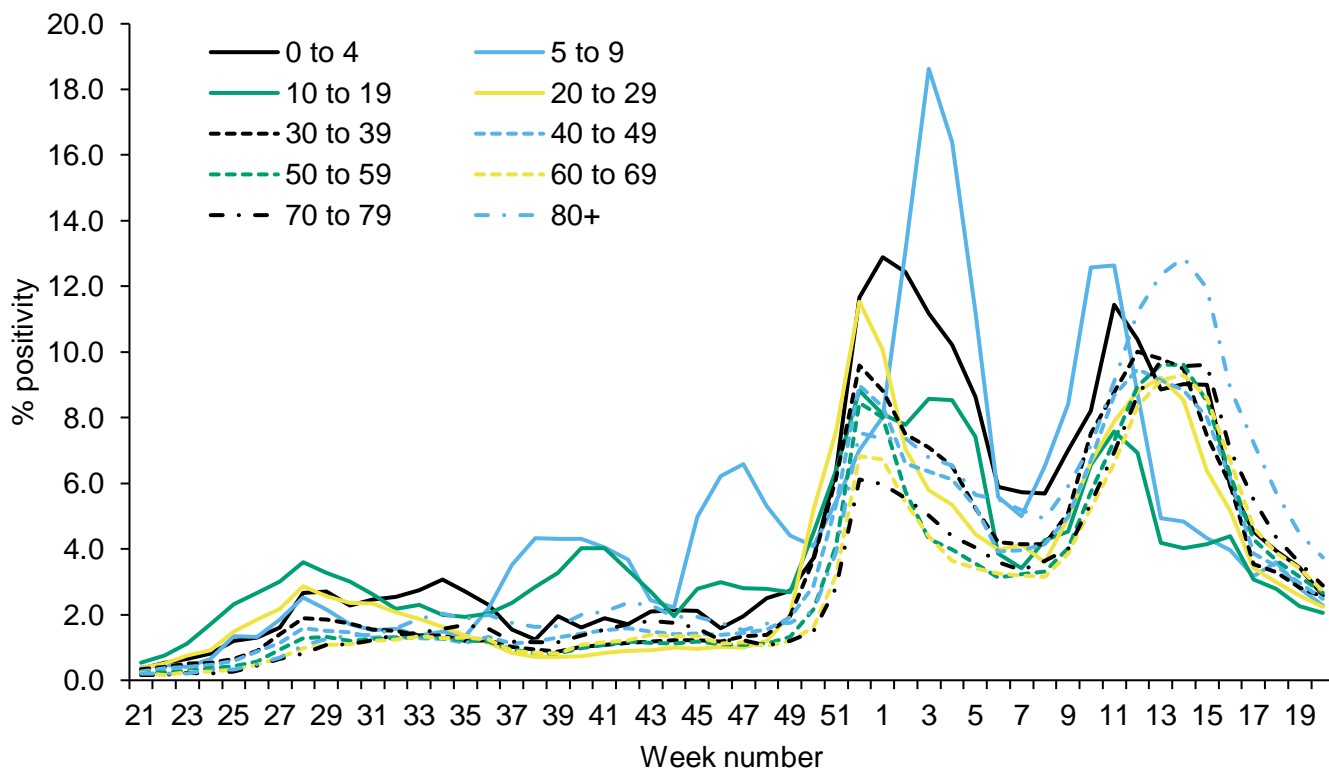


**Figure 5: Weekly PCR positivity (%) of confirmed COVID-19 cases tested under Pillar 1, (a) by male and age group and (b) by female and age group**

(a) Pillar 1 - Male



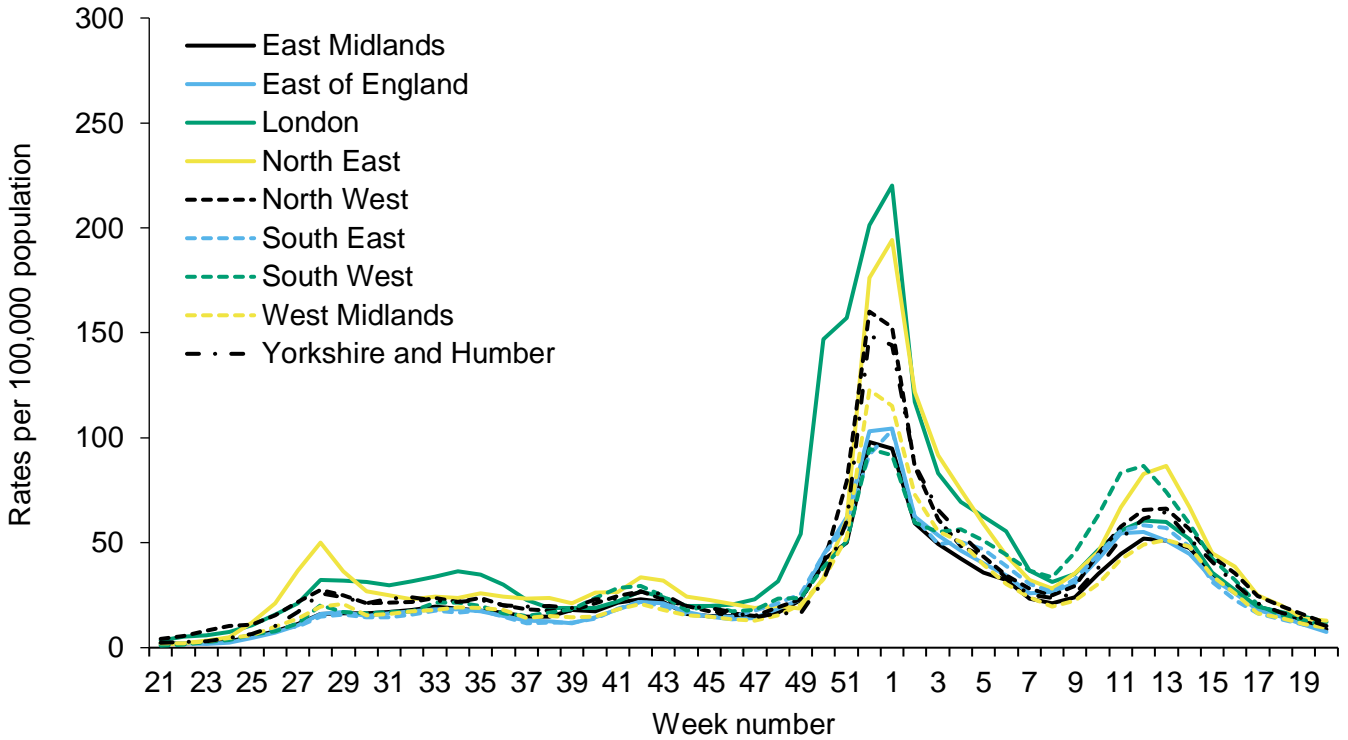
(b) Pillar 1 - Female



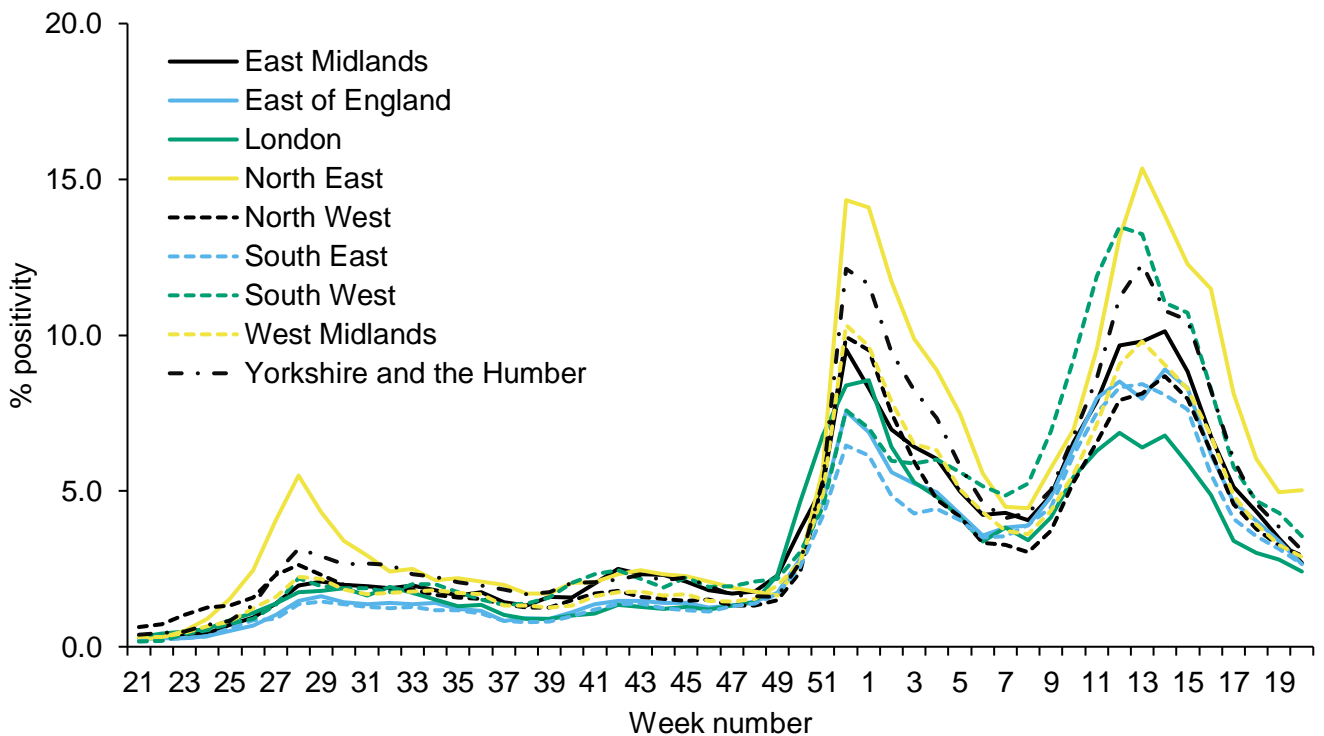


## Geography

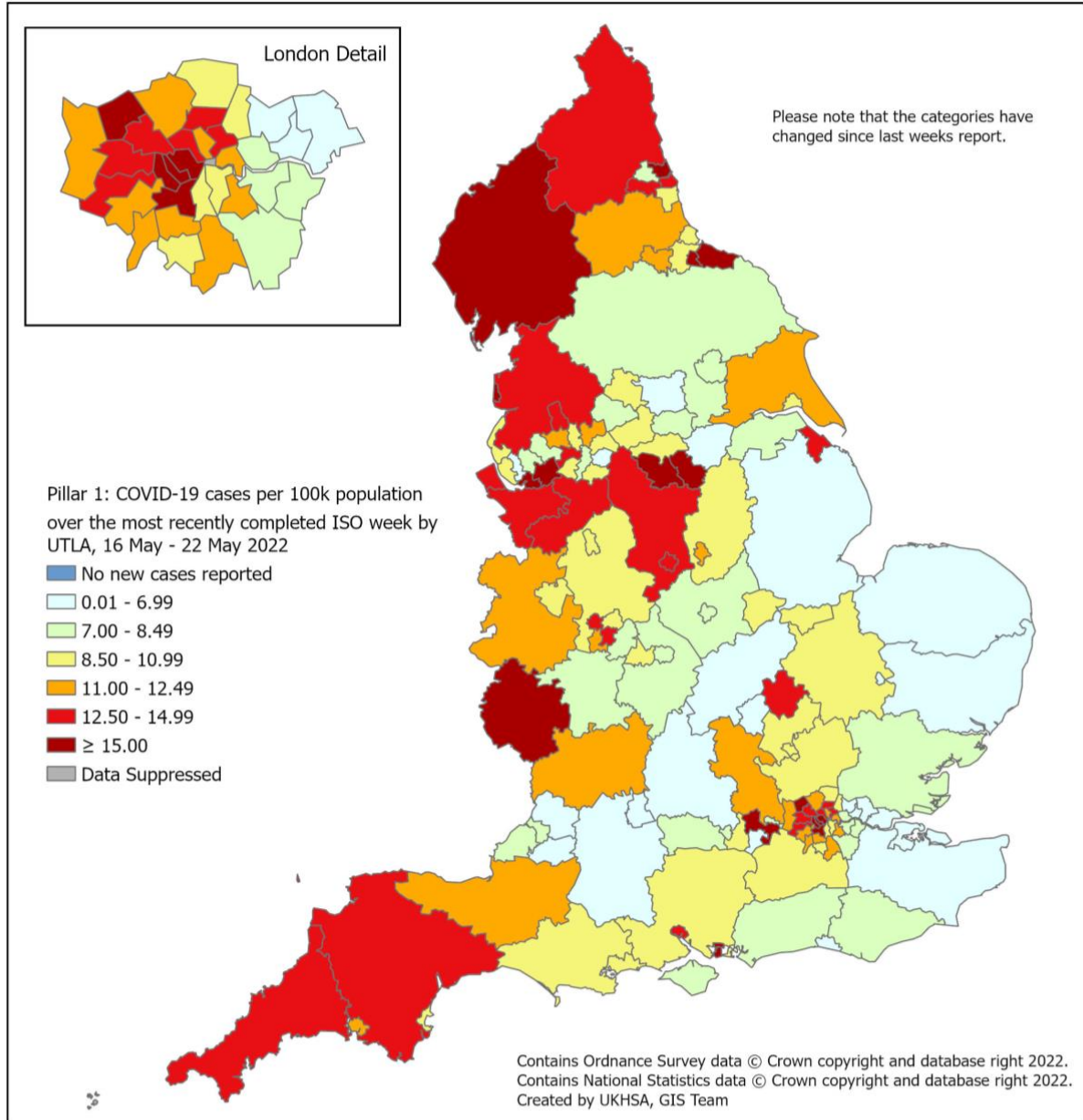
**Figure 6: Weekly confirmed COVID-19 case rates by episode, per 100,000 population (Pillar 1), by UKHSA Centres and sample week**



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

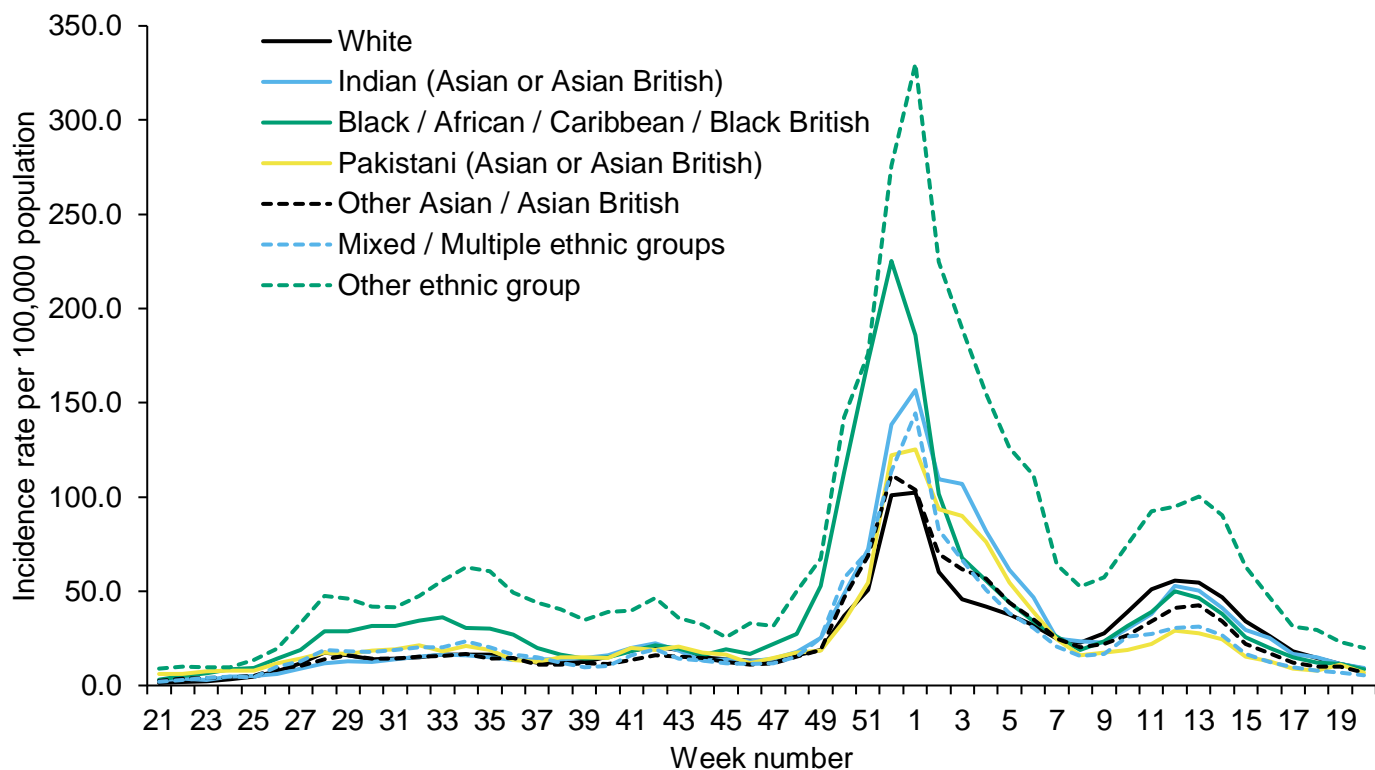


**Figure 8: Weekly rate of COVID-19 episodes per 100,000 population (Pillar 1), by upper-tier local authority, England (box shows enlarged map of London area)**



## 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

## Possible SARS-CoV-2 reinfection in England

This is the final publication of this section in the current format. The value of continuing with a regular update of SARS-CoV-2 reinfections will be reviewed in the light of proposed changes to SARS-CoV-2 testing availability and data collection from 1 April 2022. This update presents data to 31 March 2022 or to end week 13 (3 April 2022) where weekly data are presented.

The following figures present population level reinfections based on the first time that individuals tested positive for SARS-CoV-2 through PCR and/or lateral flow device testing in England together with those who have tested positive for SARS-CoV-2 through PCR and/or lateral flow testing with an interval of at least 90 days between two consecutive positive tests. From 31 January 2022, UKHSA COVID-19 case reporting has changed to an episode-based definition which includes possible reinfections (see [What's new | Coronavirus in the UK](#)). Reinfection summaries have been based on these data from report 5, 2022 onwards.

Data has been processed to week 13, 2022 (ending 3 April 2022, extracted 13 April 2022). Based on provisional figures to 31 March 2022, 890,575 reinfection episodes have been identified in England since the beginning of the pandemic, of which 10,315 are third episodes and 98 are fourth episodes; 17.0 million first positives or primary infection episodes are included in the figures. There were 41,913 reinfection episodes identified in updated provisional figures for week 13 (ending 3 April 2022), accounting for 11.6% of all first or reinfection episodes with SARS-CoV-2 that week. Information on Omicron reinfections has been published in the [UKHSA SARS-CoV-2 variants of concern and variants under investigation in England](#) technical briefings.

For a possible reinfection to be categorised as confirmed it requires sequencing of a specimen at each episode and for the later specimen to be genetically distinct from that sequenced from the earlier episode. Availability of such dual sequencing is currently very low for several reasons; sequencing was not widely undertaken early in the pandemic; LFD test results do not allow sequencing and some PCR samples have a low viral load where sequencing cannot be undertaken. To meet the definition of a probable reinfection requires sequencing at the later episode that identifies a variant that was not circulating at the time of the earlier episode.

It is important to consider reinfections in the context of first infections and there is a 90-day delay before people with a first infection can become eligible for reinfection.

Table 1 summarises the definitions of different categories of COVID-19 infection accompanied by totals generated to 31 March 2022 and review of 890,541 possible reinfections to 13 April 2022. These data are affected by the limited availability of sequencing data, particularly in the early months of the pandemic.

**Table 1: Different categories of COVID-19 infection with current totals generated by episode-based reporting\* in England, to 31 March 2022**

Infection type	Definition	Current totals
<b>Primary infection/ first positive</b>	the first positive PCR/ LFD test result for an individual	<b>17.0 million first positives</b>
<b>Possible reinfection</b>	identified based on two sequential positive test results (PCR or LFD) at least 90 days apart	<b>890,541 possible reinfections*</b>
<b>Probable reinfection</b>	where only reinfection sample is available, and this is congruent with contemporaneous phylogeny OR the second event identifies a variant which was not in circulation at the time of first infection	<b>3,575 classified as probable*</b>
<b>Confirmed reinfection</b>	sequencing of a specimen at each episode of a possible reinfection with the later specimen genetically distinct from that sequenced at first episode	<b>8,098 confirmed reinfections*</b>
<b>Persistent infection</b>	Nominally repeat test positives at between 14 and <90-day intervals (likely associated with immunosuppression)	Unquantified

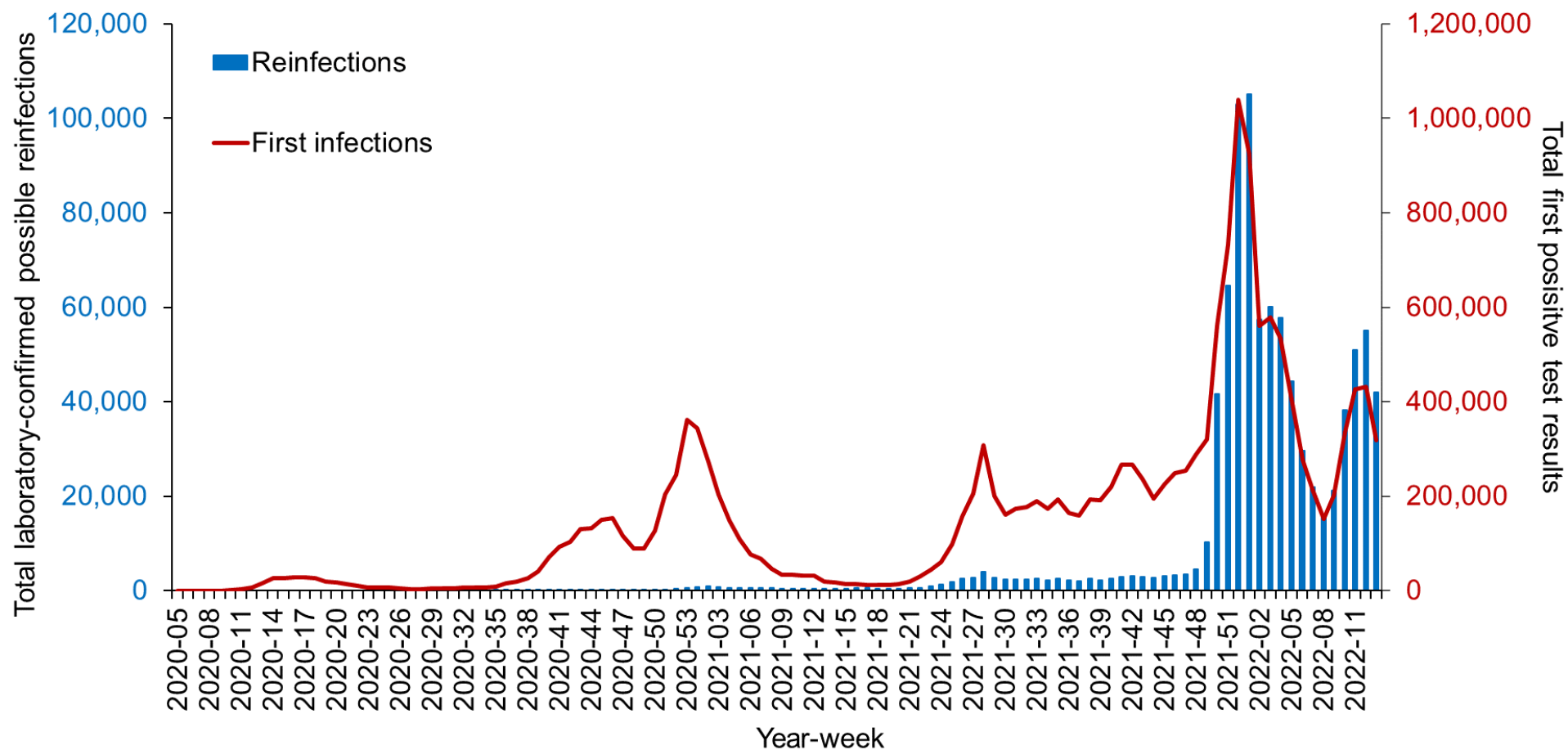
\*These totals are generated using the national episode level dataset to 31 March 2022. Some reinfection episodes have not yet been classified and so the total of possible, probable and confirmed will not equal all identified reinfection episodes for the same period. Many possible reinfections do not have sequencing data available at one or other episode and so cannot be further classified.

Figure 10 shows weekly numbers of reinfection episodes and primary infections on the secondary Y-axis.

Figure 11 shows the weekly rates of reinfection episodes per 1000 first infection episodes based on a cumulative denominator derived from total individuals with a first SARS-CoV-2 positive test result at a point 13 weeks (91 days) before the next positive test result together with the cumulative total of first infections (secondary Y-axis) by week of onset.

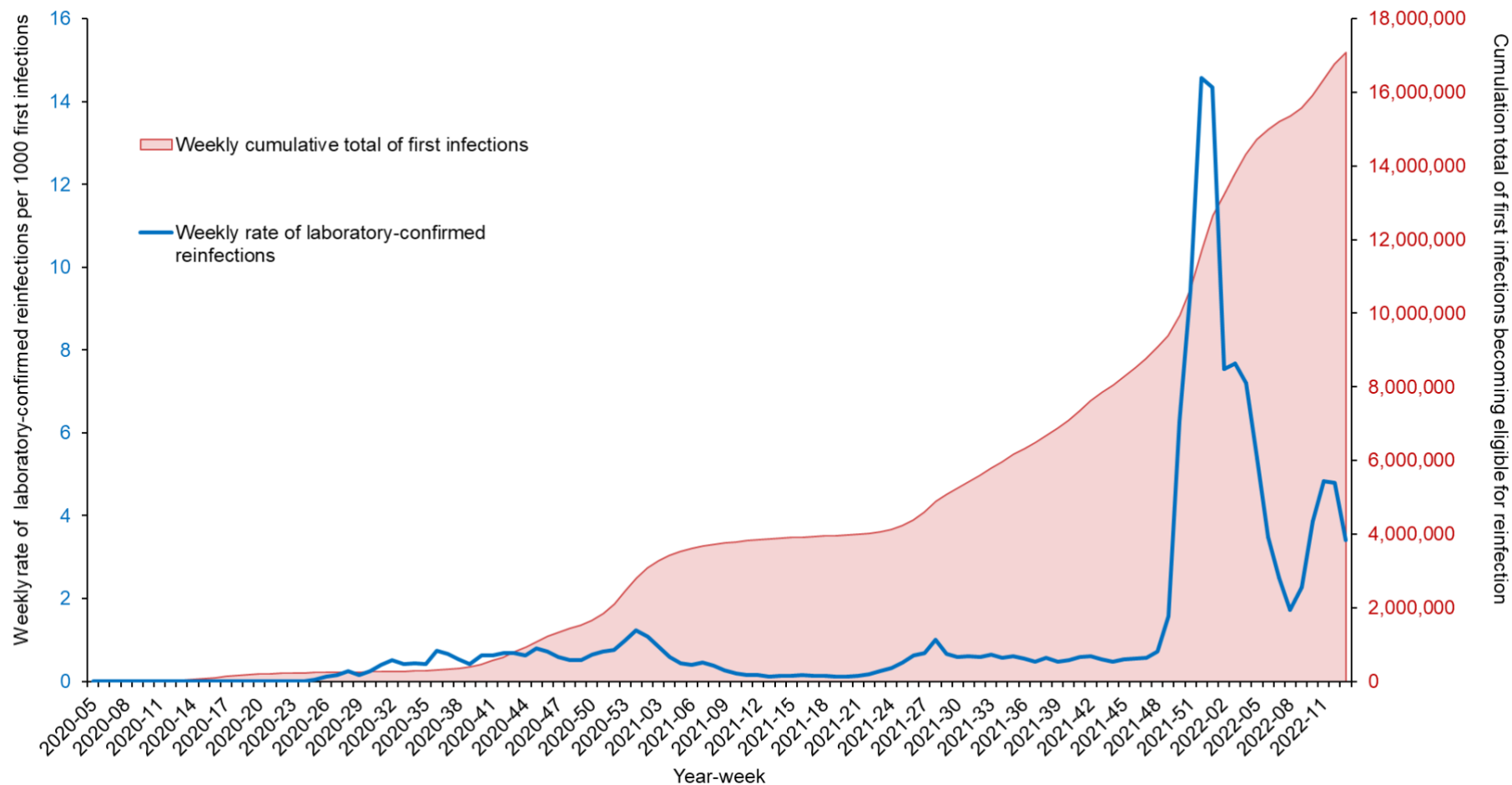
Figures 12a and 12b show weekly rates of reinfection episodes per 1000 first infections based on a cumulative denominator derived from total individuals with a first SARS-CoV-2 positive test result at a point 13 weeks (91 days) broken down by age group into those under 30 years of age and those older than 30 years. The figure also shows weekly first infections in those under 30 years of age and those older than 30 years (secondary Y-axis). Both figures include provisional data to week 13 (ending 3 April 2022).

**Figure 10: The weekly total of possible COVID-19 reinfections and first infections\* (England only to week 13 2022, provisional early data<sup>A</sup>)**



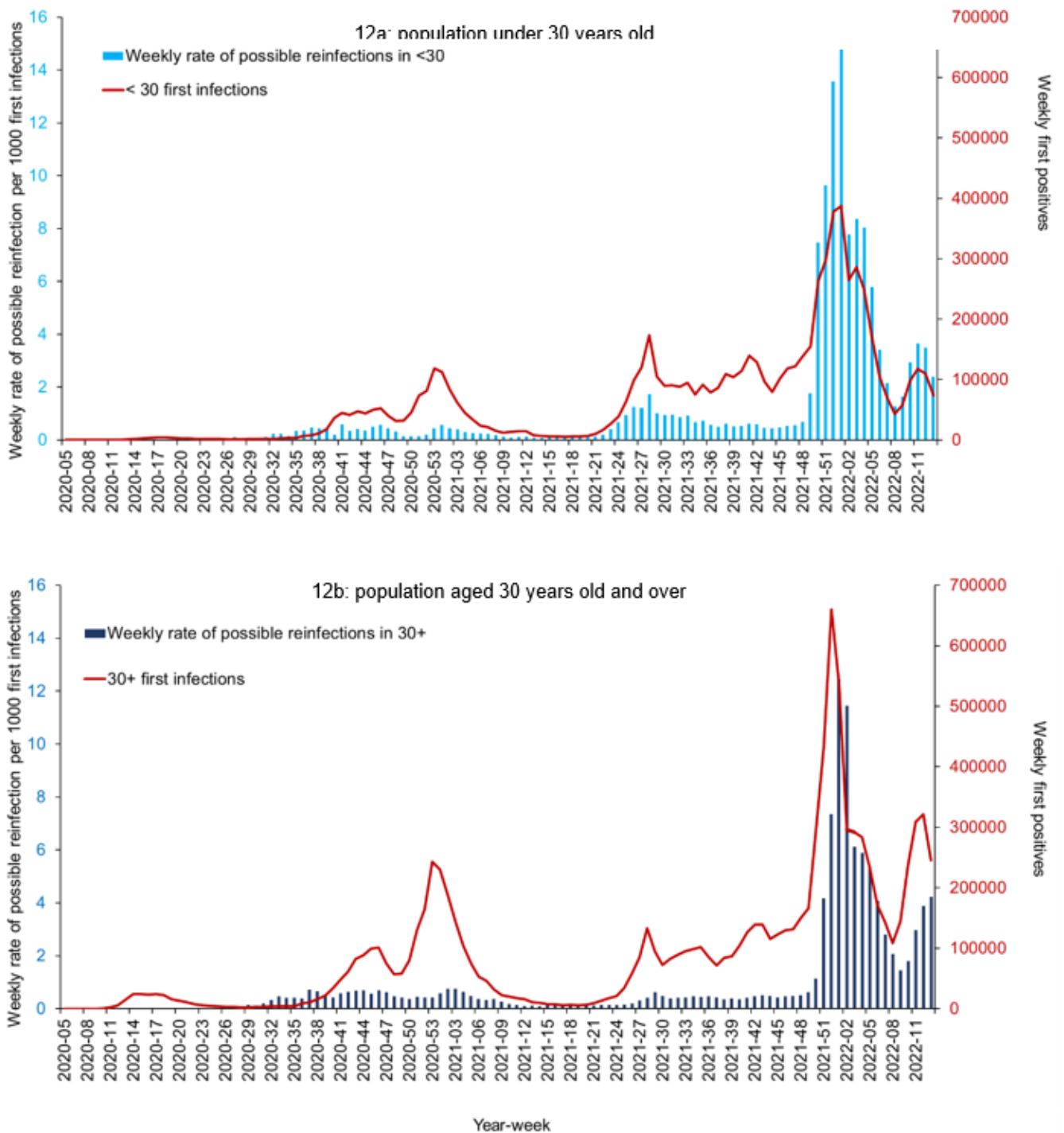
<sup>A</sup> Data in week 13 includes a part-week after changes to SARS-CoV-2 testing in England were introduced from 1 April 2022

**Figure 11: The weekly rate of possible COVID-19 reinfections with cumulation of first infections becoming eligible for reinfection \* (England only to week 13 2022, provisional early data<sup>Δ</sup>)**



<sup>Δ</sup> Data in week 13 includes a part-week after changes to SARS-CoV-2 testing in England were introduced from 1 April 2022

**Figure 12 (a and b): First COVID-19 positive tests results\* & weekly rate of possible COVID-19 reinfections in England to week 13 2022, provisional data<sup>Δ</sup>**



<sup>Δ</sup> Data in week 13 includes a part-week after changes to SARS-CoV-2 testing in England were introduced from 1 April 2022



## Respiratory DataMart system (England)

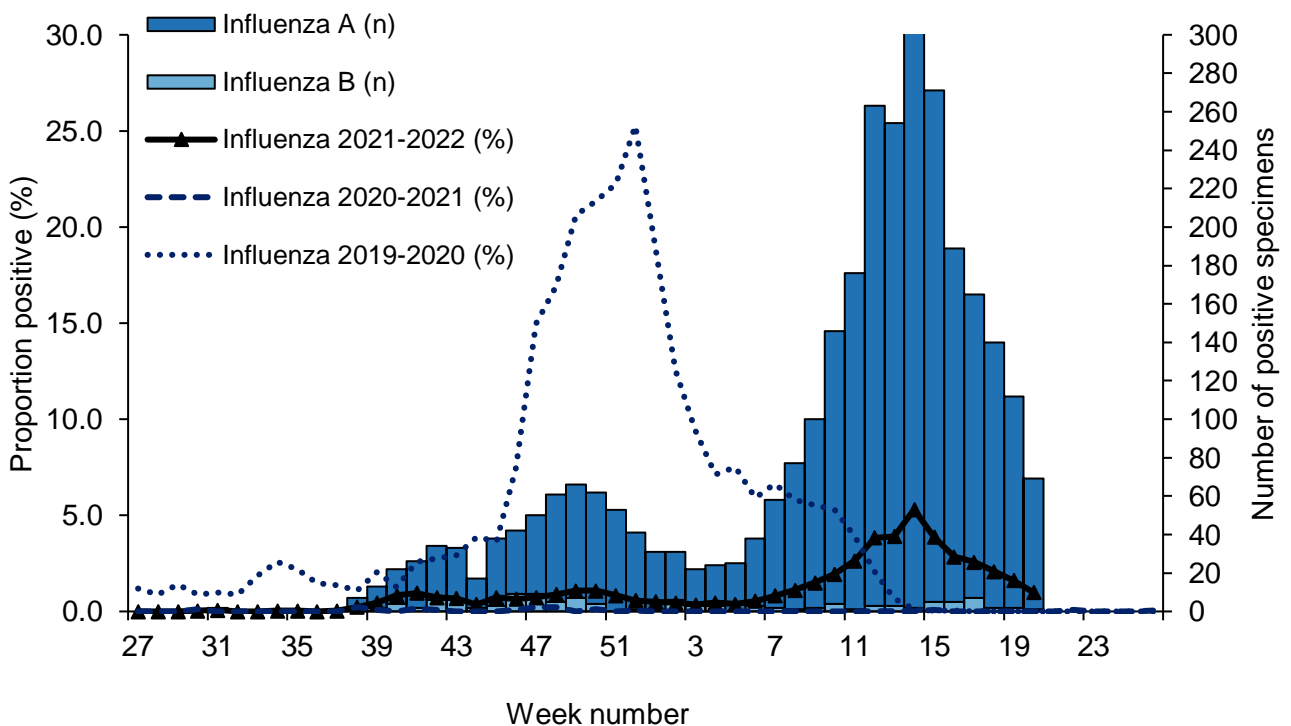
The Respiratory Datamart system began during the 2009 influenza pandemic to collate all laboratory testing information in England. It is now used as a sentinel laboratory surveillance tool, monitoring all major respiratory viruses in England. Seventeen laboratories in England will be reporting data for 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 20 of 2022, out of the 54,586 respiratory specimens reported through the Respiratory DataMart System (based on data received from 15 out of 17 laboratories), 1,110 samples were positive for SARS-CoV-2 with an overall positivity of 2.0%. The highest positivity was noted in the 65 year olds and over at 2.3% in week 20.

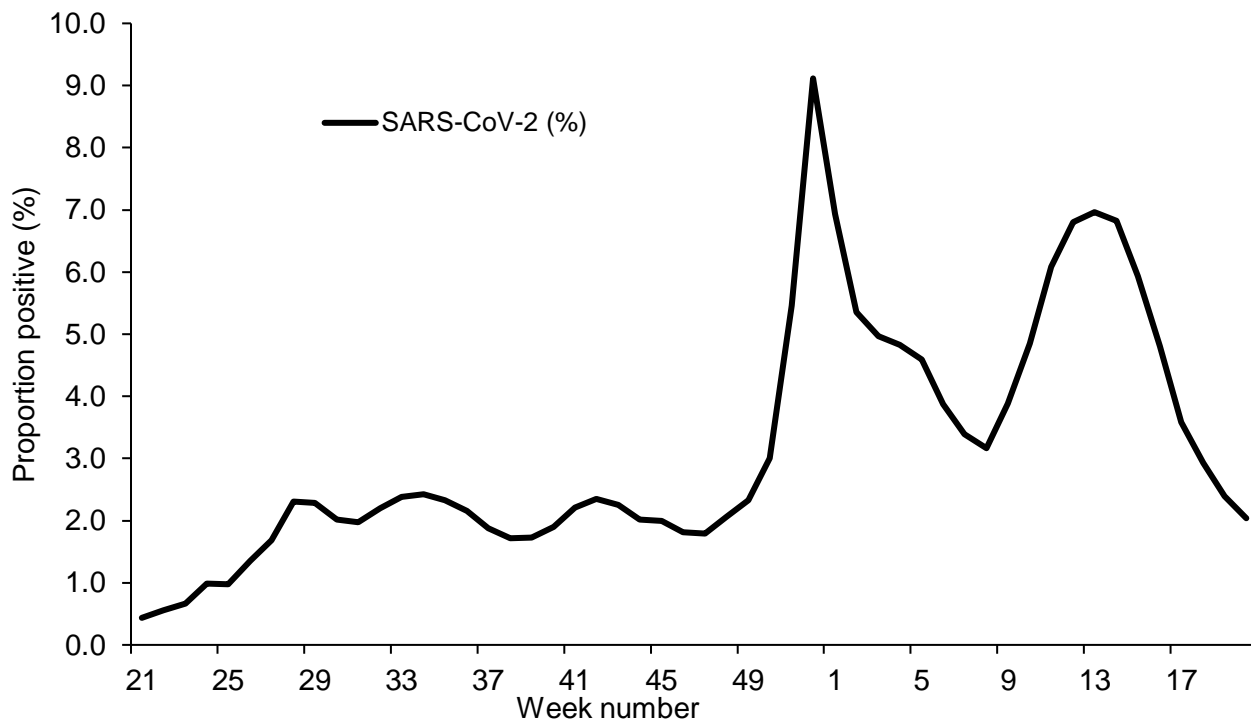
The overall influenza positivity remained very low and decreased to 1.0% in week 20, with 69 samples testing positive for influenza (including 19 influenza A(H3N2), 1 fluA(H1N1)pdm09, 48 influenza A(not subtyped) and 1 influenza B).

Respiratory syncytial virus (RSV) positivity remained low but increased slightly to 3.2% in week 20, with the highest positivity in the under 5 year olds at 13.5%. Adenovirus positivity increased to 4.2% overall with the highest positivity in under 5 year olds at 10.3%. Rhinovirus positivity was at 10.7% overall and 27.0% in under 5 year olds. Parainfluenza positivity increased slightly to 5.5%, while human metapneumovirus (hMPV) positivity remained low at 0.4% in week 20 (Figure 15).

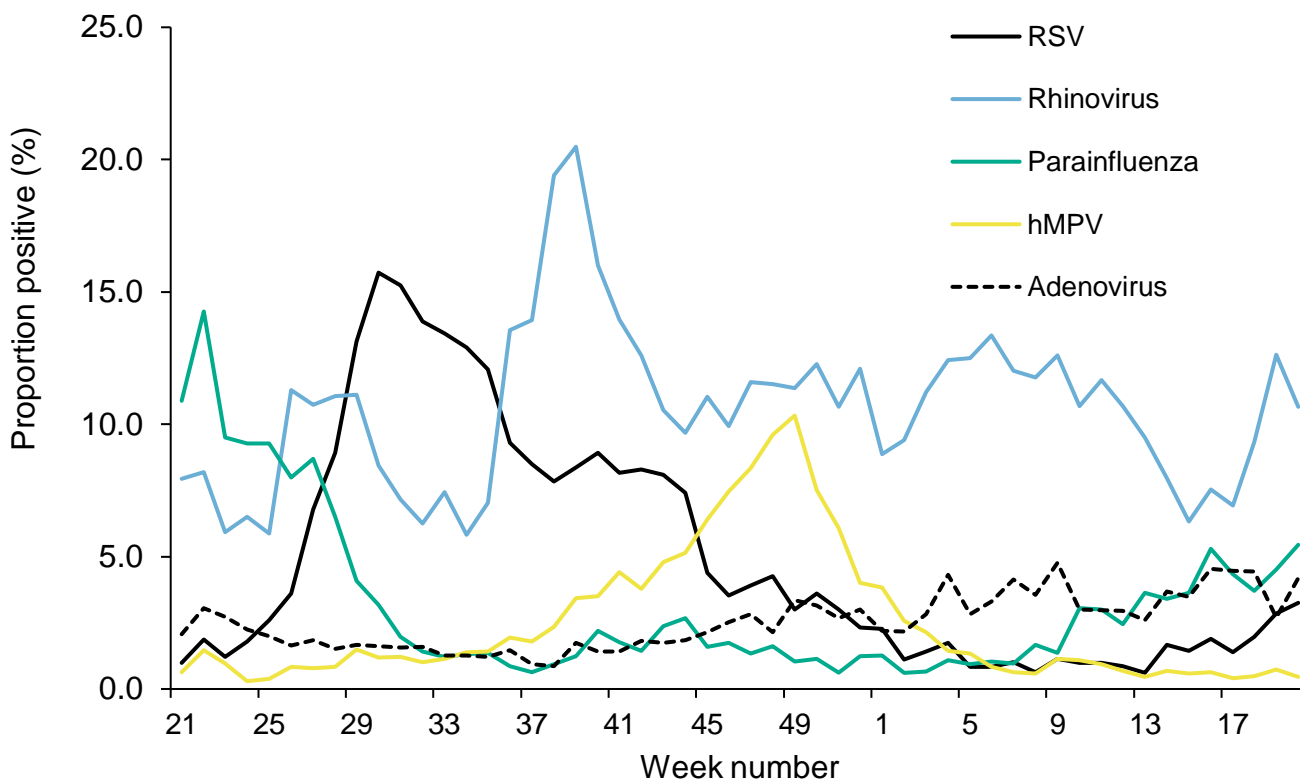
**Figure 13: Respiratory DataMart samples positive for influenza and weekly positivity (%) for influenza, England**



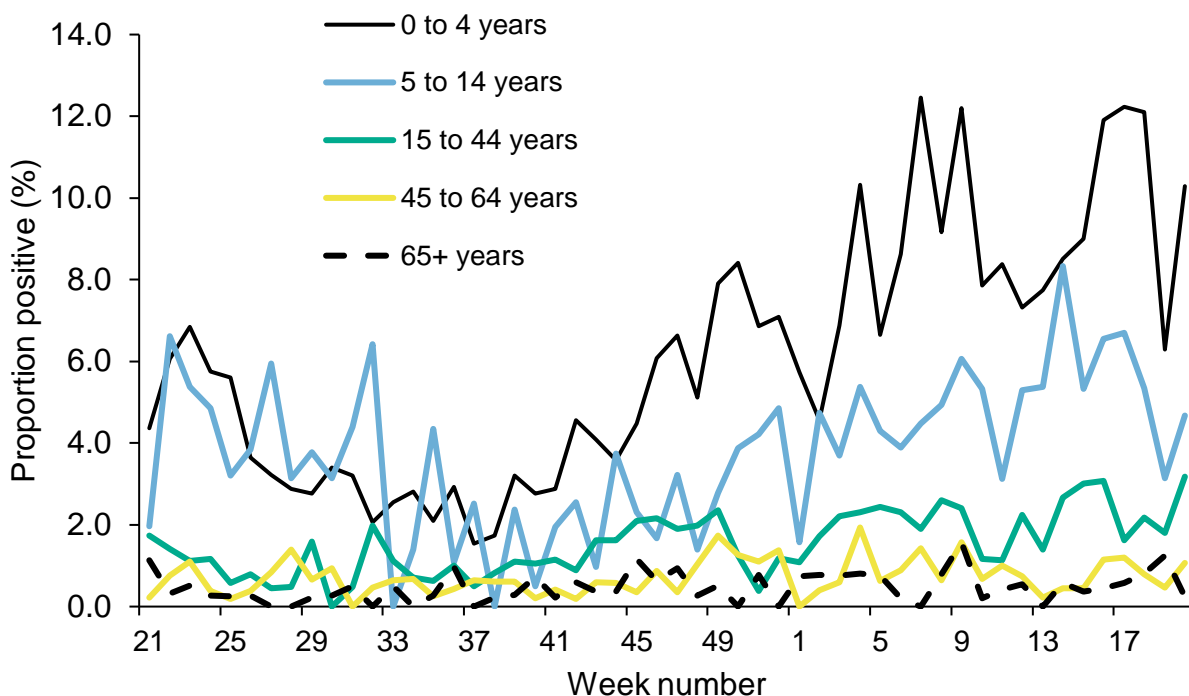
**Figure 14: Respiratory DataMart weekly positivity (%) for SARS-CoV-2, England**



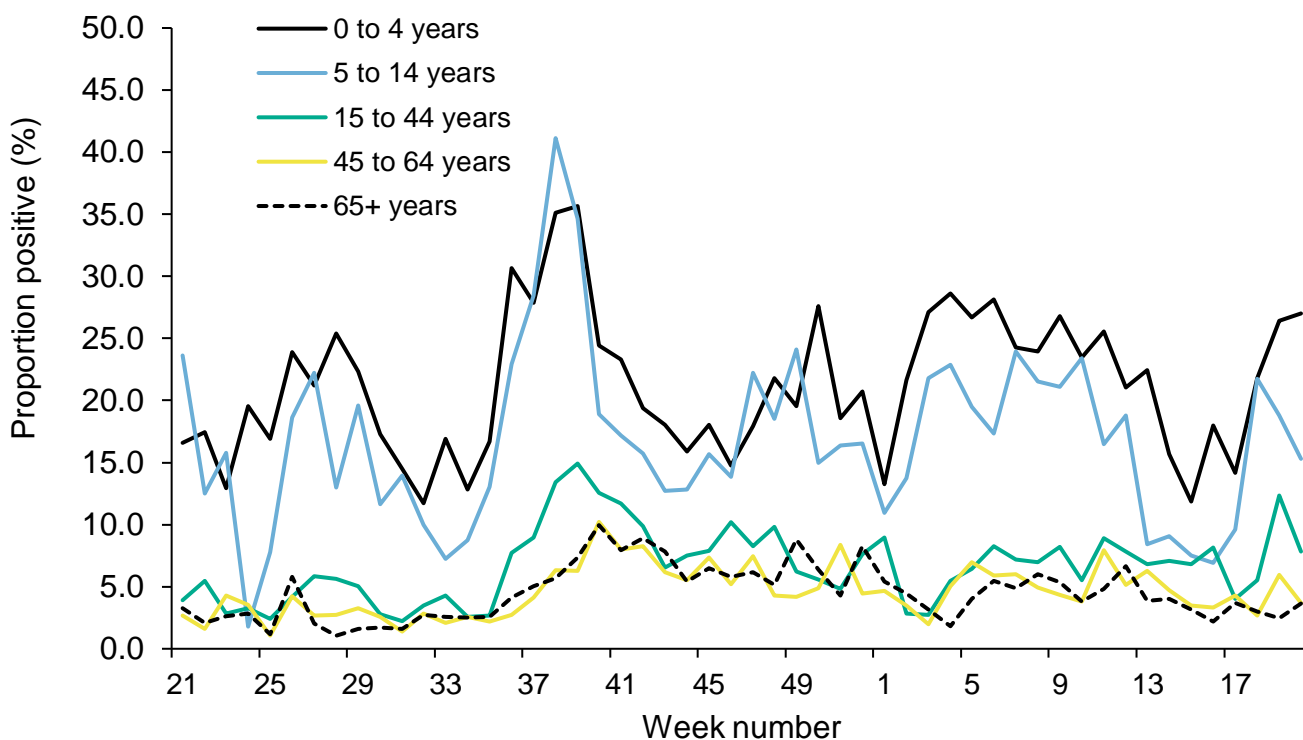
**Figure 15: Respiratory DataMart weekly positivity (%) for other respiratory viruses, England**



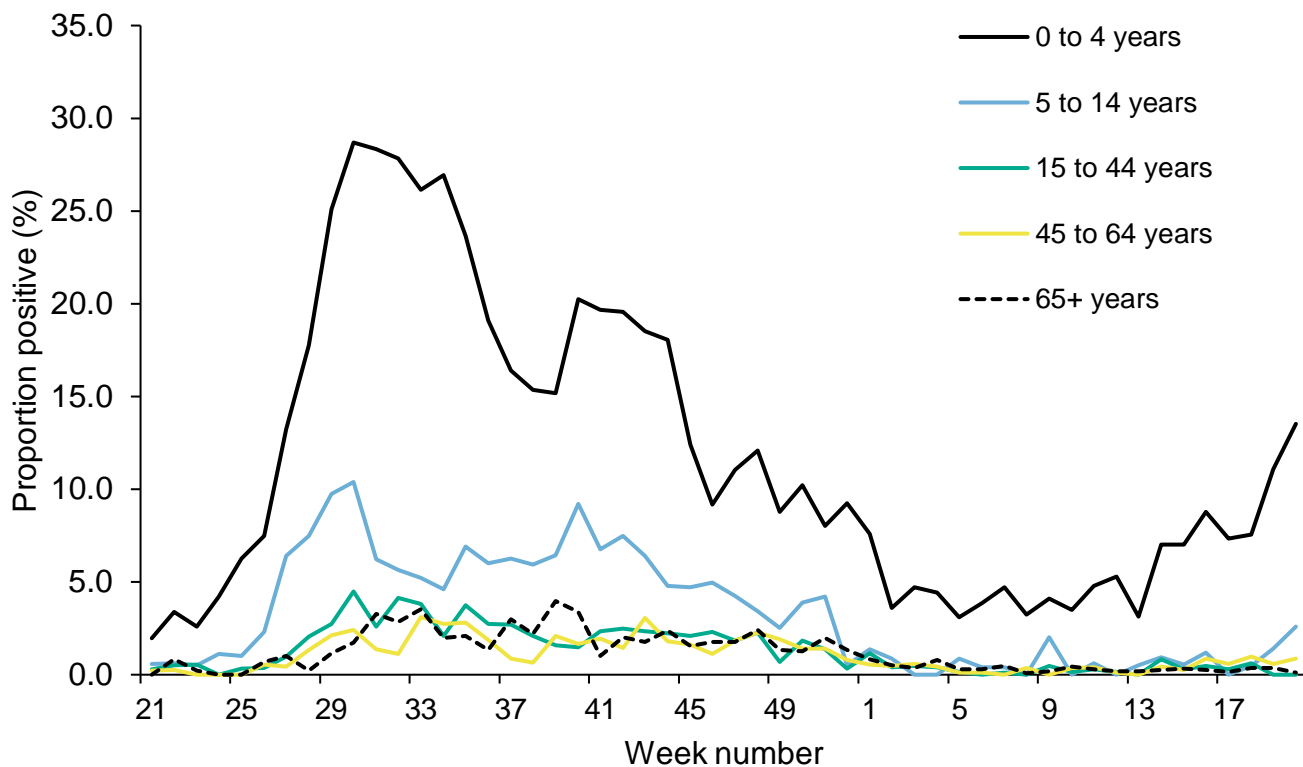
**Figure 16: Respiratory DataMart weekly positivity (%) for adenovirus by age, England**



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



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



# Community surveillance

## Acute respiratory infection incidents

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

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

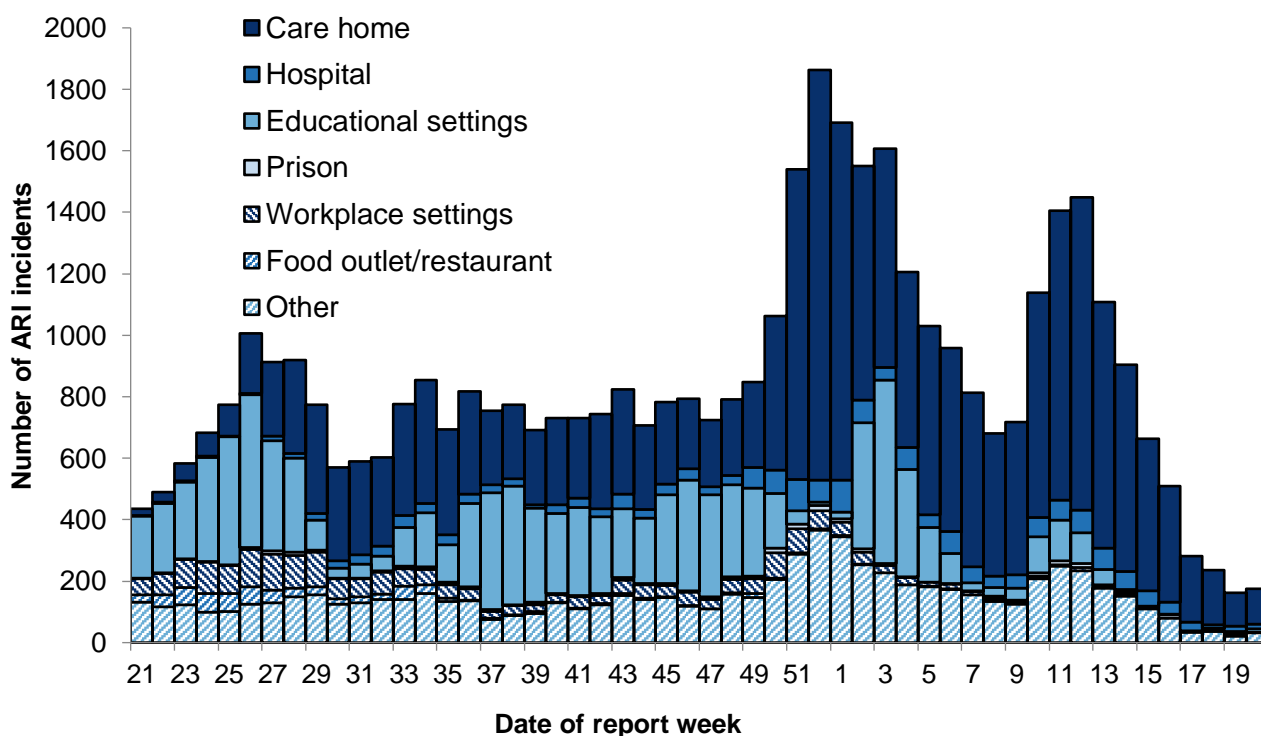
Data caveats:

1. The incidents captured on HPZone represent a subset of all ongoing ARI clusters and outbreaks in England rather than an exhaustive listing. A variety of arrangements are in place across UKHSA Centres, with local authorities and other stakeholders supporting HPTs in outbreak investigation in some areas without HPZone reporting. As a result, the number of outbreaks reported for some of the regions are underestimates.
2. 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.
3. Considering the above, comparisons between regions and settings are not advised as they may be misleading.

175 new ARI incidents have been reported in week 20 in the UK (Figure 19):

- 114 incidents were from care homes where 77 had at least one linked case that tested positive for SARS-CoV-2, 2 tested positive for influenza A(not subtyped) and 1 for parainfluenza
- 11 incidents were from educational settings where 1 tested positive for SARS-CoV-2
- 15 incidents were from hospitals, where 11 had at least one linked case that tested positive for SARS-CoV-2
- No incidents were from workplace settings
- 3 incidents were from prisons and all had at least one linked case testing positive for SARS-CoV-2
- No incidents were from a food outlet or restaurant setting
- 32 incidents were from other settings where 14 had at least one linked case that tested positive for SARS-CoV-2

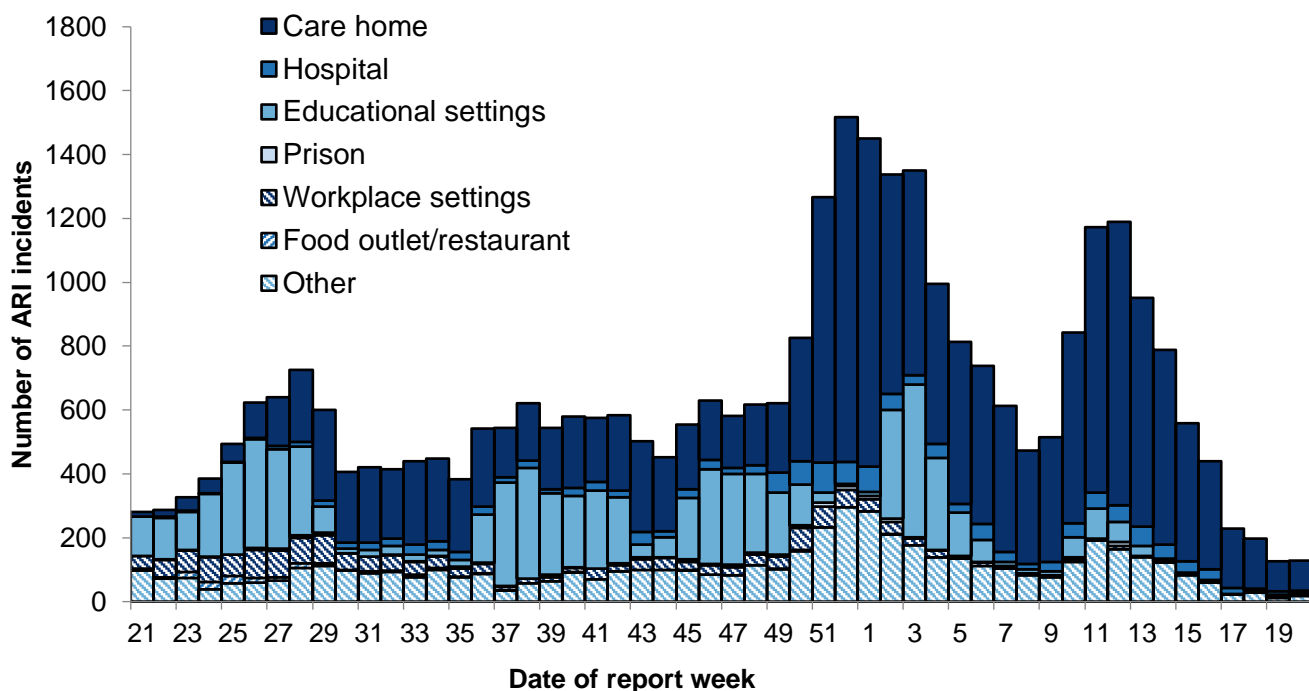
**Figure 19: Number of acute respiratory infection (ARI) incidents by setting, UK**



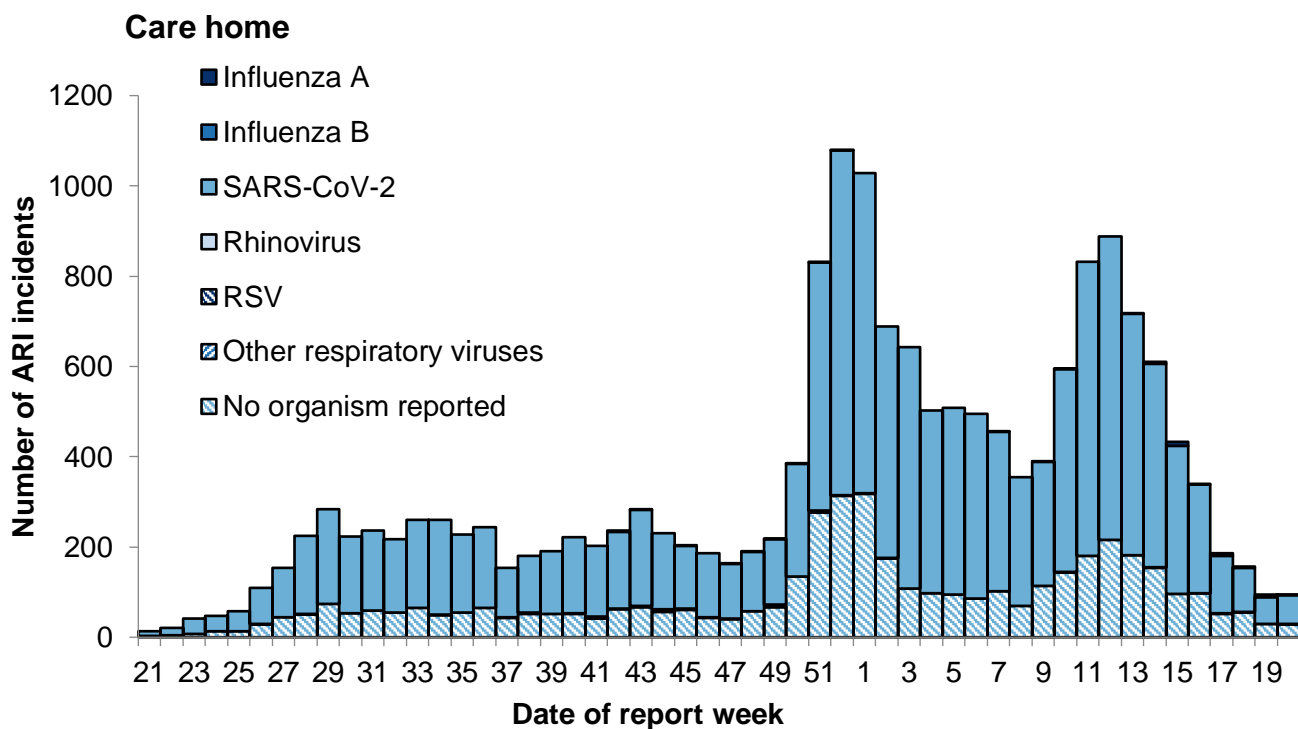
\*Excludes data from Wales

\*Please note that in the week 21 report, the number of incidents in Northern Ireland and Scotland have been retrospectively updated

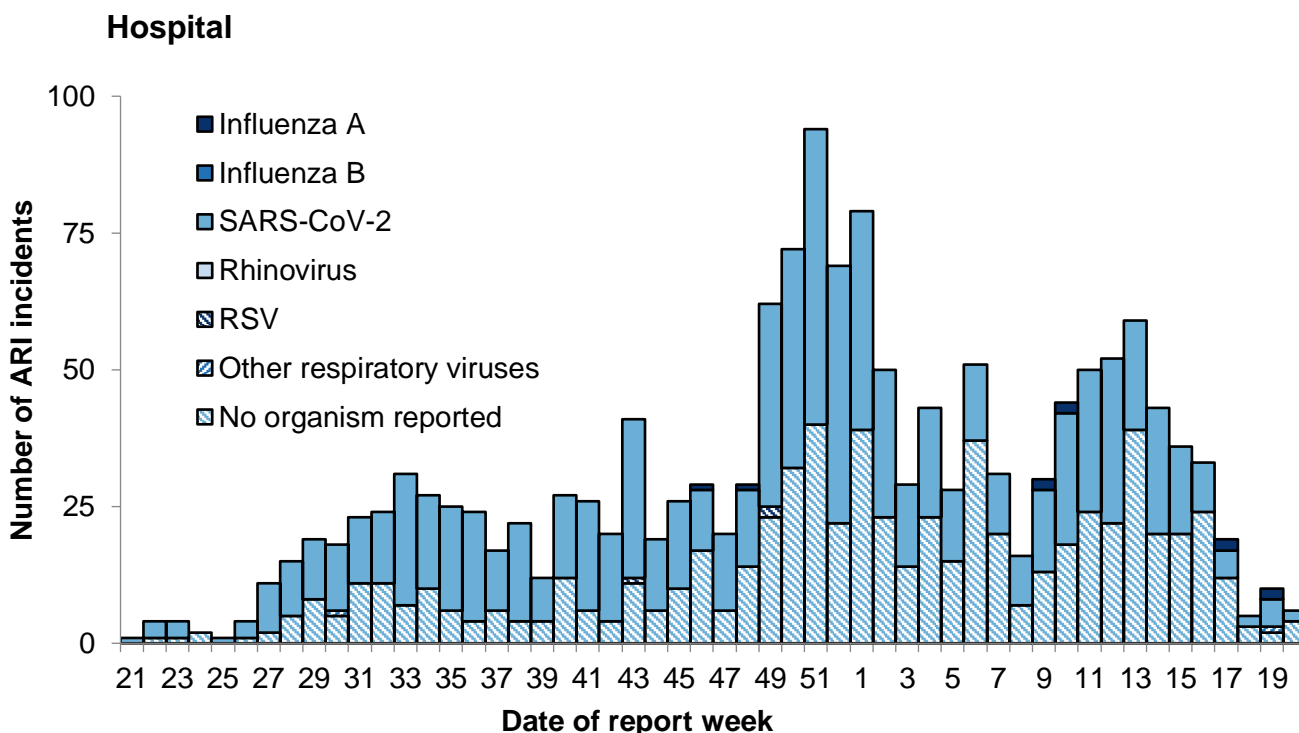
**Figure 20: Number of acute respiratory infection (ARI) incidents by setting, England**



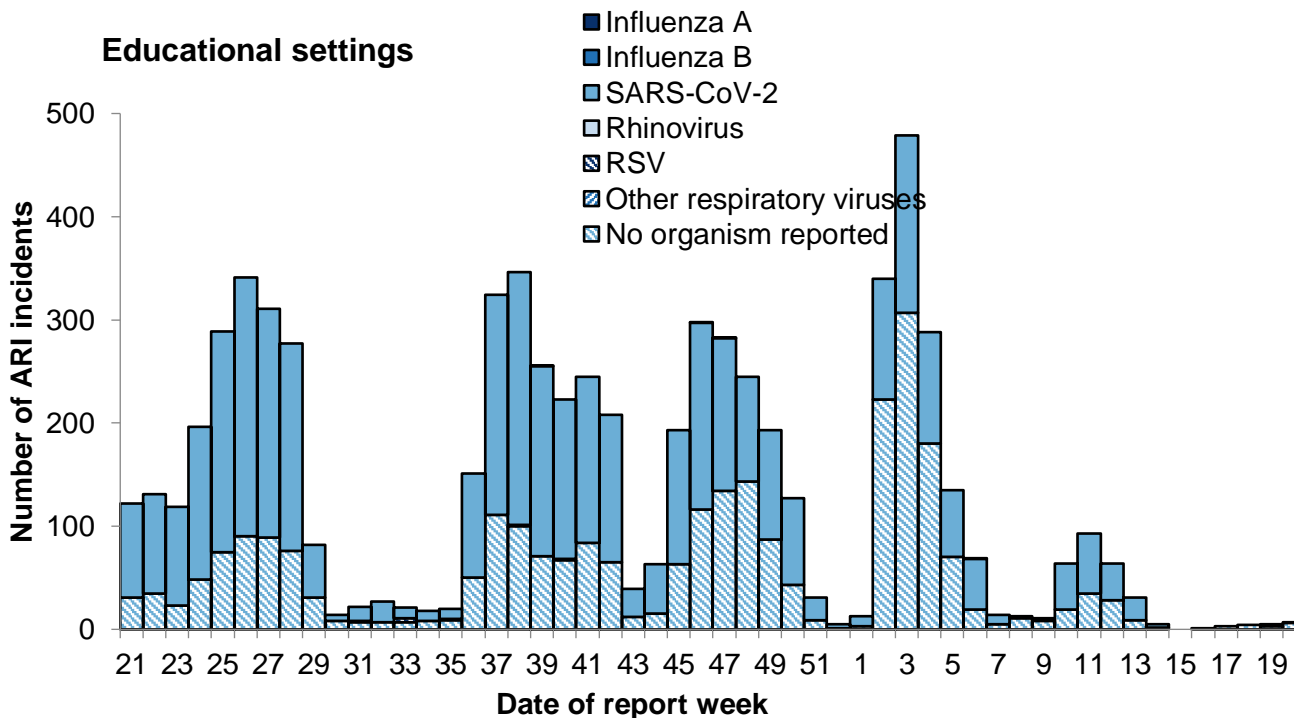
**Figure 21: Number of acute respiratory infection (ARI) incidents in care homes by virus type, England**



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

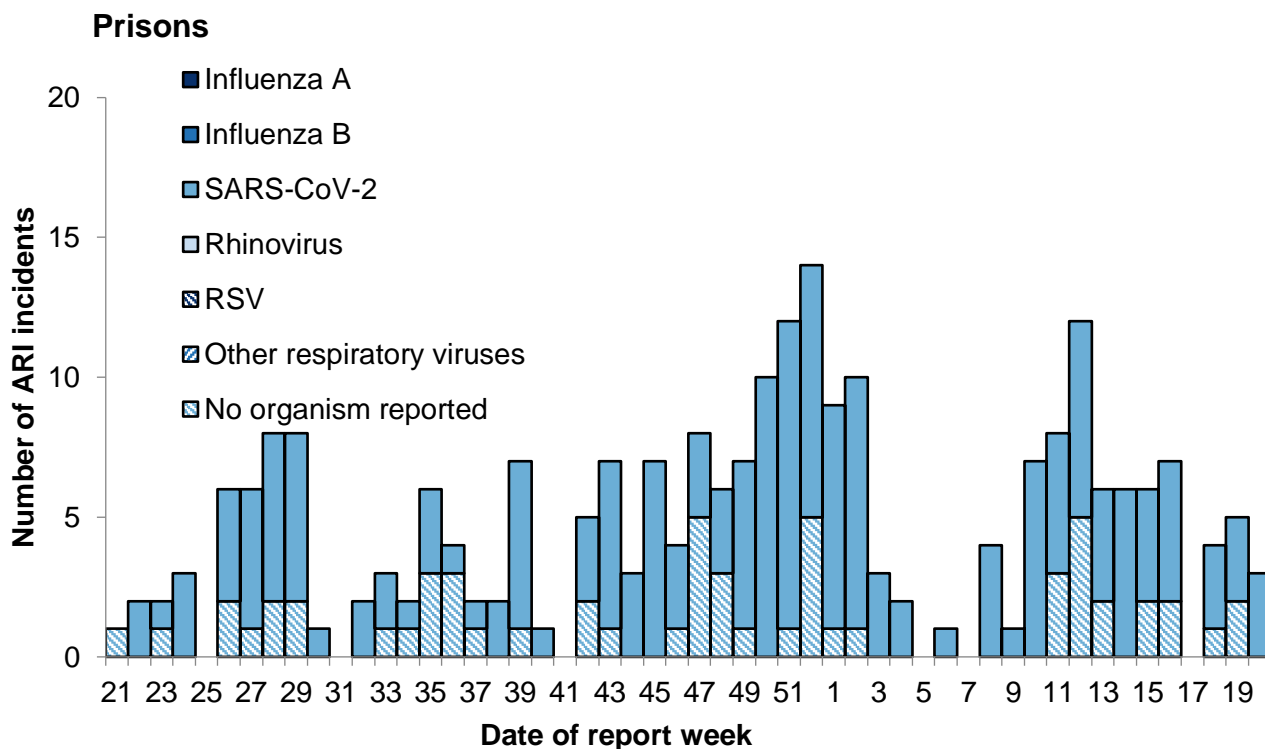


**Figure 23: Number of acute respiratory infection (ARI) incidents in educational settings by virus type, England**

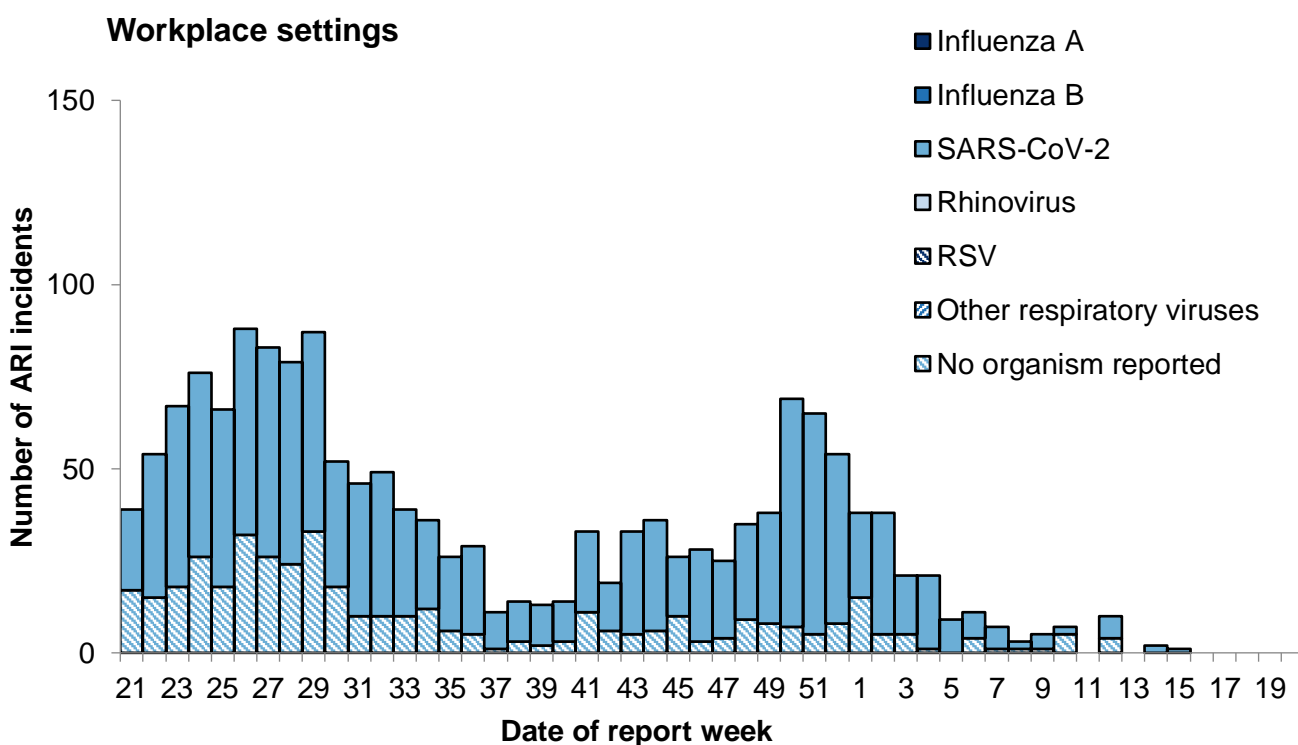




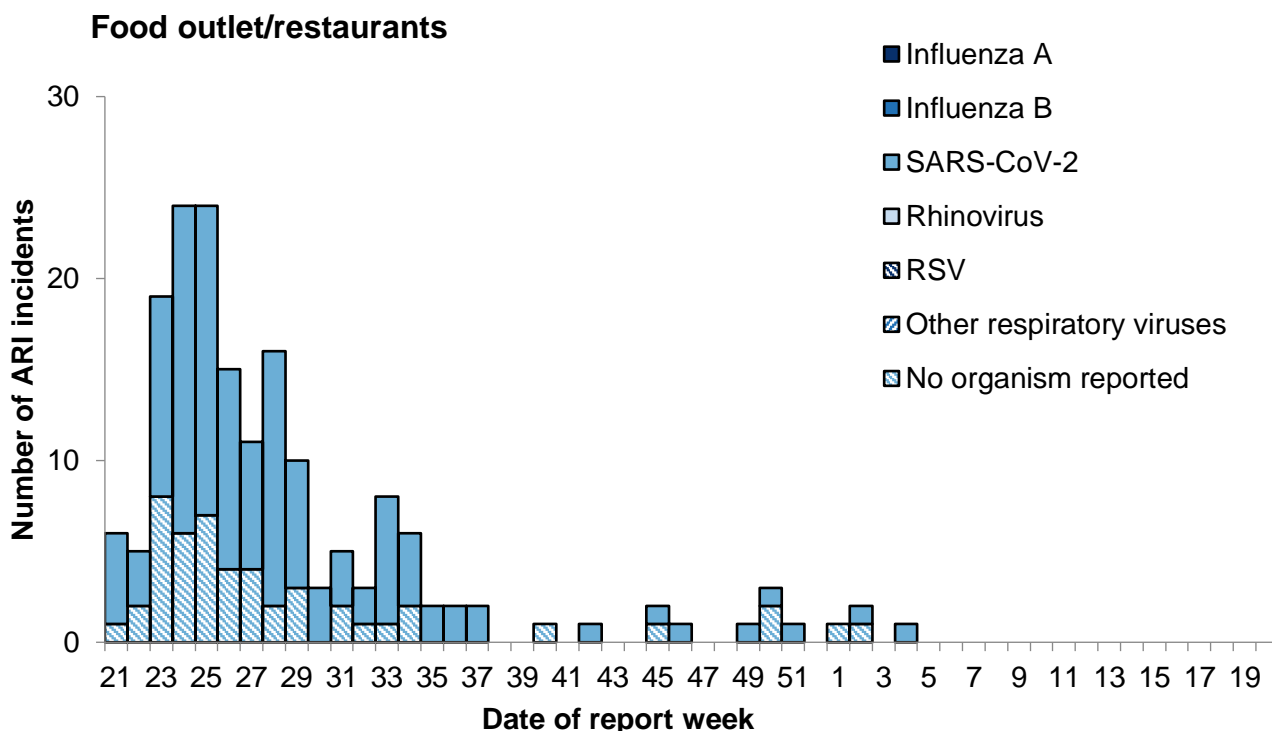
**Figure 24: Number of acute respiratory infection (ARI) incidents in prisons by virus type, England**



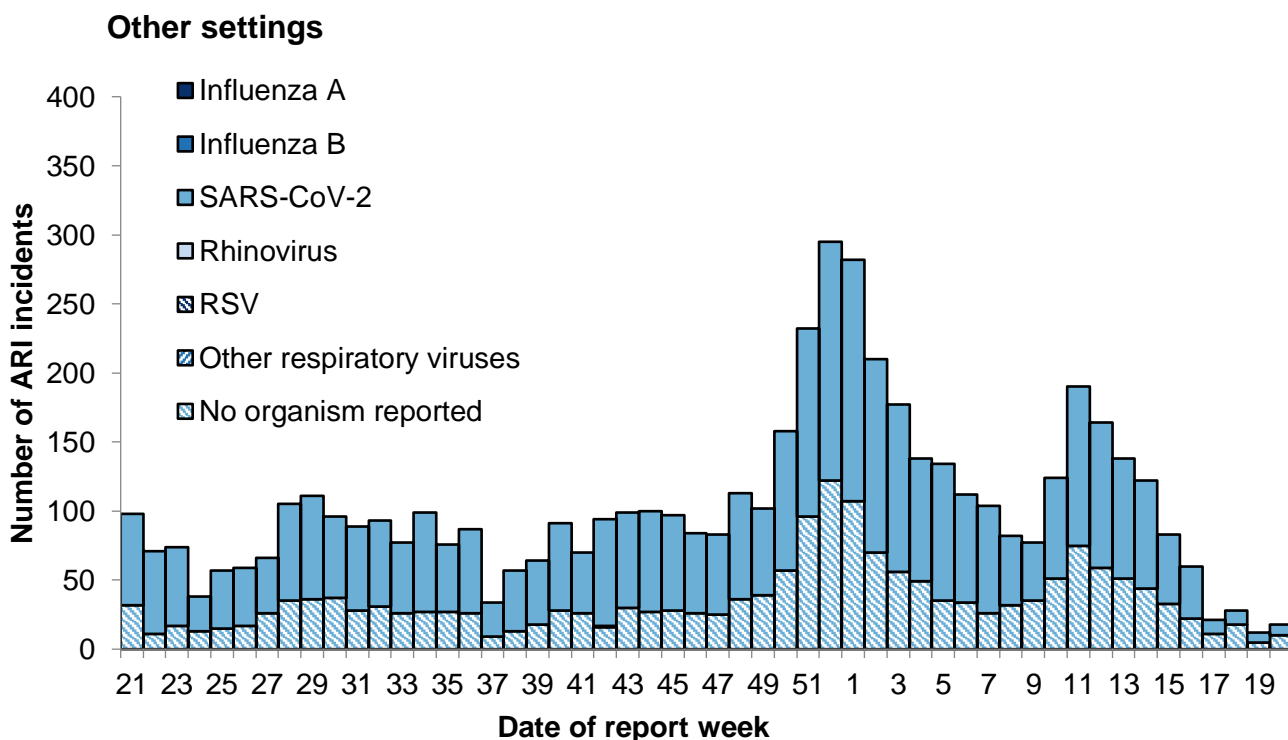
**Figure 25: Number of acute respiratory infection (ARI) incidents in workplace settings by virus type, England**



**Figure 26: Number of acute respiratory infection (ARI) incidents in food outlet or restaurant settings by virus type, England**



**Figure 27: Number of acute respiratory infection (ARI) incidents in other settings by virus type from, England**



**Table 2: Total number of situations and incidents by institution and UKHSA Centres over the past 4 weeks with the total number in the last week in brackets**

UKHSA Centres	Care home	Hospital	Educational settings	Prisons	Workplace settings	Food outlet/ restaurant settings	Other settings	Total
East of England	60(8)	2(0)	0(0)	1(0)	0(0)	0(0)	30(9)	93(17)
East Midlands	69(14)	1(0)	2(0)	4(0)	0(0)	0(0)	10(3)	86(17)
London	44(3)	23(4)	7(2)	1(1)	0(0)	0(0)	7(0)	82(10)
North East	39(12)	0(0)	0(0)	1(0)	0(0)	0(0)	3(1)	43(13)
North West	39(4)	0(0)	4(2)	0(0)	0(0)	0(0)	8(2)	51(8)
South East	52(10)	4(0)	3(3)	2(2)	0(0)	0(0)	2(0)	63(15)
South West	157(33)	2(1)	1(0)	0(0)	0(0)	0(0)	2(0)	162(34)
West Midlands	20(4)	4(0)	2(0)	1(0)	0(0)	0(0)	2(0)	29(4)
Yorkshire and Humber	53(7)	4(1)	0(0)	2(0)	0(0)	0(0)	15(3)	74(11)
<b>Total</b>	<b>533(95)</b>	<b>40(6)</b>	<b>19(7)</b>	<b>12(3)</b>	<b>0(0)</b>	<b>0(0)</b>	<b>79(18)</b>	<b>683(129)</b>

## FluSurvey

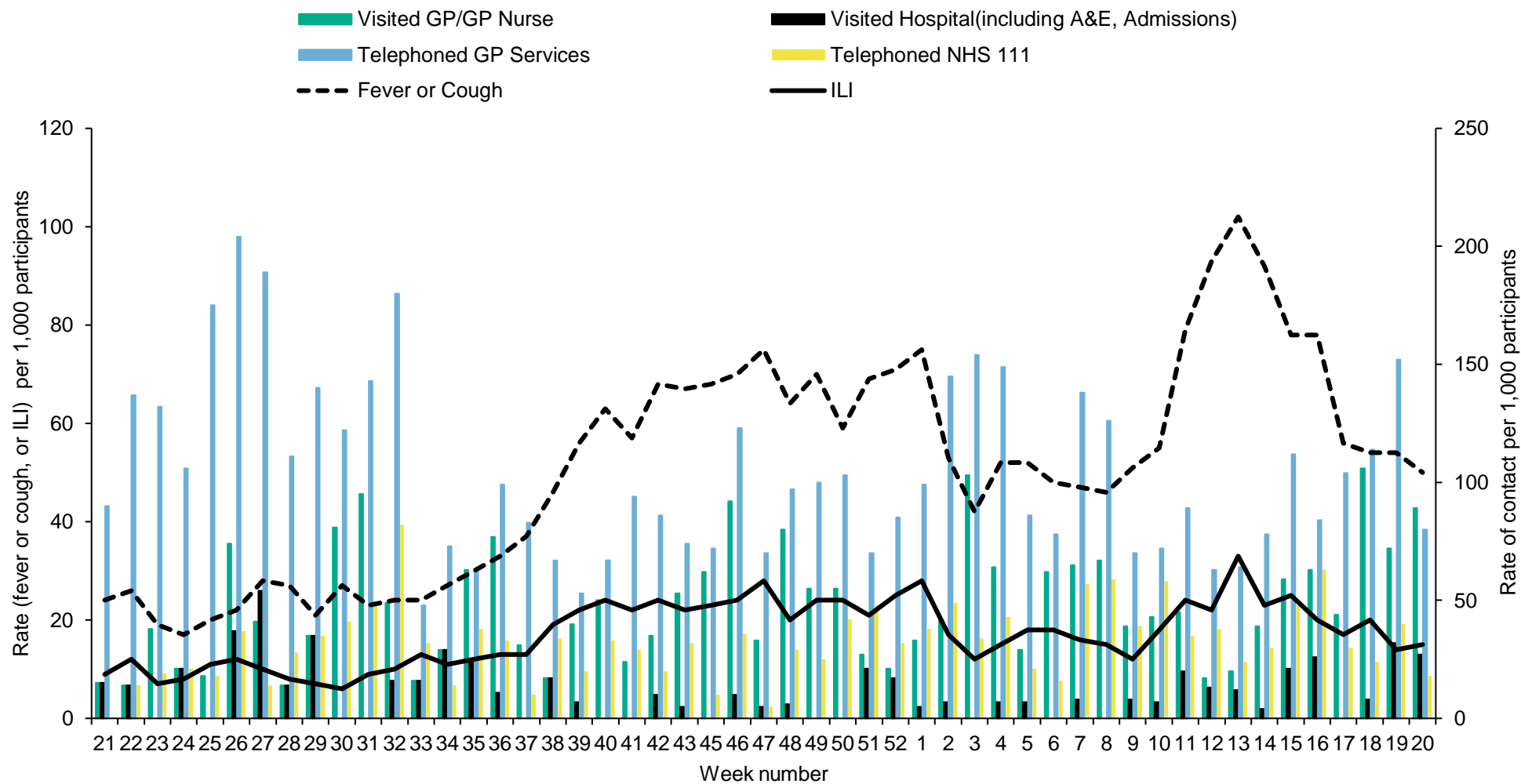
An internet-based surveillance system has been developed based on FluSurvey. FluSurvey is a web tool survey designed to monitor trends of influenza-like illness (ILI) in the community using self-reported respiratory symptoms from registered participants. The platform has been adapted to capture respiratory 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: 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.

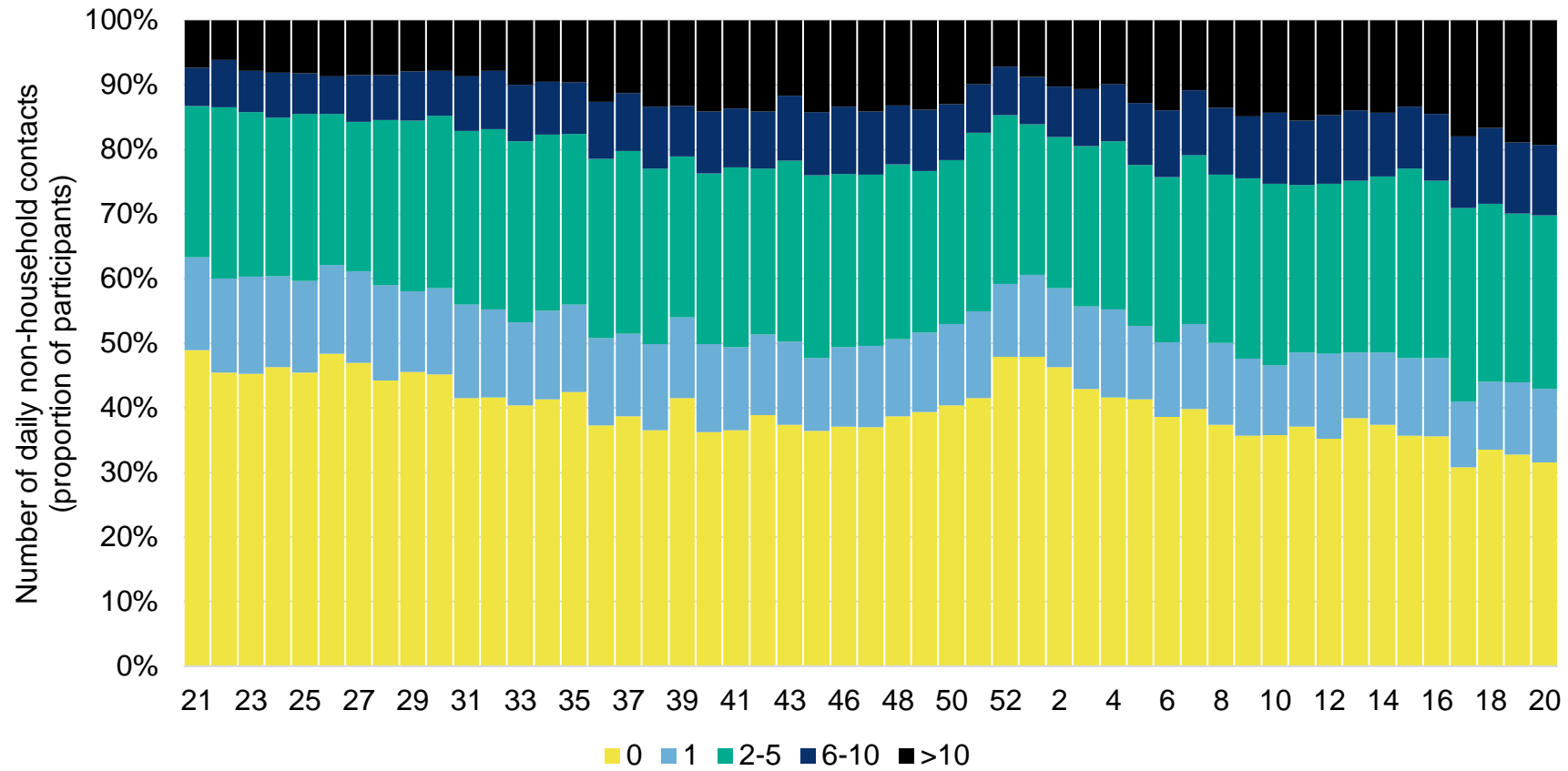
A total of 2,262 participants completed the weekly surveillance survey in week 20, of which 112 (5.0%) reported fever or cough and 33 (1.5%) reported ILI. The most commonly used healthcare services reported by respondents remains visiting GP services (Figure 28).

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

**Figure 28: FluSurvey participants self-reporting fever or cough and ILI symptoms, and trends in healthcare seeking behaviour among these participants, England**



**Figure 29: FluSurvey participants' self-reported number of social contacts outside the household**



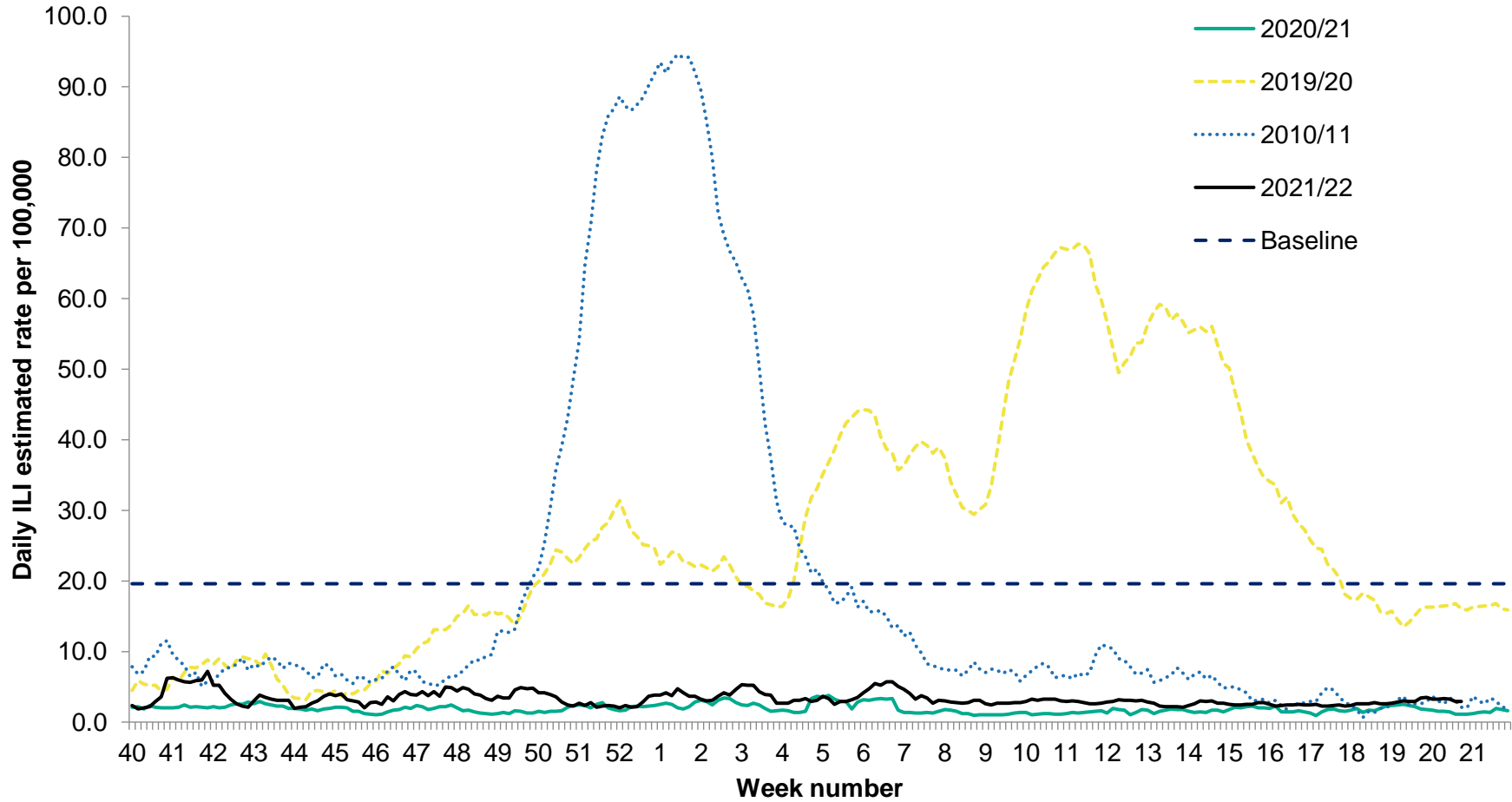
## FluDetector

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 20, the daily ILI rate remained low and below the baseline threshold of 19.6 per 100,000 for the 2021 to 2022 season (Figure 30).

**Figure 30: Daily estimated ILI Google search query rates per 100,000 population, England**



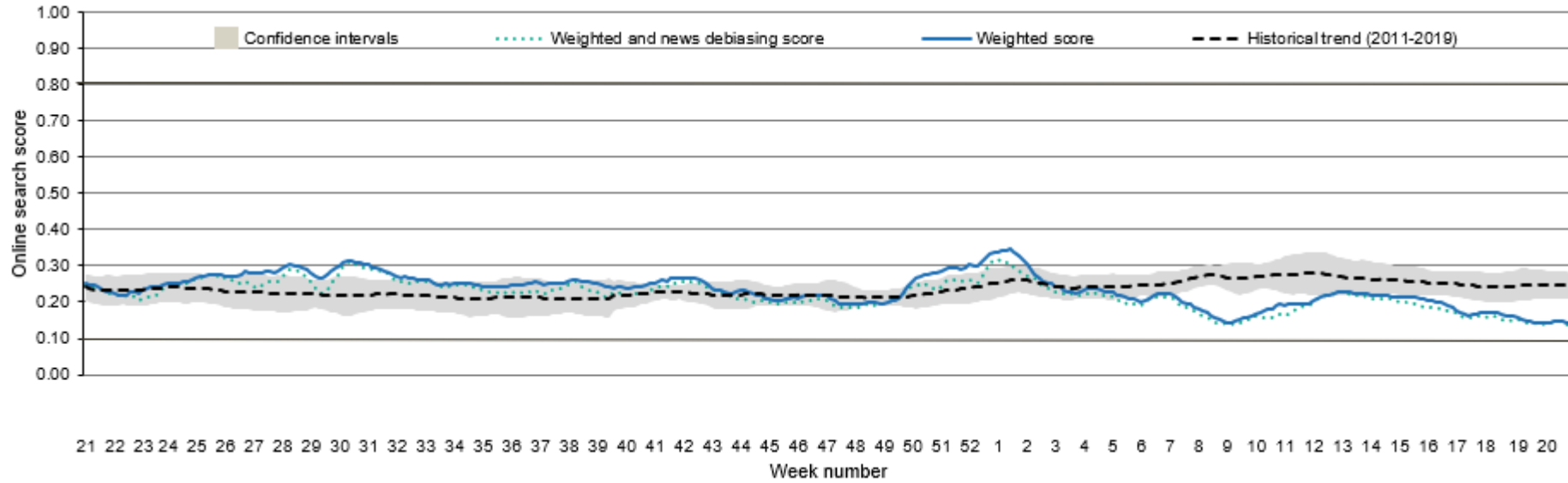


## Google search queries

This is a web-based syndromic surveillance system which uses daily search query frequency statistics obtained from the Google Health Trends API. 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 20, the overall and media-debiasing weighted Google search scores remained similar to the previous week (Figure 31).

**Figure 31: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England**



## NHS 111

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

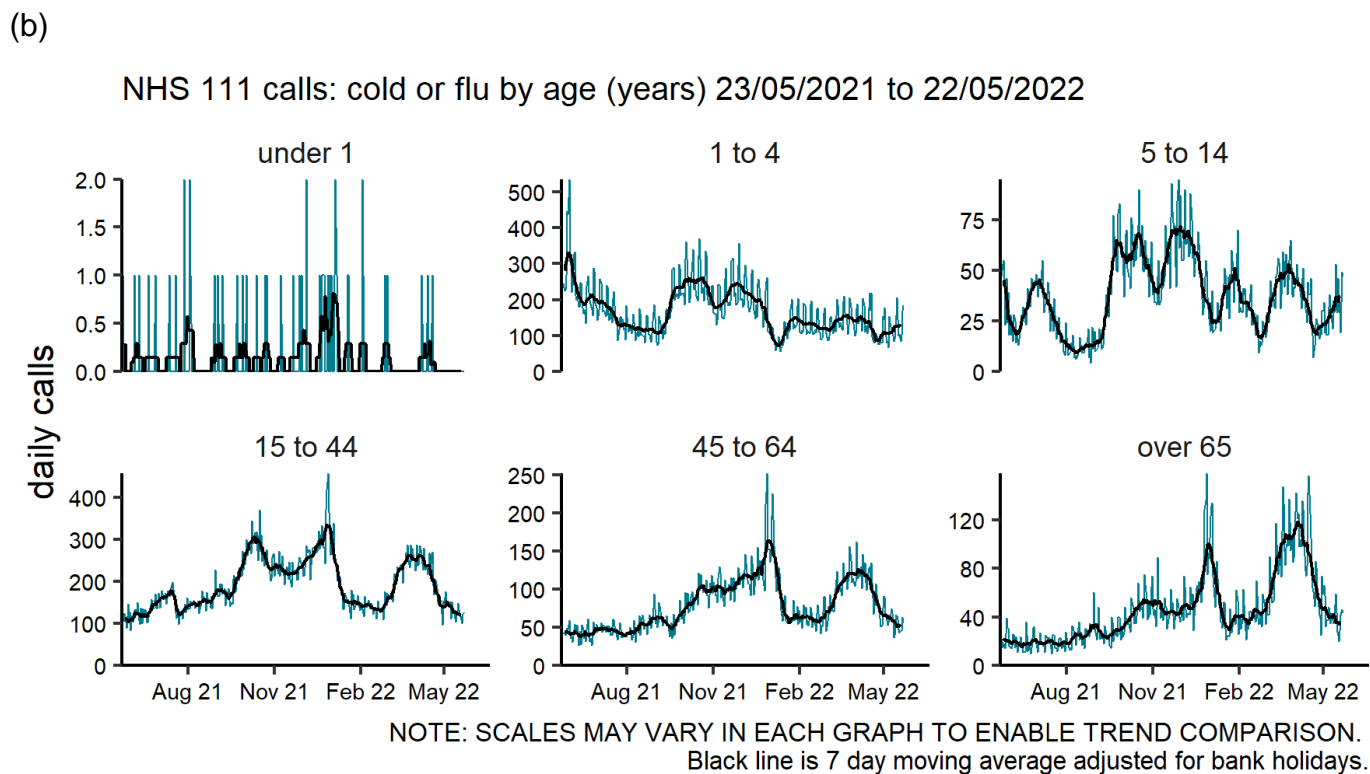
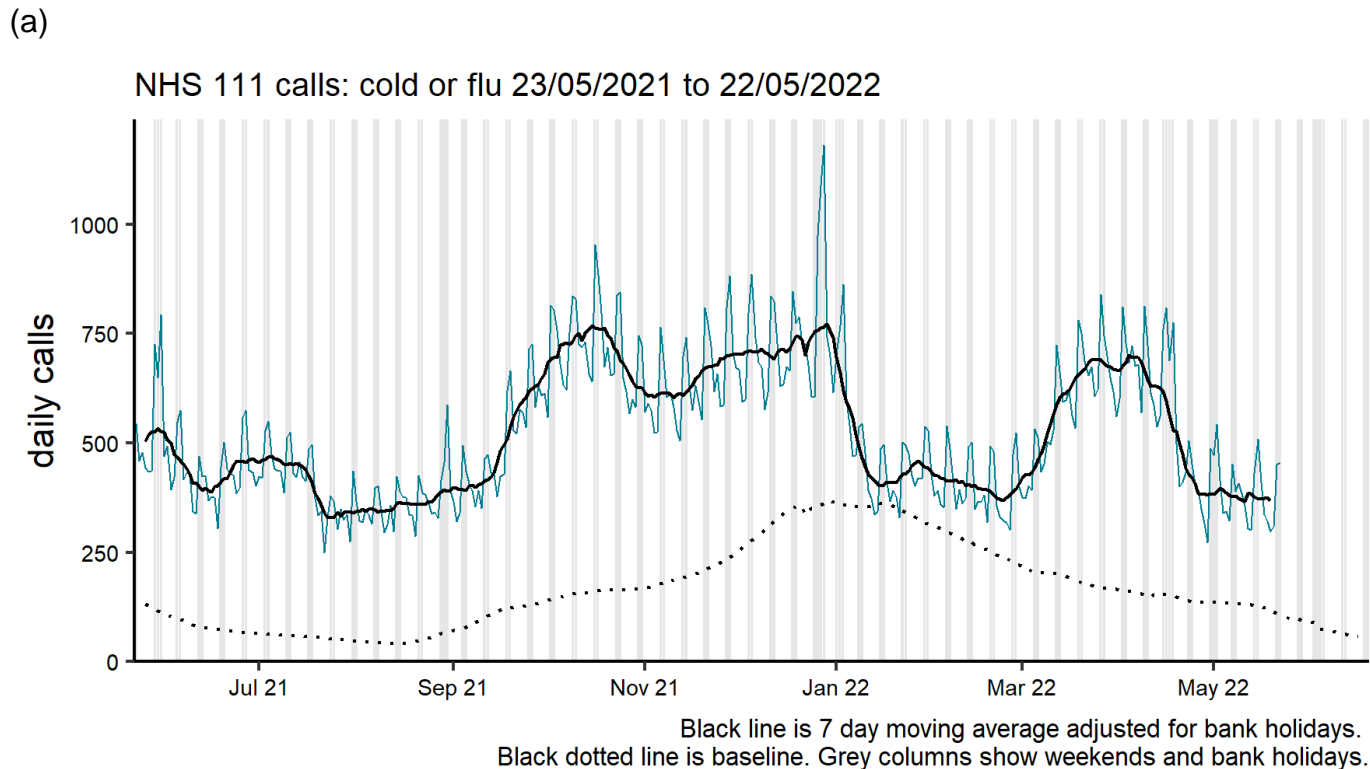
The [NHS 111 service](#) monitors daily trends in phone calls made to the service in England, to capture trends in infectious diseases such as influenza and norovirus.

Up to 22 May, NHS 111 calls for cold or flu and cough remained stable nationally, increasing only in children 5 to 14 years (Figure 32 and 33).

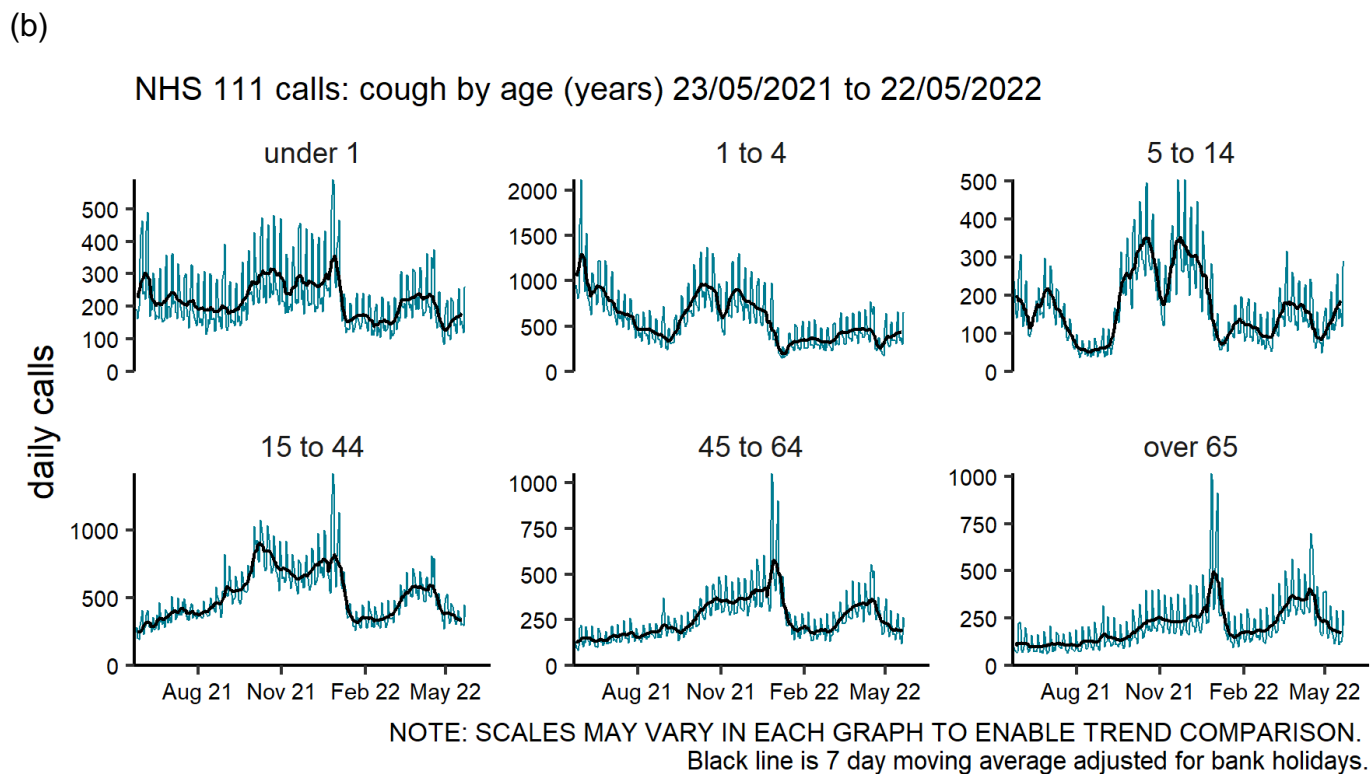
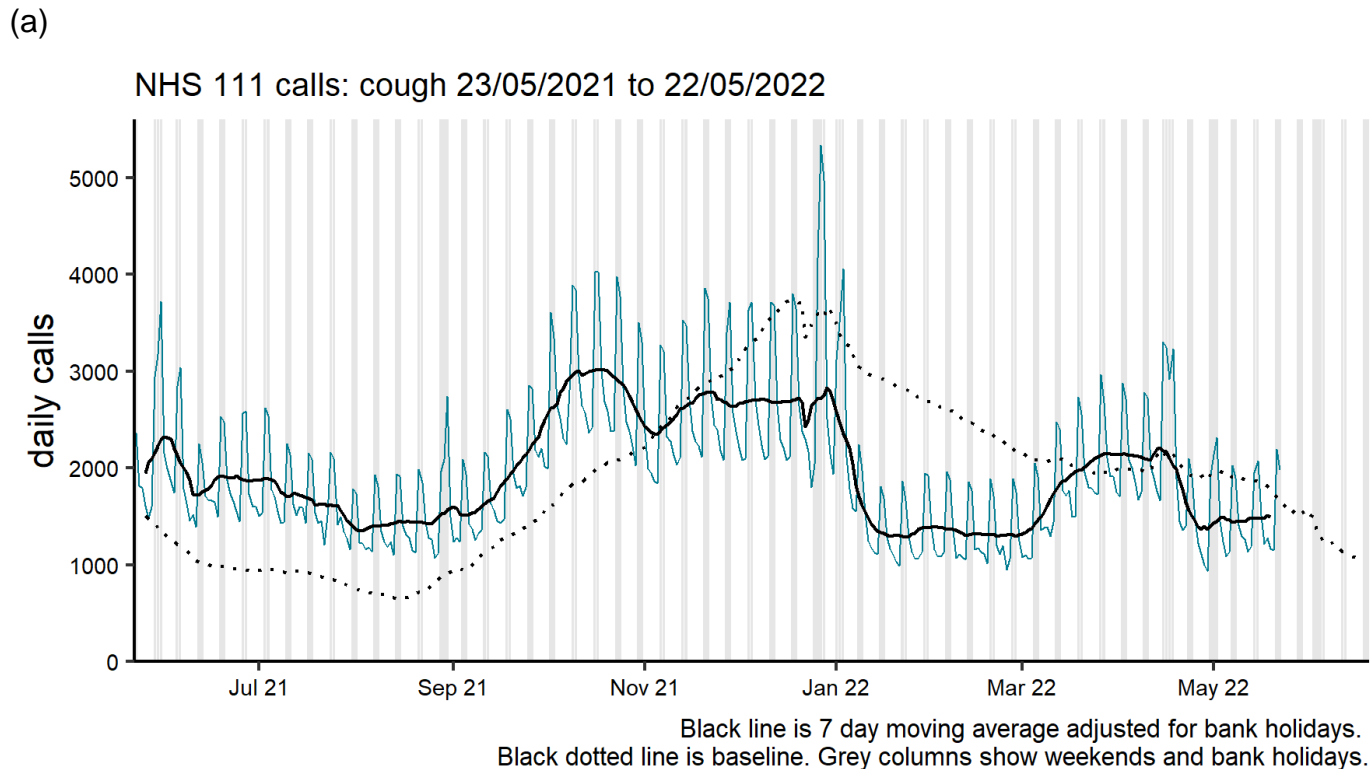
Please note that NHS 111 callers (from 11 May 2020) who are assessed as having probable COVID-19 symptoms are now triaged using symptom specific pathways such as cold or flu, which are included in routine syndromic indicators.

Further information about these caveats is available from the [Remote Health Advice Syndromic Surveillance bulletin](#).

**Figure 32: 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**



**Figure 33: NHS 111 telephony indicators (and 7-day moving average) for number of daily cough calls, England (a) nationally and (b) by age group**

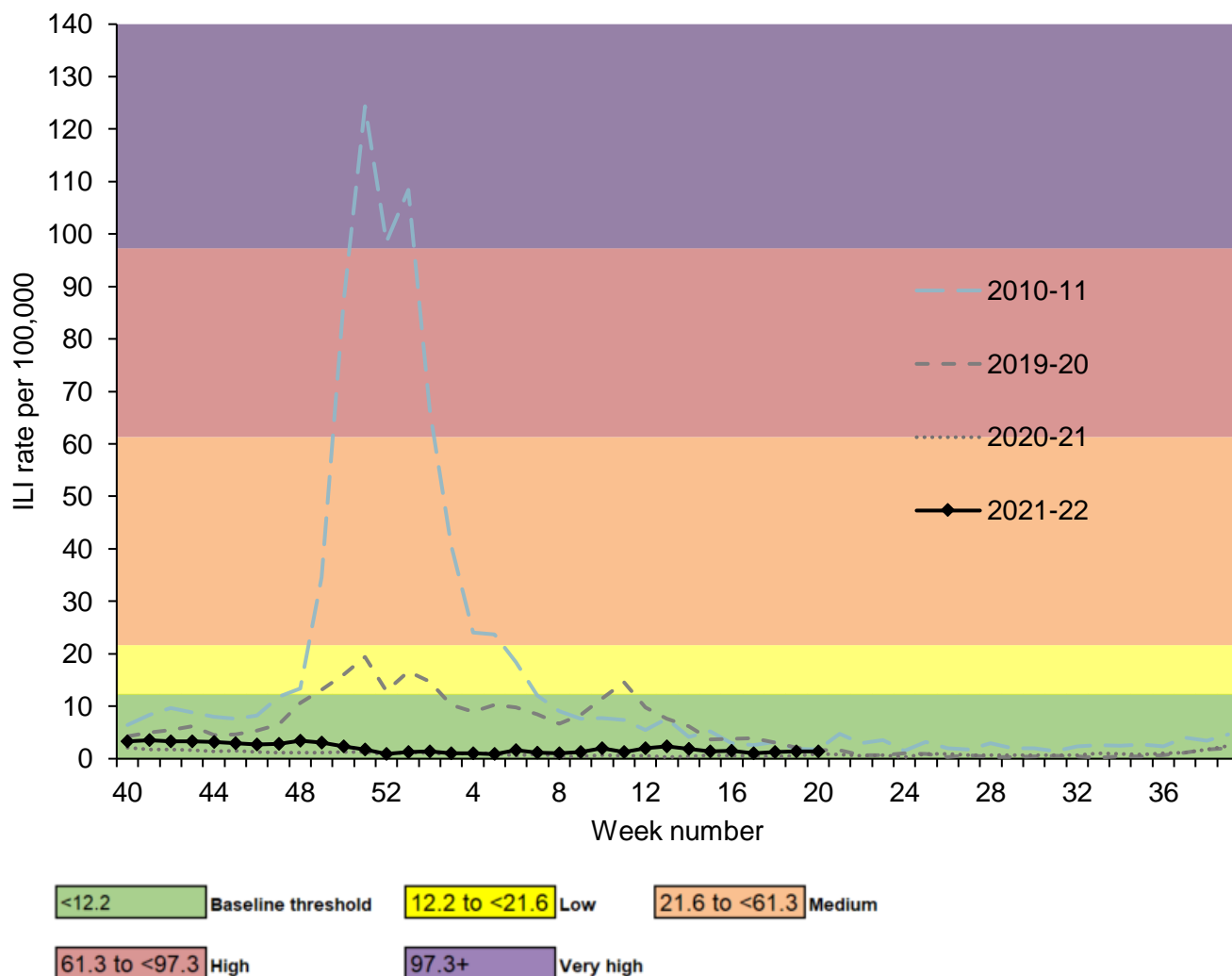


# Primary care surveillance

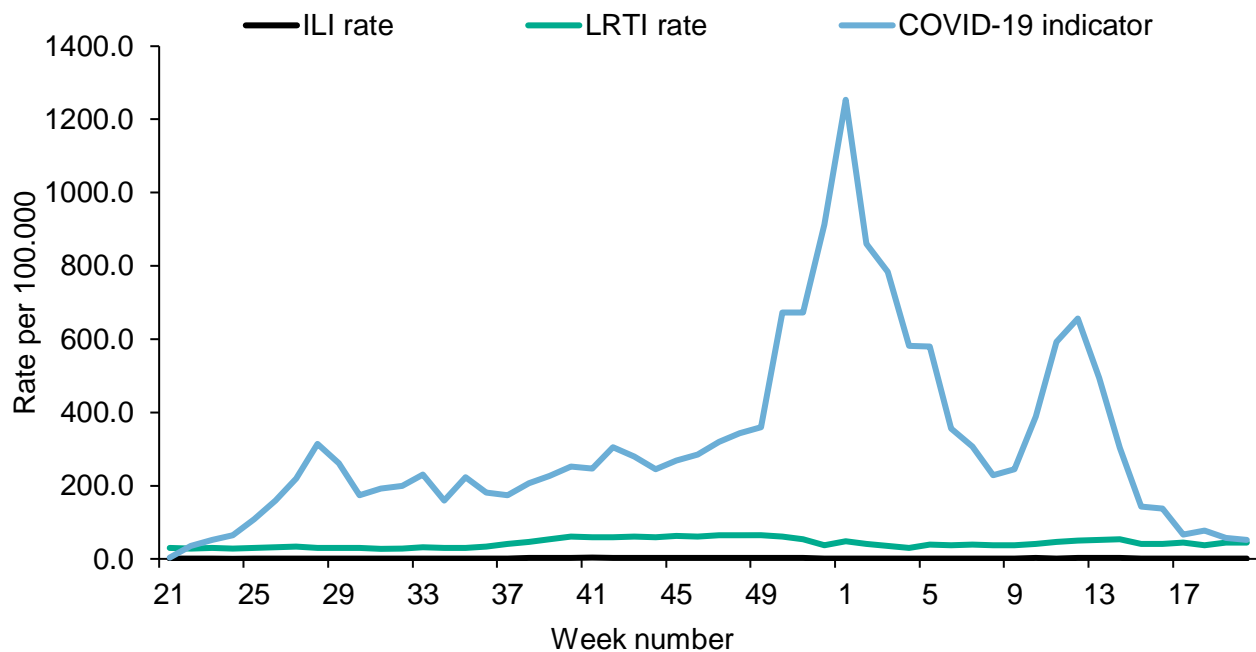
## RCGP (England)

The weekly ILI consultation rate through the RCGP surveillance was 1.4 per 100,000 registered population in participating GP practices in week 20 compared to the same rate in the previous week. This is below the baseline threshold (12.2 per 100,000) (Figure 34). By age group, the highest rates were seen in the under 1 year olds (2.2 per 100,000). The Lower Respiratory Tract Infections (LRTI) consultation rate was at 43.6 per 100,000 in week 20, compared to the rate of 44.5 per 100,000 in the previous week. The COVID-19 indicator rate was at 51.5 per 100,000 in week 20 compared to a rate of 57.5 per 100,000 in the previous week (Figure 35).

**Figure 34: RCGP ILI consultation rates, all ages, England**



**Figure 35: RCGP ILI, LRTI and COVID-19 indicator rates, England**



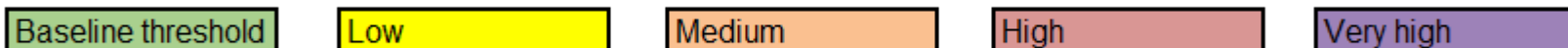
## UK

Overall, weekly ILI consultations rates were below baseline levels in all UK schemes (Table 3).

By age group, the highest rates were seen in the 45 to 64 year olds in Scotland (0.9 per 100,000), the 15 to 44 year olds in Wales (6.0 per 100,000) and in Northern Ireland (1.5 per 100,000) respectively.

**Table 3: GP ILI consultations in the UK for all ages with MEM thresholds applied**

GP ILI consultation rates (all ages)	Week number																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
England (RCGP)	1.3	1.4	1.1	1.0	0.9	1.6	1.2	1.0	1.3	2.0	1.2	2.0	2.4	1.8	1.4	1.5	1.0	1.2	1.4	1.4
Wales	1.2	0.7	0.5	0.7	1.7	1.8	0.8	1.2	3.0	0.7	2.3	1.9	2.0	1.7	0.0	0.7	2.0	2.2	1.3	2.4
Scotland	0.6	0.9	0.6	0.7	0.5	0.5	0.7	0.8	0.9	2.6	3.3	1.4	2.8	4.1	0.8	0.8	2.4	0.7	0.6	0.6
Northern Ireland	1.5	1.3	1.3	0.8	0.8	0.9	1.3	0.9	1.0	1.0	0.7	1.3	1.4	0.7	0.9	0.5	0.5	1.0	0.3	0.9



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 2009 to 2010), in a standardised approach across Europe. For MEM threshold values for each country, please visit the webpage [Sources of UK flu data: influenza surveillance in the UK](#).



## Sentinel swabbing scheme in the UK

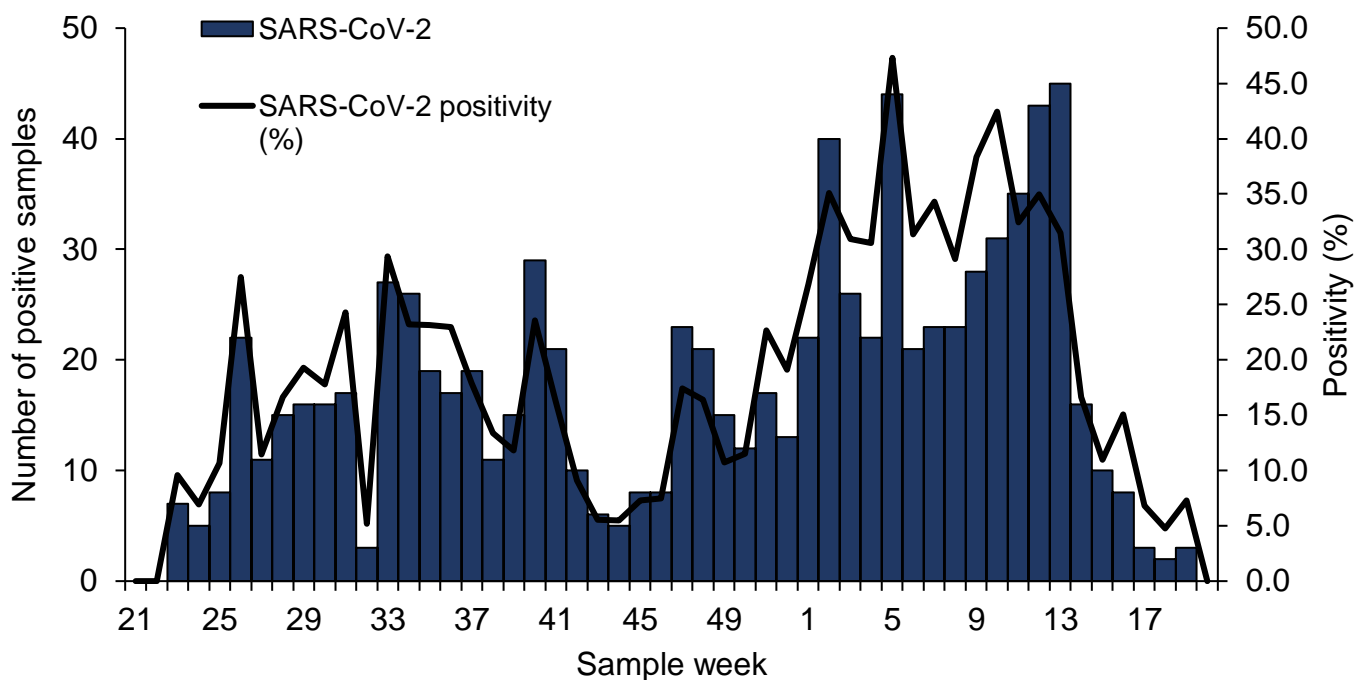
In week 20 2022, no samples tested positive for SARS-CoV-2 through the UK GP sentinel swabbing schemes (Figure 36).

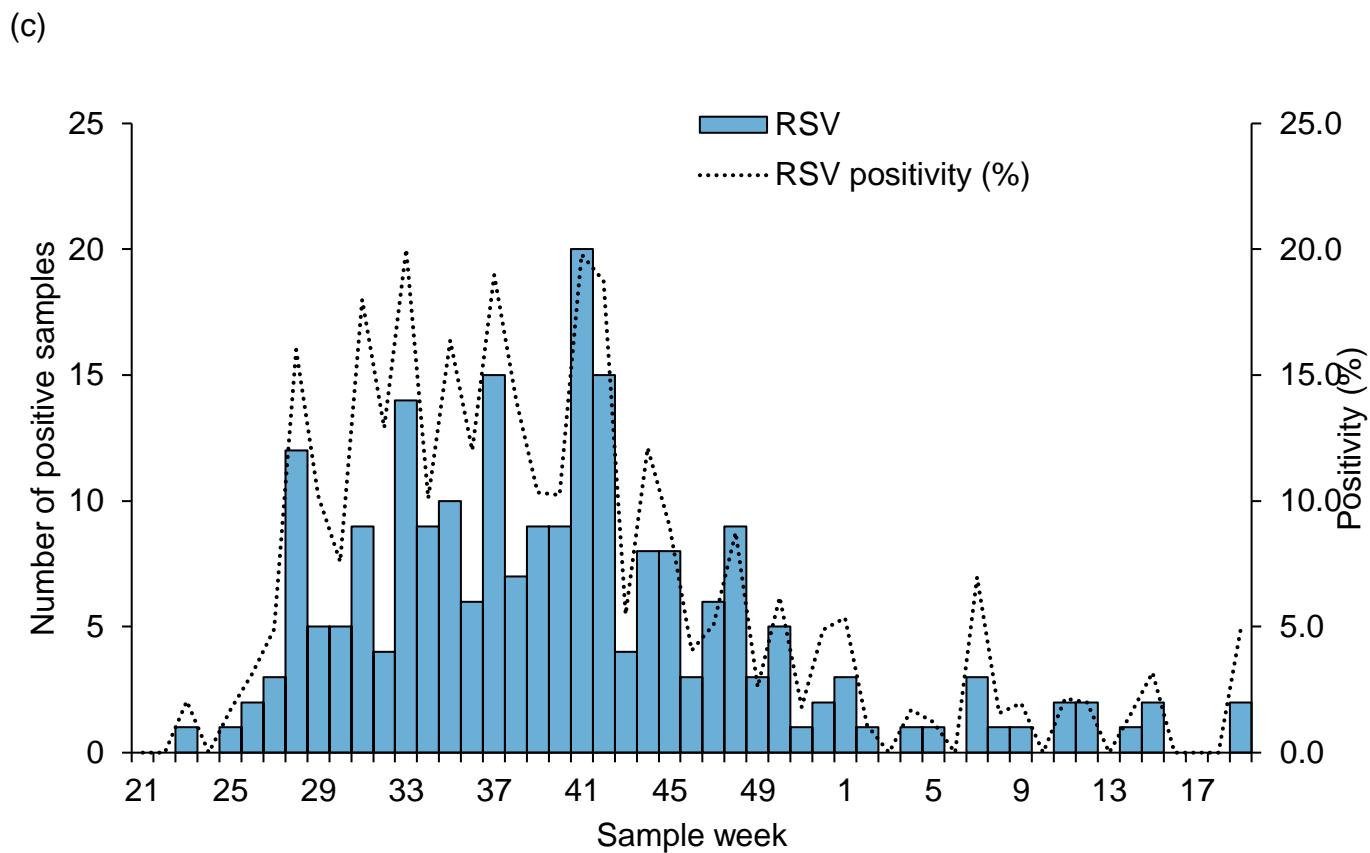
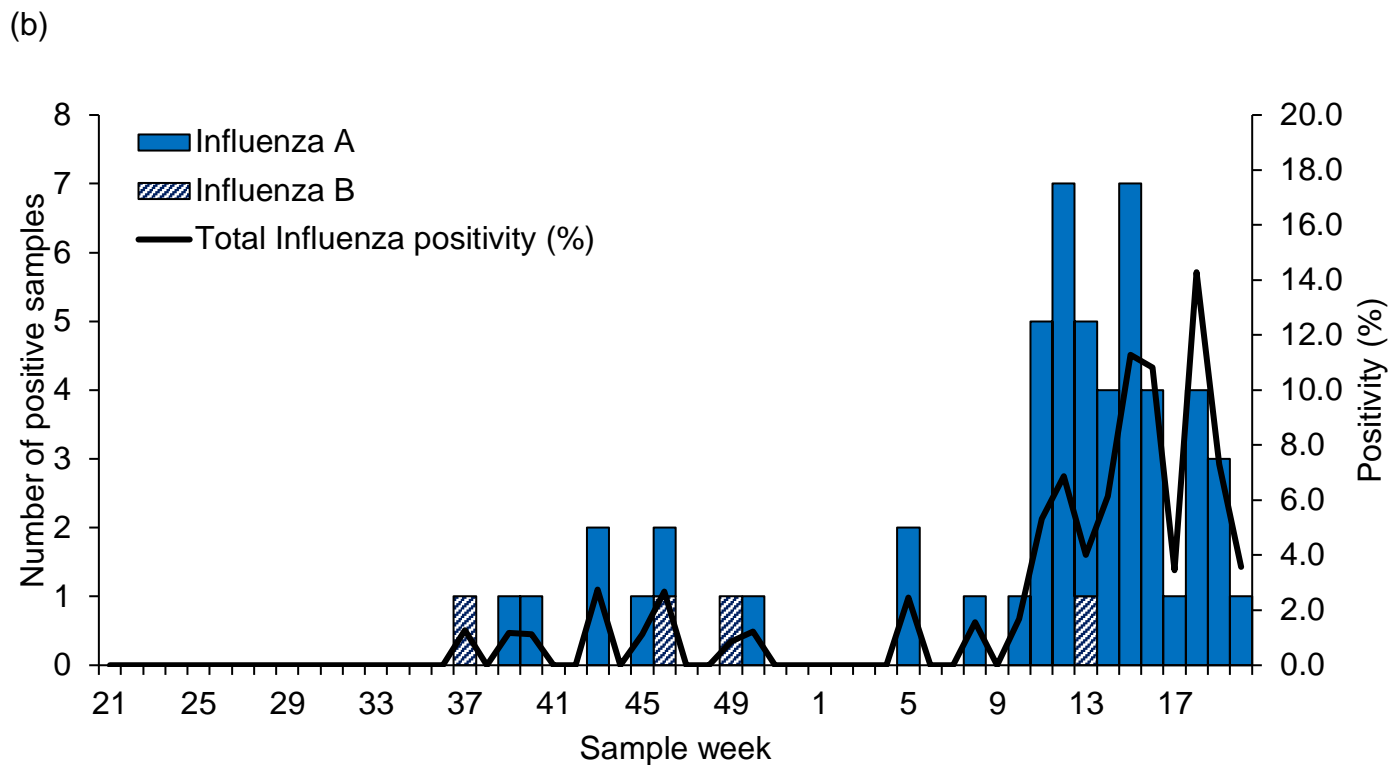
In week 20, 1 sample tested positive for influenza and 1 sample tested positive for RSV in England through the GP sentinel swabbing scheme.

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

**Figure 36: Number of positive samples and weekly positivity (%) for (a) COVID-19 and (b) Influenza and (c) RSV, GP sentinel swabbing scheme**

(a)





\*For the most recent week, more samples are expected to be tested therefore the graphs in Figure 36 should be interpreted with caution

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

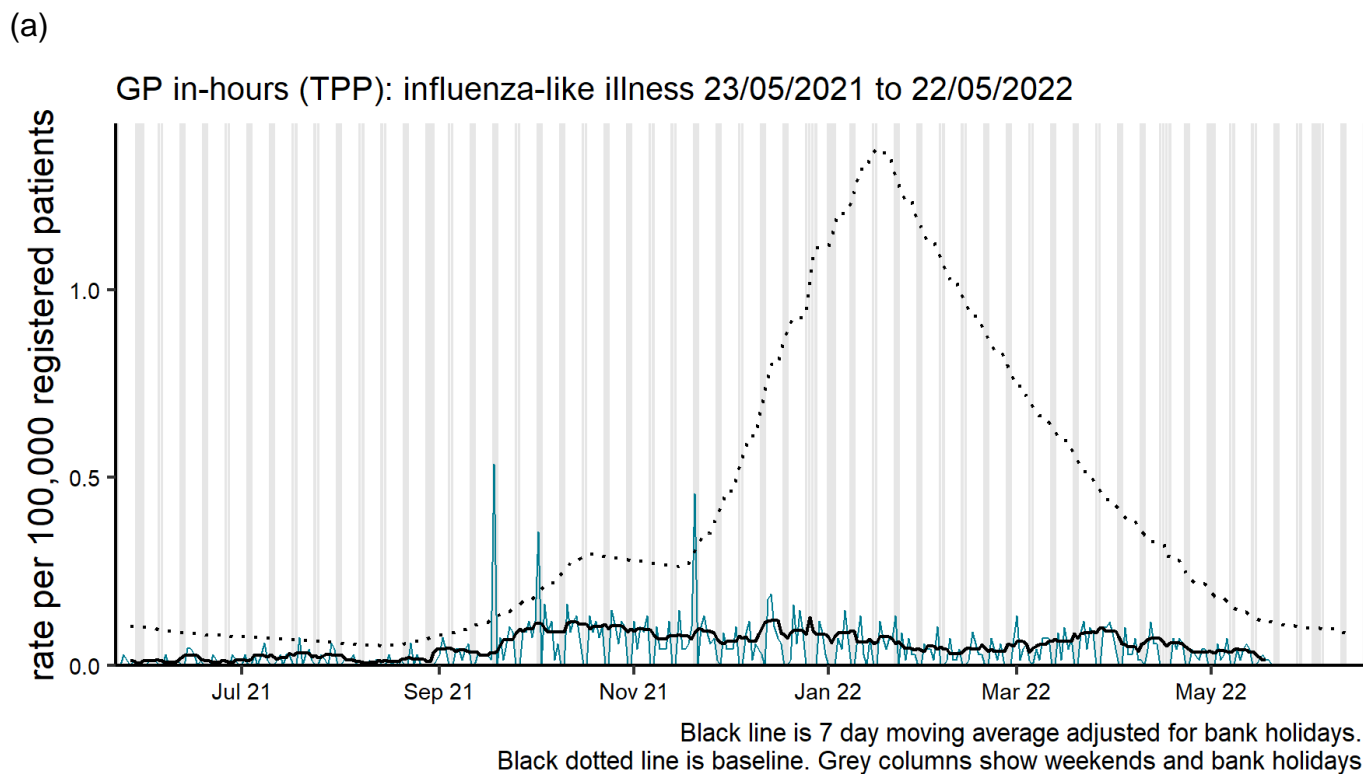
## GP In Hours, Syndromic Surveillance

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

Up to 22 May, GP in-hours consultations for influenza-like illness decreased nationally (Figure 37).

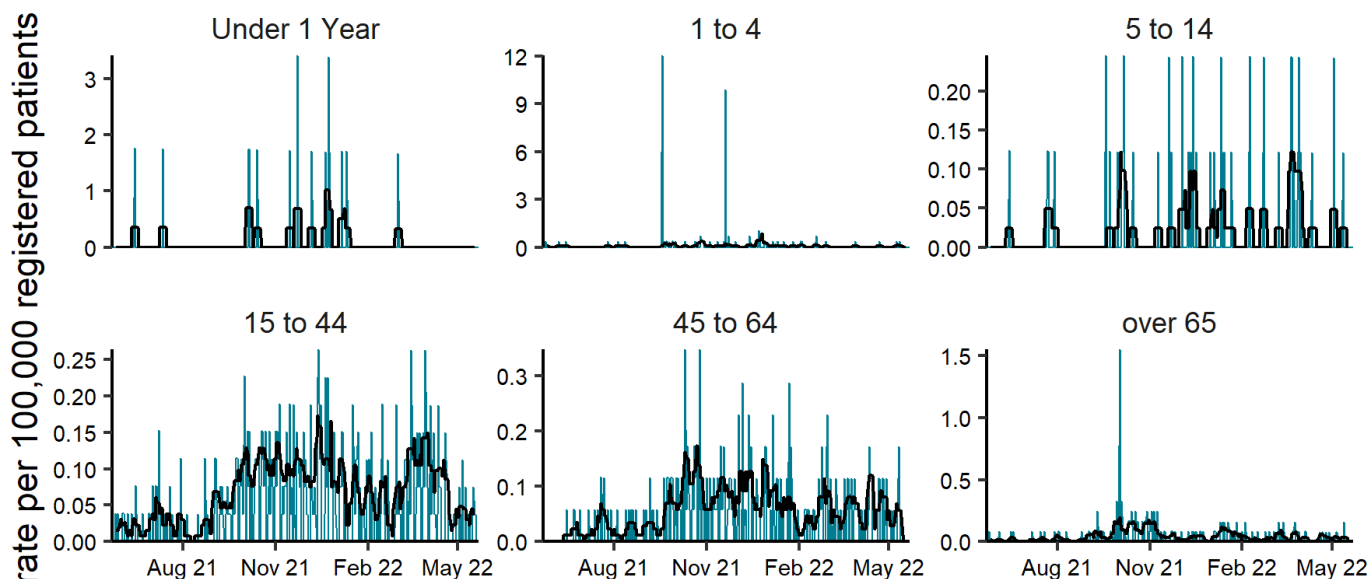
Further indicators and information about caveats are available from the [GP In Hours Syndromic Surveillance bulletin](#).

**Figure 37: GPIH clinical indicators for influenza-like illness GP consultations, England (a) nationally, (b) by age group and (c) by UKHSA Centre**



(b)

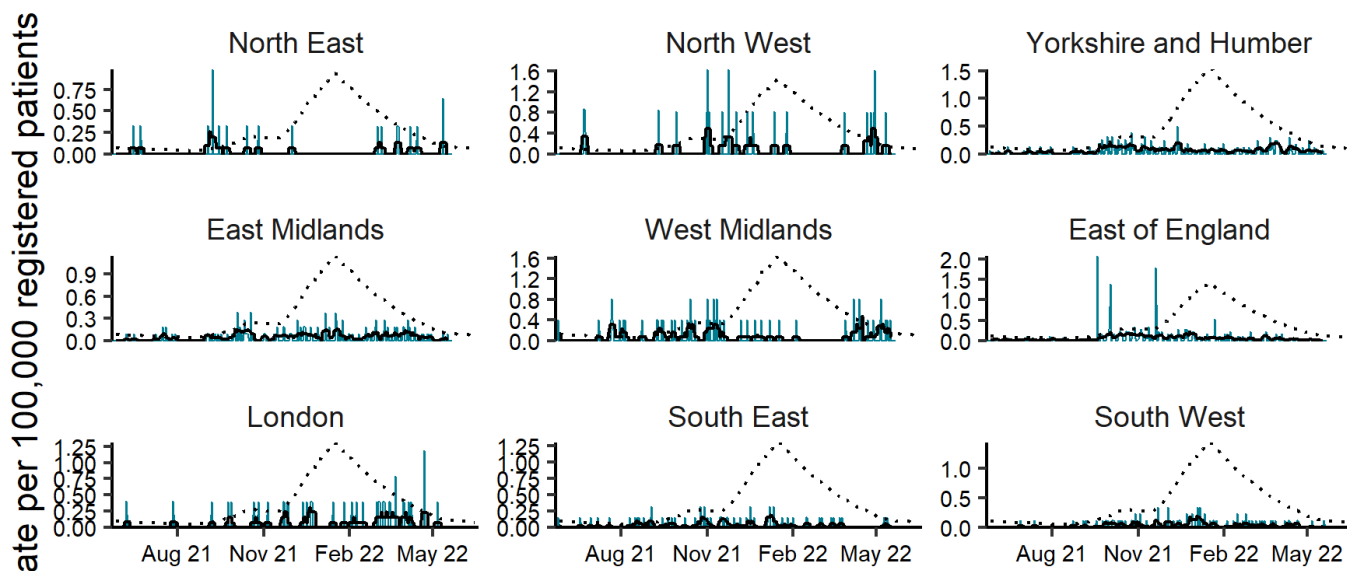
GP in-hours (TPP): influenza-like illness by age (years) 23/05/2021 to 22/05/2022



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

(c)

GP in-hours (TPP): influenza-like illness by region 23/05/2021 to 22/05/2022



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

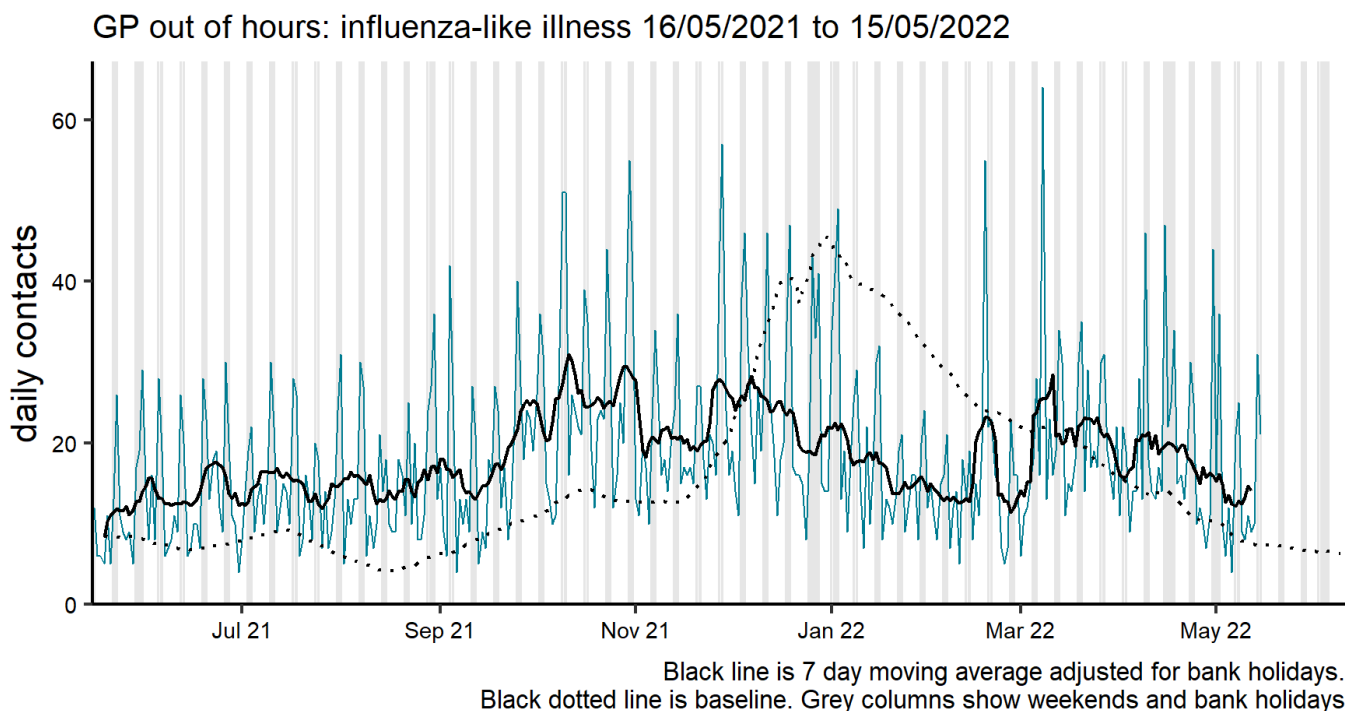
GPIH Baselines are modelled from historical data to give current seasonally expected levels. GP consultations rates decreased during 2020 due to changes in guidance on accessing health care, therefore separate modelled estimates are provided to show seasonally expected levels pre-COVID-19.

## GP Out of Hours, Syndromic Surveillance

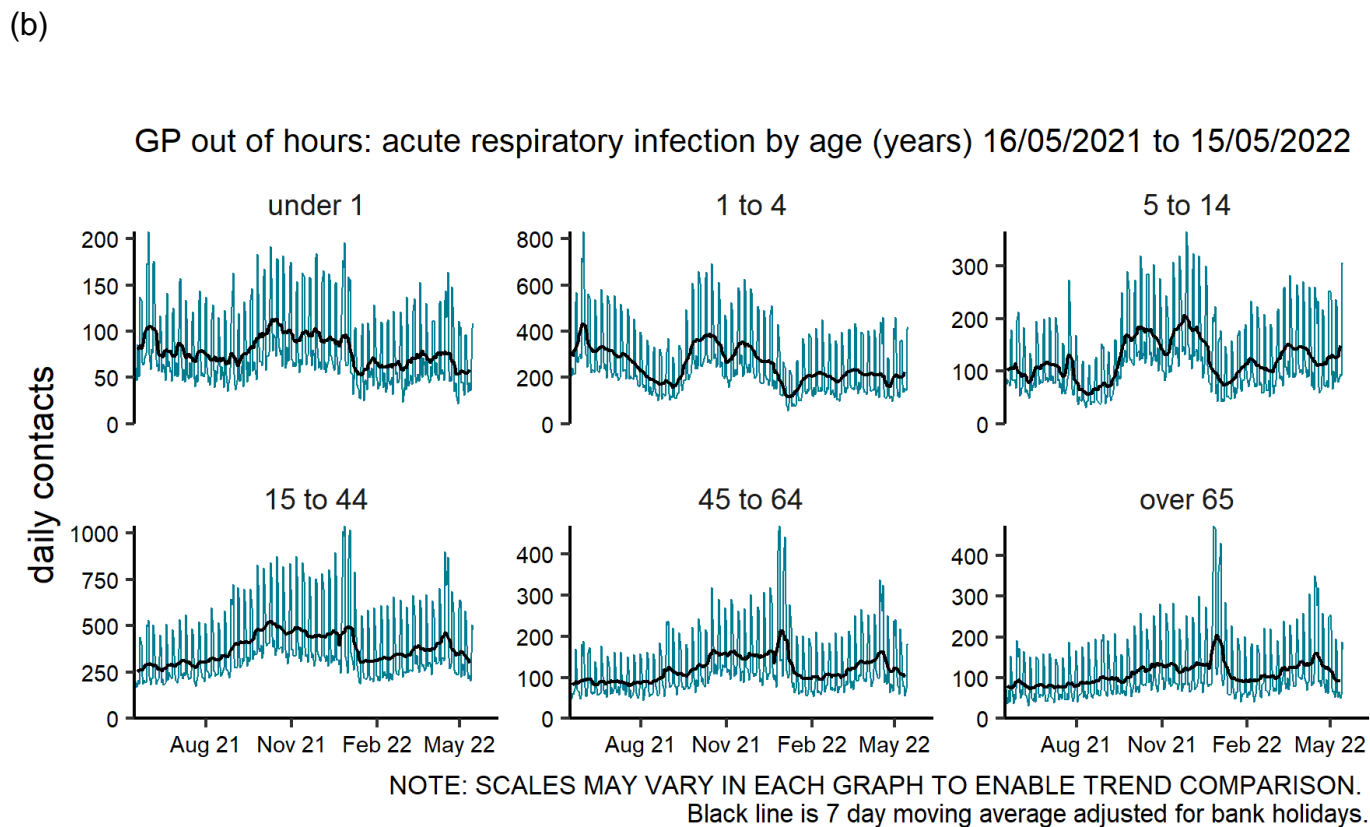
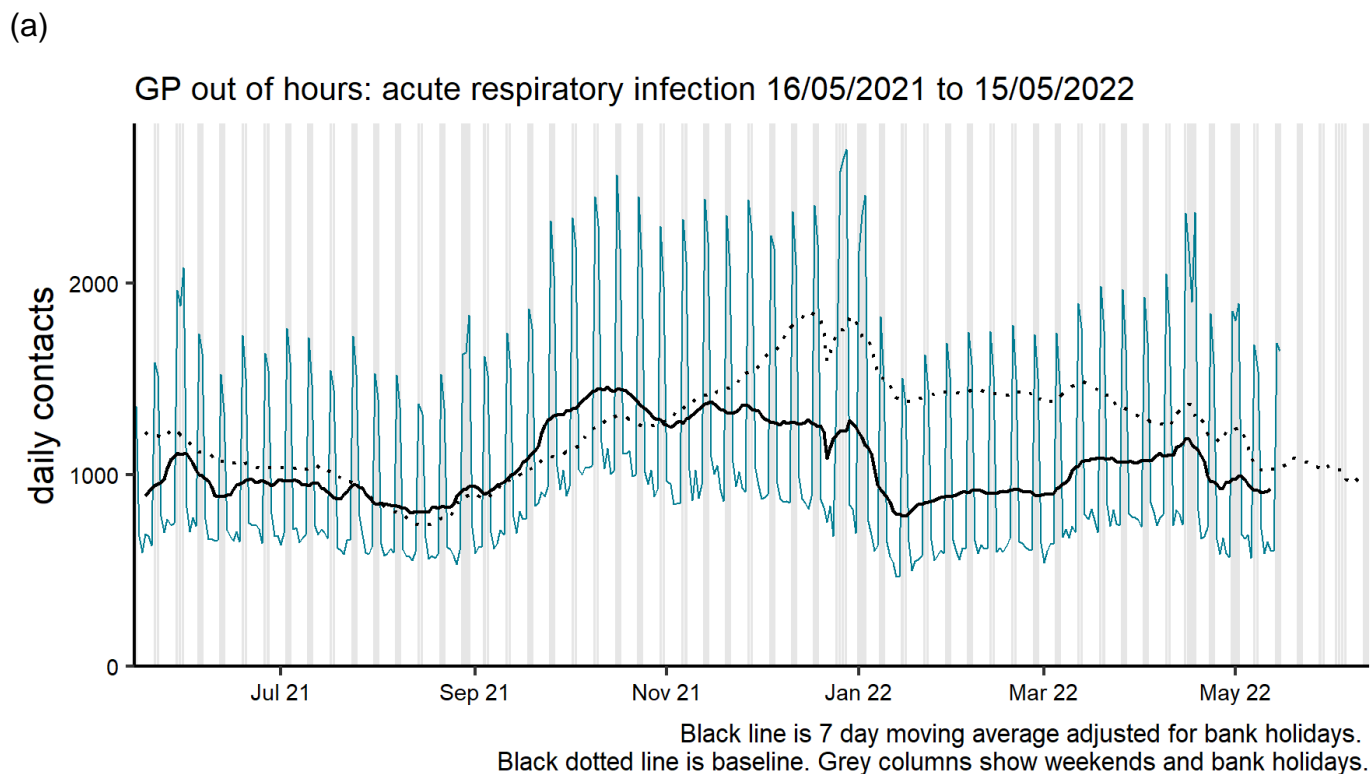
The GP Out of Hours (GPOOH) syndromic surveillance system monitors the numbers of daily unscheduled visits and calls to GPs during evenings, overnight, on weekends and on public holidays. This system covers around 55% of England’s out of hour activity.

Up to 15 May GP out-of-hours and unscheduled care consultations for acute respiratory infections in child age groups increased (Figures 38 and 39). Due to a technical issue, data up to 22 May is unavailable.

**Figure 38: GPOOH number of daily contacts for all ages for influenza-like illness, England**



**Figure 39: GPOOH number of daily contacts for acute respiratory infections, England (a) nationally and (b) by age group**



## 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 2014 to 2015 to the 2018 to 2019 seasons (data from 2019 to 2020 was excluded due to the COVID-19 pandemic). These thresholds have been applied to data from the 2019 to 2020 season onwards.

Trends in hospital and critical care admission rates need to be interpreted in the context of testing recommendations.

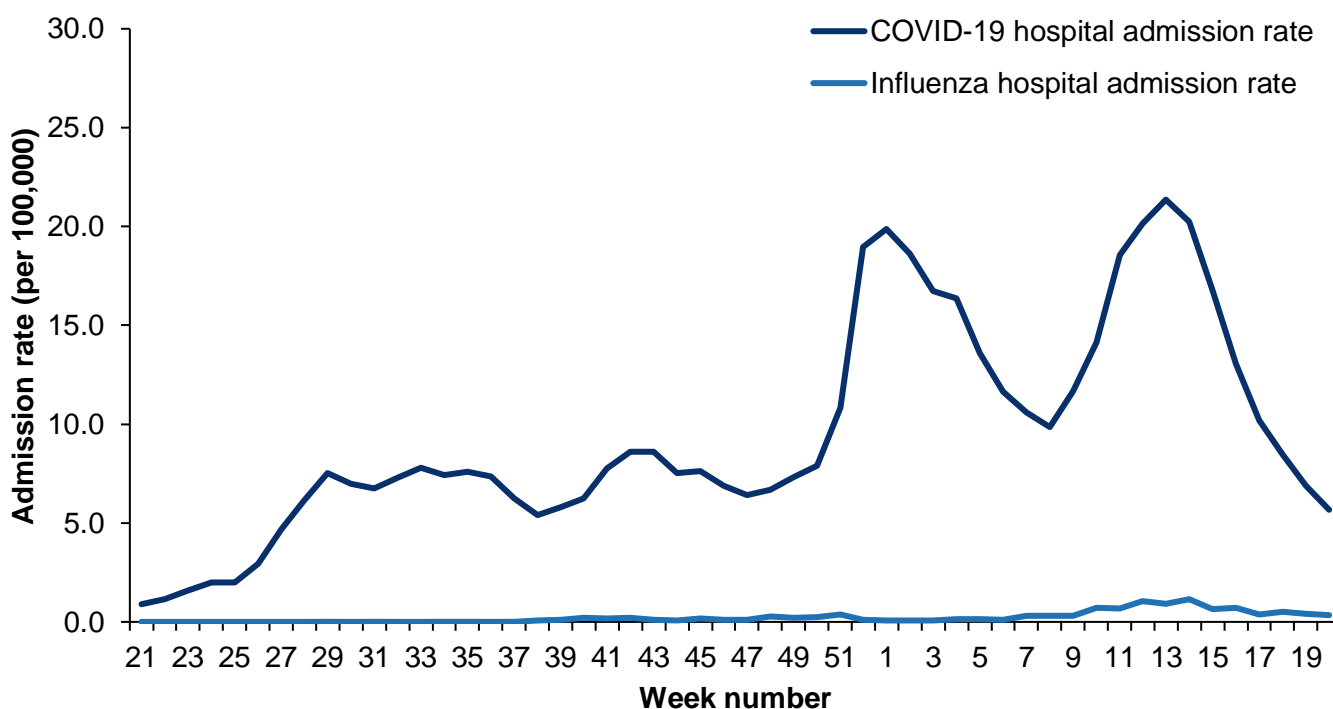
## Hospitalisations, SARI Watch

In week 20, the overall weekly hospital admission rate for COVID-19 decreased. The hospitalisation rate for COVID-19 was at 5.68 per 100,000 in week 20 compared to 6.89 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 was in the 85 year olds and over.

The hospitalisation rate for influenza was at 0.34 per 100,000 in week 20 compared to 0.41 per 100,000 in the previous week. There were 31 new hospital admissions to sentinel Trusts for influenza (8 influenza A(H3N2), 6 influenza A(H1N1)pdm09, 15 influenza A(not subtyped) and 2 influenza B) in week 20.

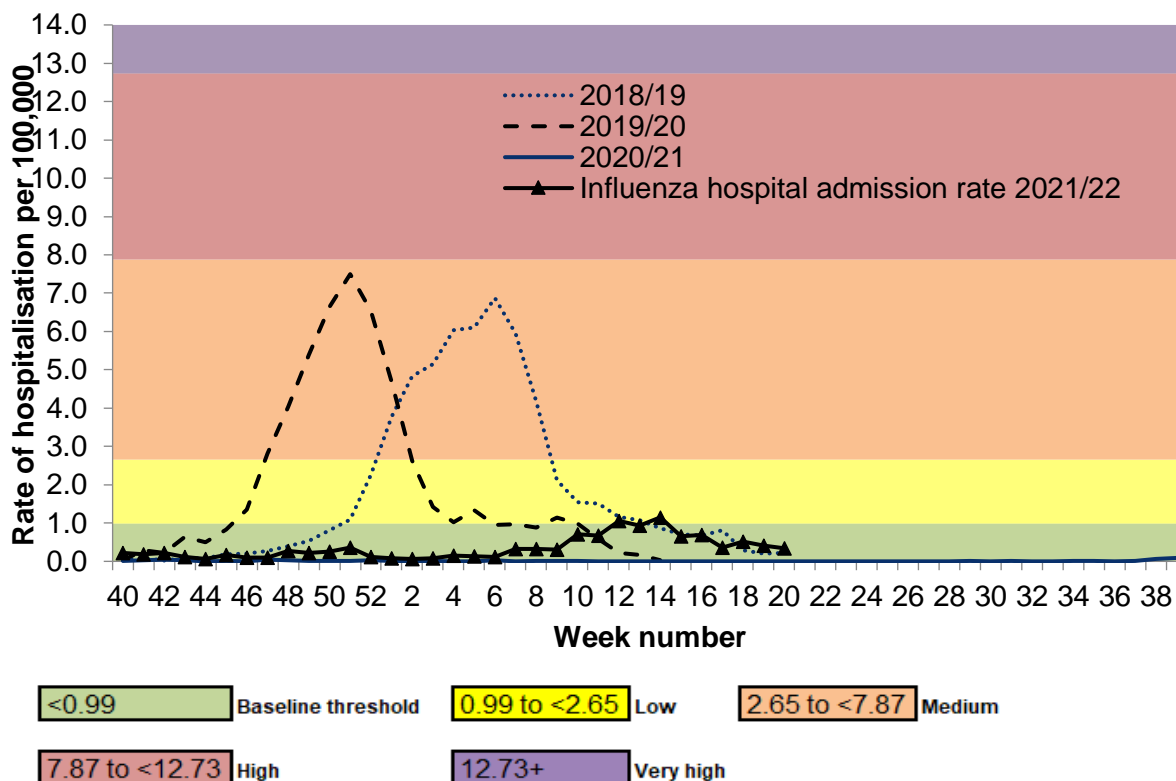
**Figure 40: Weekly overall hospital admission rates of new COVID-19 and influenza positive cases per 100,000 population reported through SARI Watch, England**



- \* influenza hospital admission rate is reported from week 21 2021 onwards
- \* influenza hospital admission rate based on 21 sentinel NHS trusts for week 20
- \* COVID-19 hospital admission rate based on 89 NHS trusts for week 20
- \* SARI Watch data is provisional

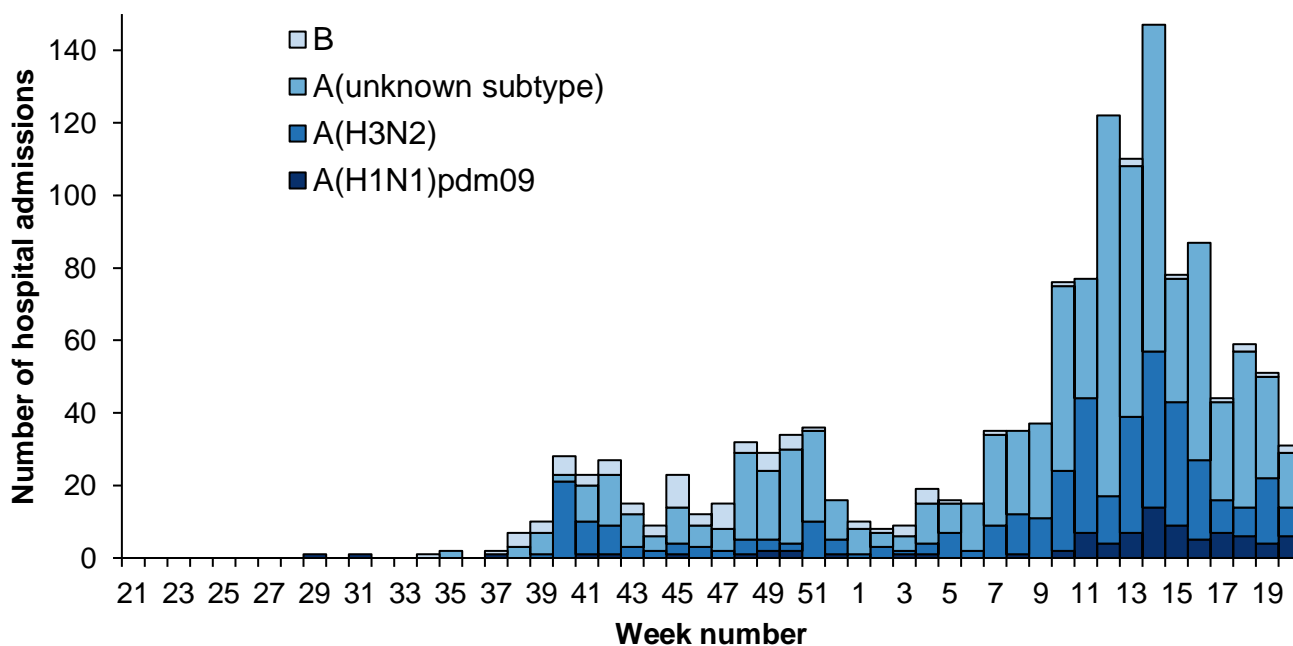


**Figure 41: Weekly overall influenza hospital admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England**



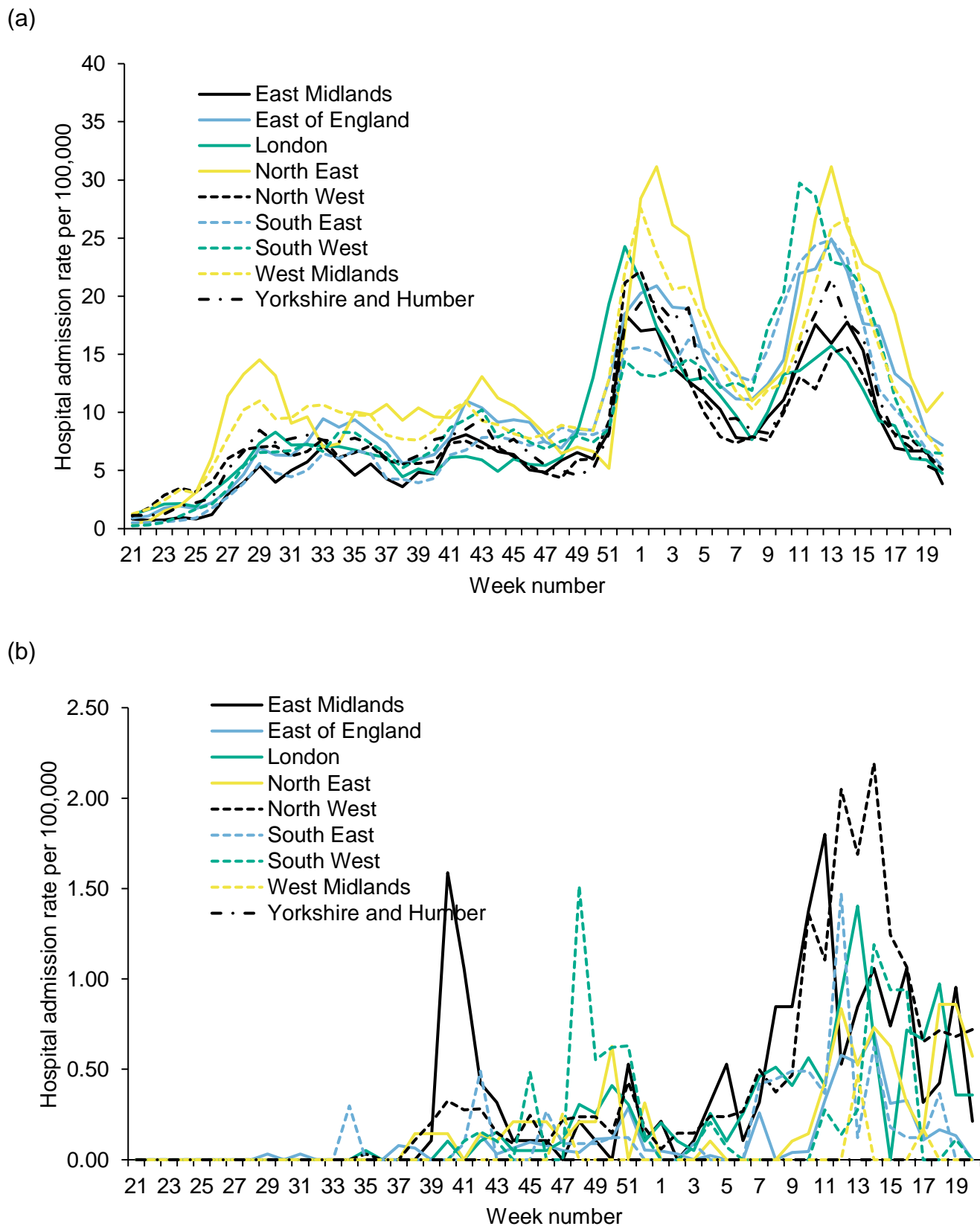
\* MEM thresholds are based on data from the 2014 to 2015 to the 2018 to 2019 seasons (data from 2019 to 2020 was excluded due to the COVID-19 pandemic).

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

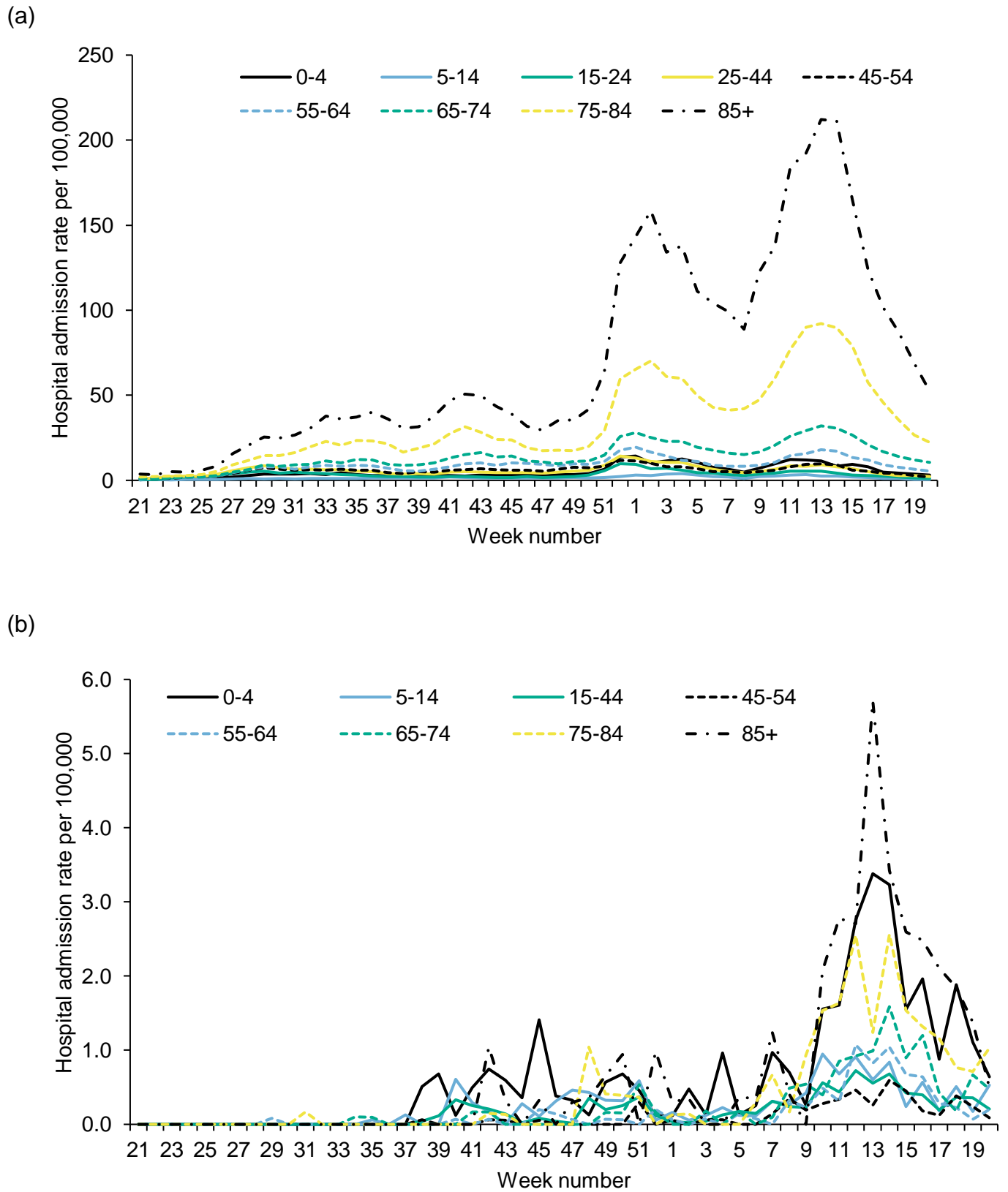


\*number of influenza hospital admissions based on sentinel NHS trusts

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



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



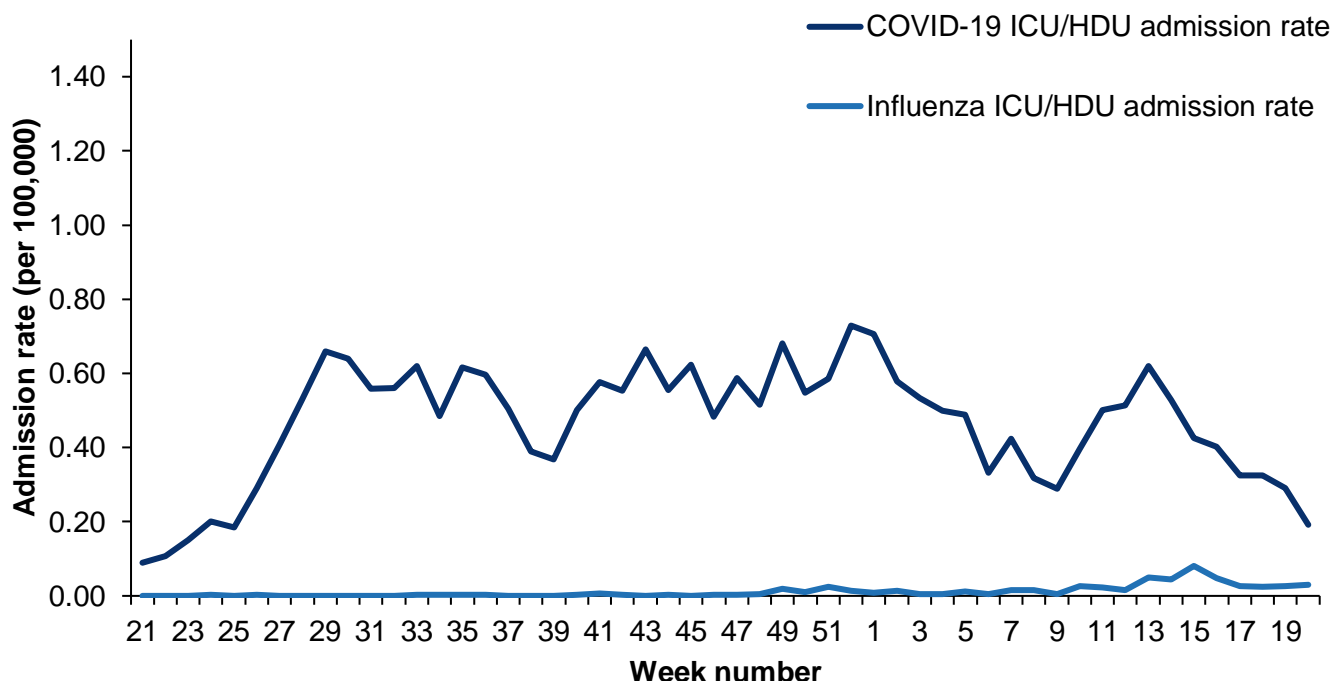
## ICU or HDU admissions, SARI Watch

In week 20, the overall weekly ICU or HDU admission rates for COVID-19 decreased. The ICU or HDU rate for COVID-19 was at 0.19 per 100,000 in week 20 compared to 0.29 per 100,000 in the previous week.

By UKHSA Centre, the highest ICU or HDU admission rates for COVID-19 were observed in London. By age groups, the highest ICU or HDU admission rates for COVID-19 were observed in the 75 to 84 year olds.

The ICU or HDU rate for influenza was at 0.03 per 100,000 in week 20 compared to the same rate in the previous week. There were 11 new case reports of ICU or HDU admissions for influenza (10 influenza A(not subtyped) and 1 influenza A(H1N1)pdm09) in week 20.

**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**



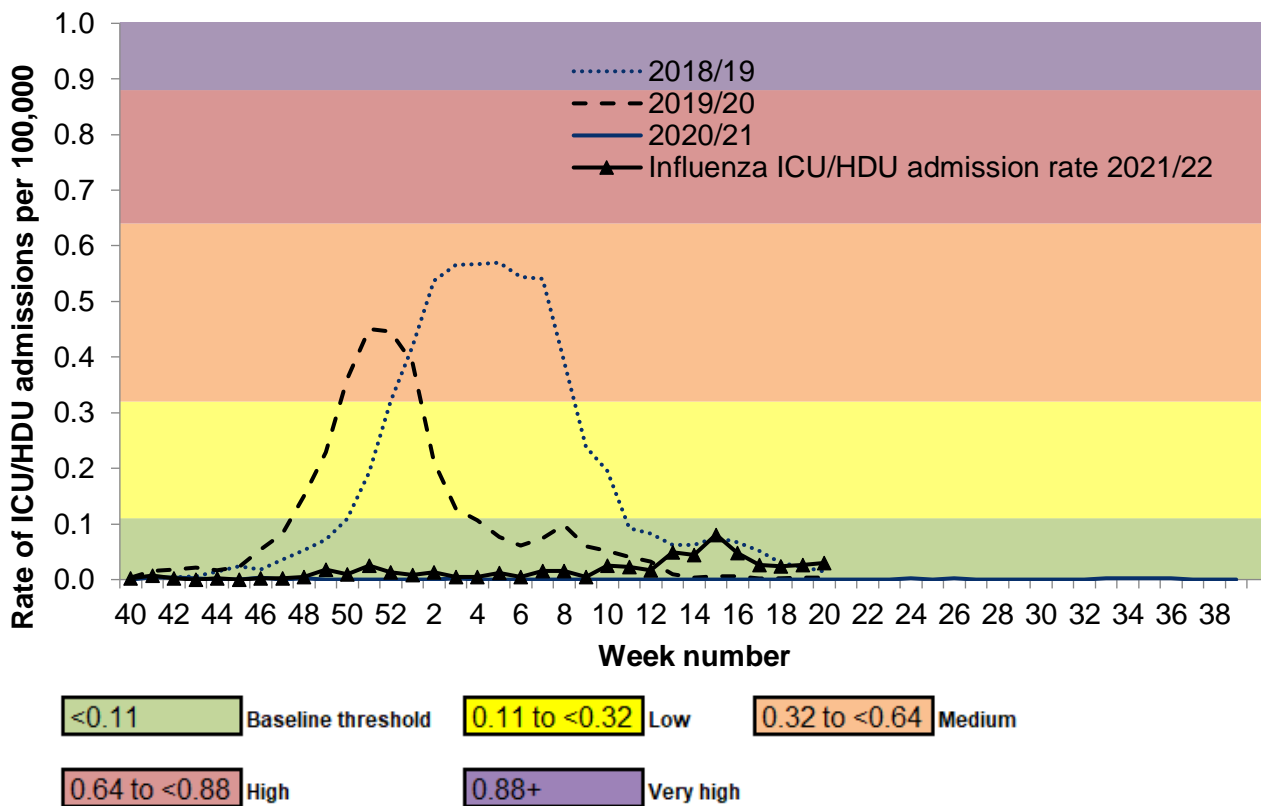
\* influenza ICU or HDU admission rate is reported from week 21 2021 onwards

\* influenza ICU or HDU admission rate based on 88 NHS trusts for week 20

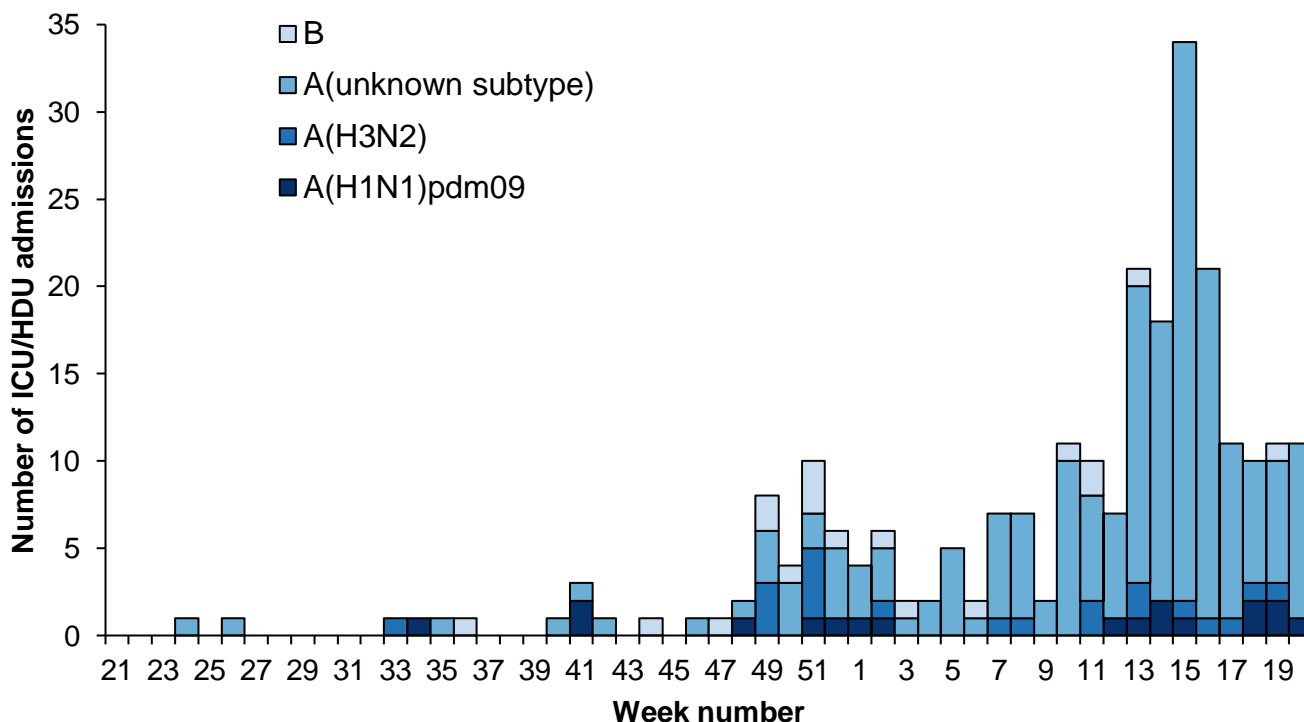
\* COVID-19 ICU or HDU admission rate based on 77 NHS trusts for week 20

\* SARI Watch data is provisional

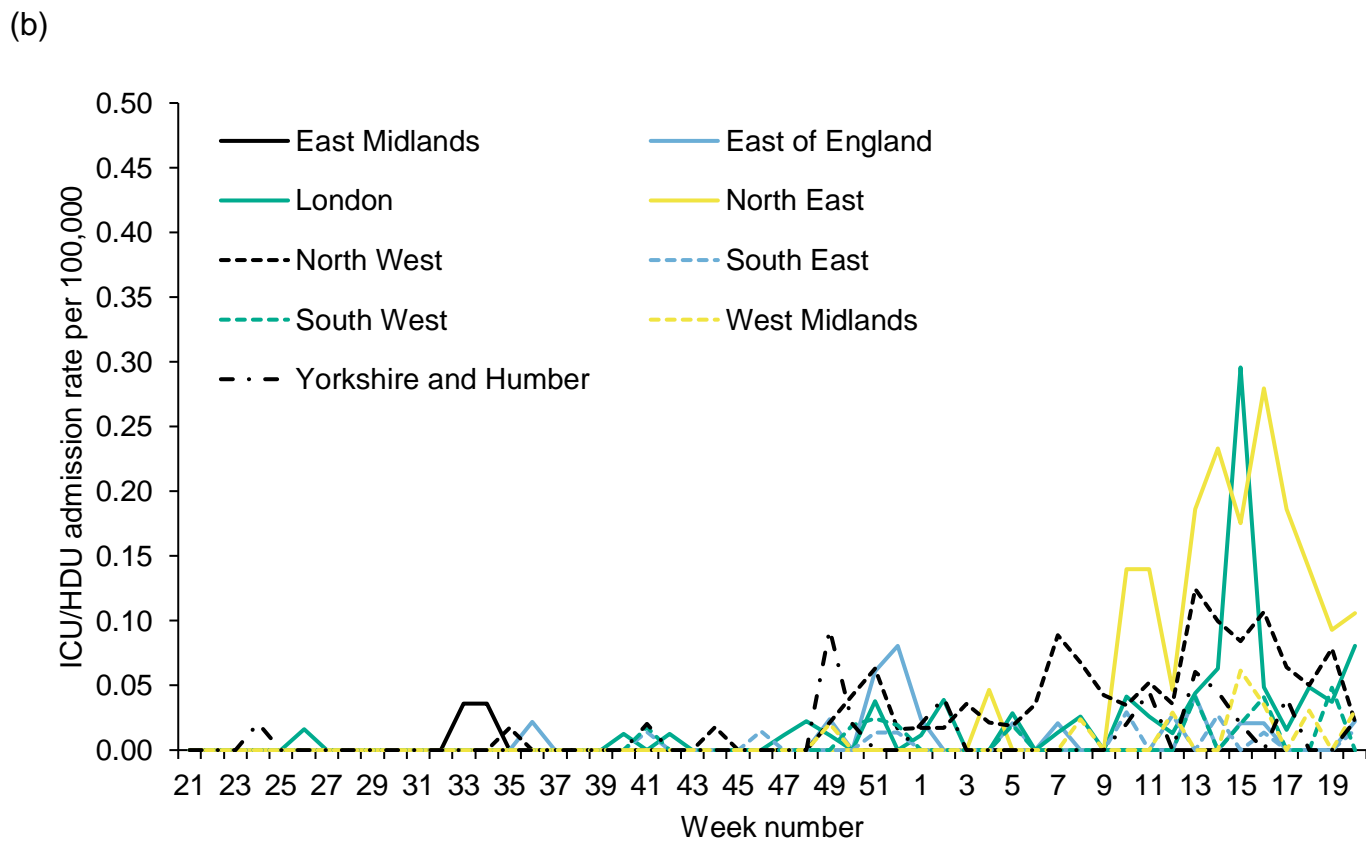
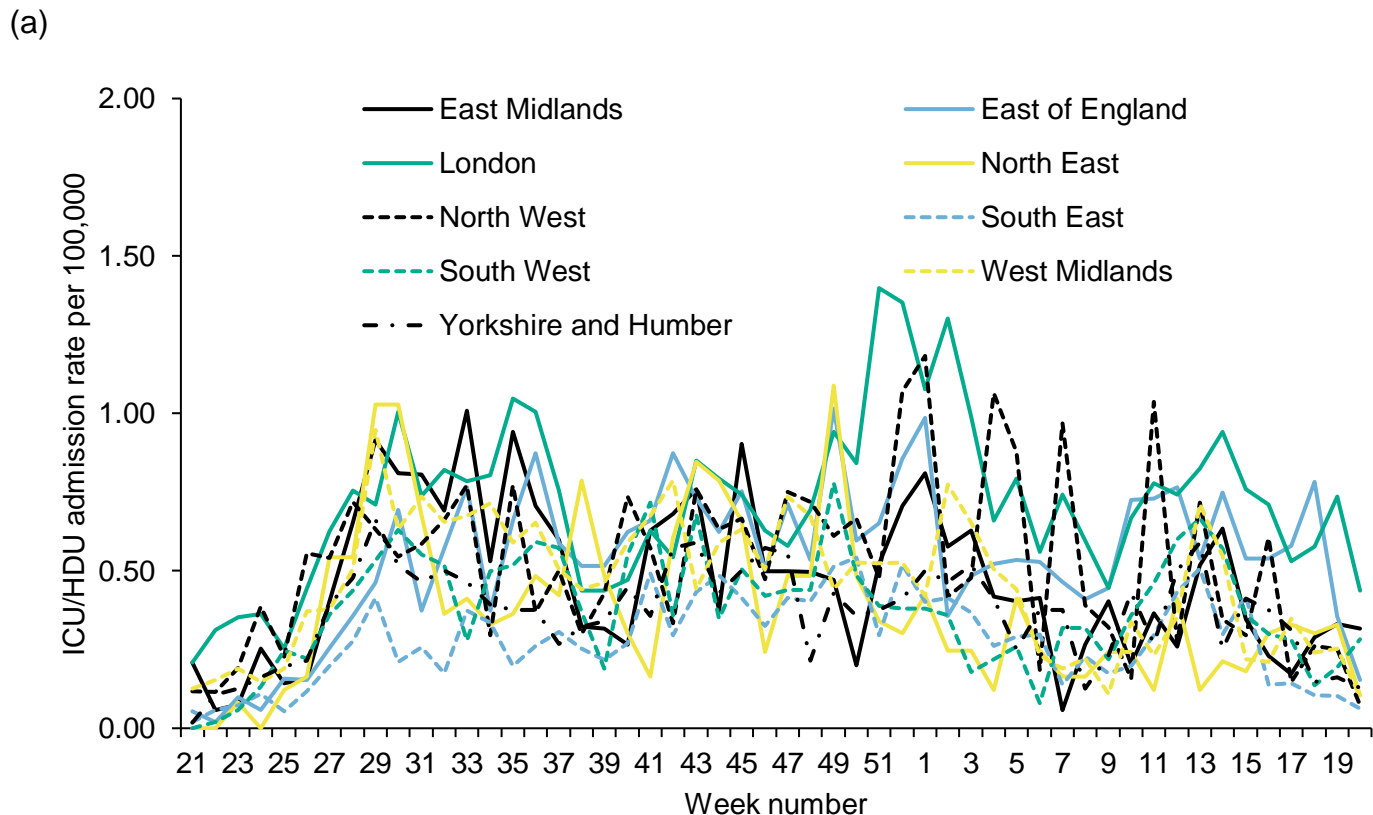
**Figure 46: Weekly overall influenza ICU or HDU admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England**



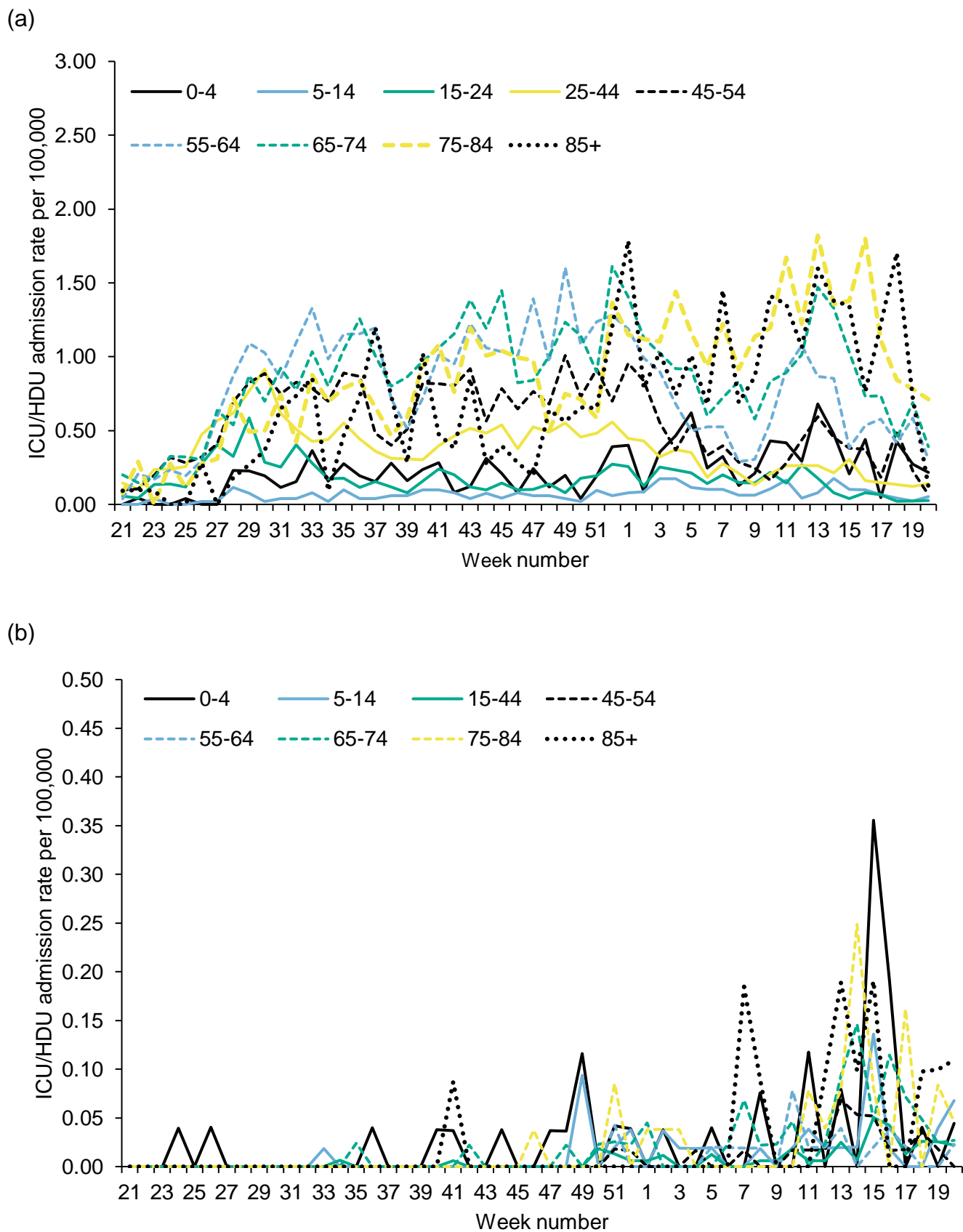
**Figure 47: Weekly influenza ICU or HDU admissions by influenza type, SARI Watch, England**



**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**

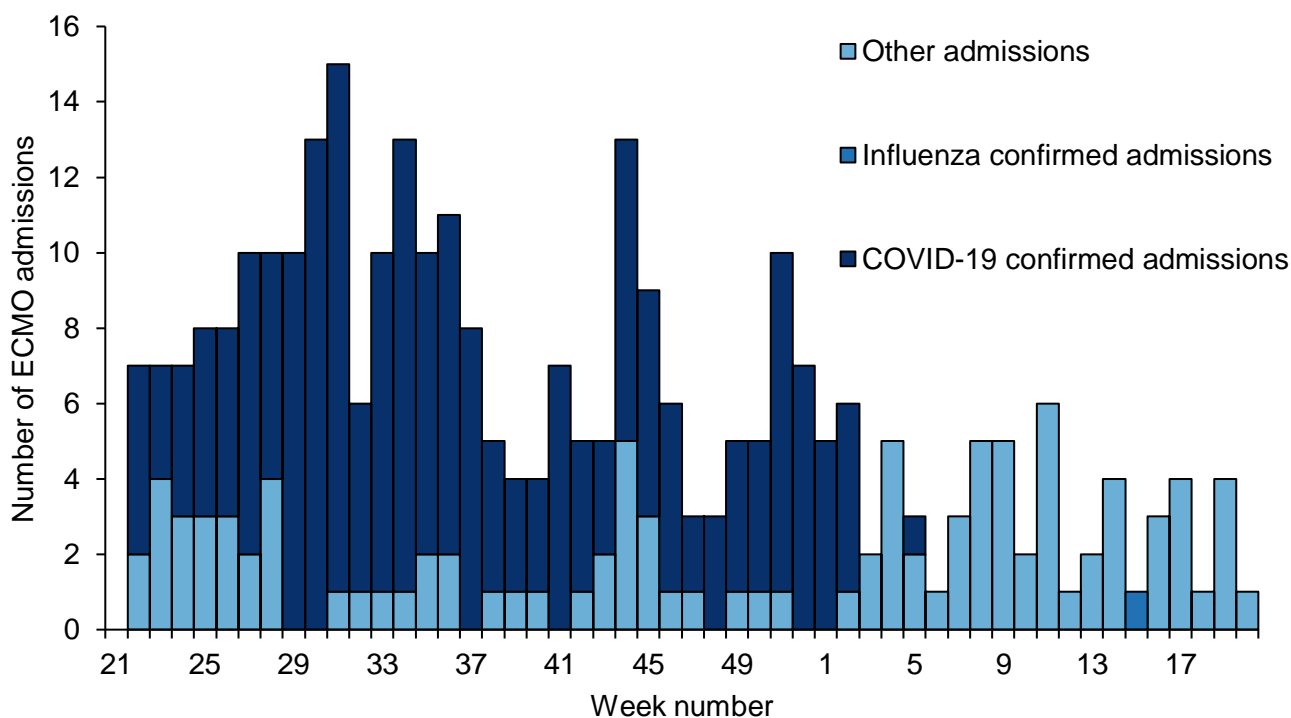


## ECMO, SARI Watch

From week 21 2021, a total of 207 laboratory confirmed COVID-19 admissions have been reported from the 6 Severe Respiratory Failure (SRF) centres in the UK.

There were no new laboratory confirmed COVID-19 or influenza admissions reported in week 20 (Figure 50).

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



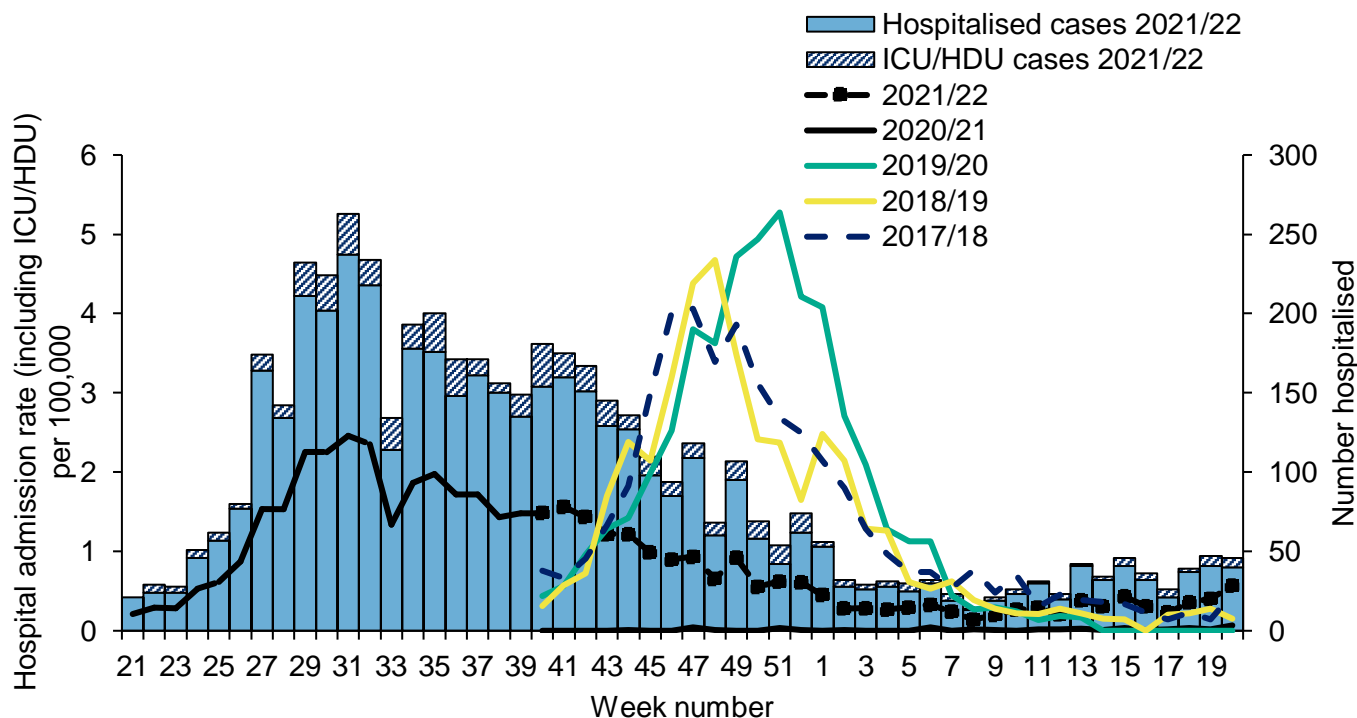
\* SARI Watch data is provisional



## RSV admissions, SARI Watch

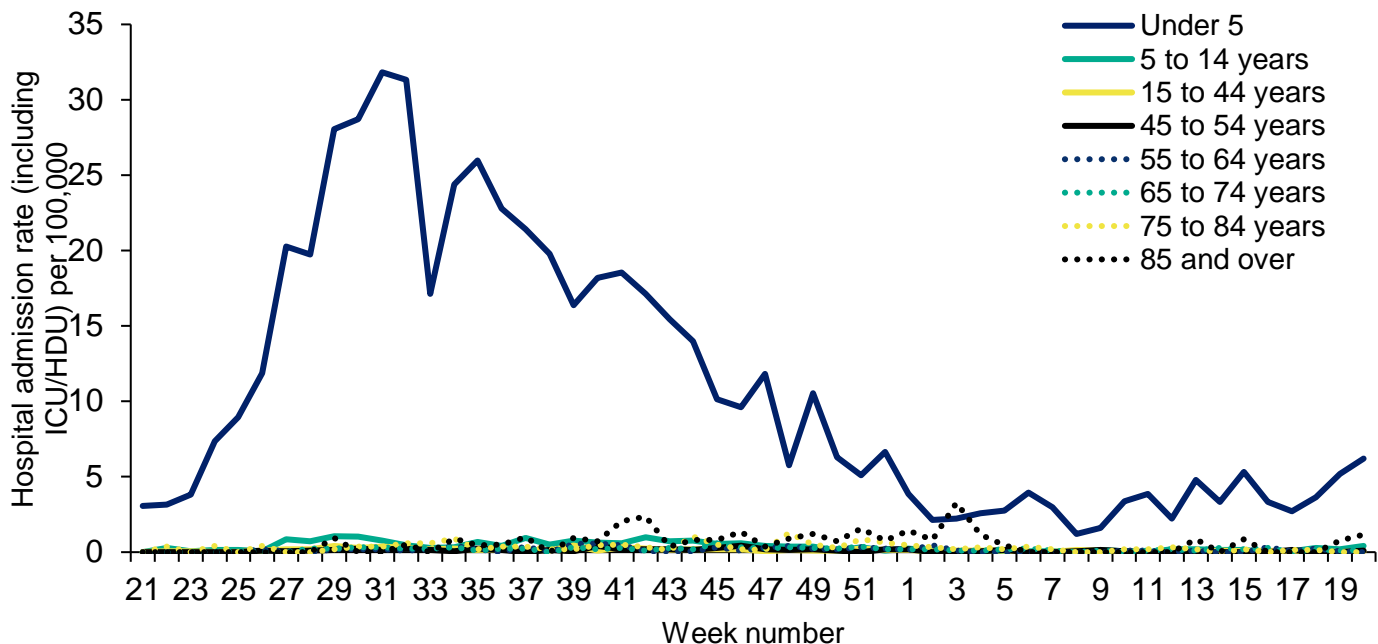
Data on hospitalisations, including ICU or HDU admissions, with Respiratory Syncytial Virus (RSV) are shown below. RSV SARI Watch surveillance is sentinel.

**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 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 in 2021 to 2022, England**



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

\* SARI Watch data is provisional

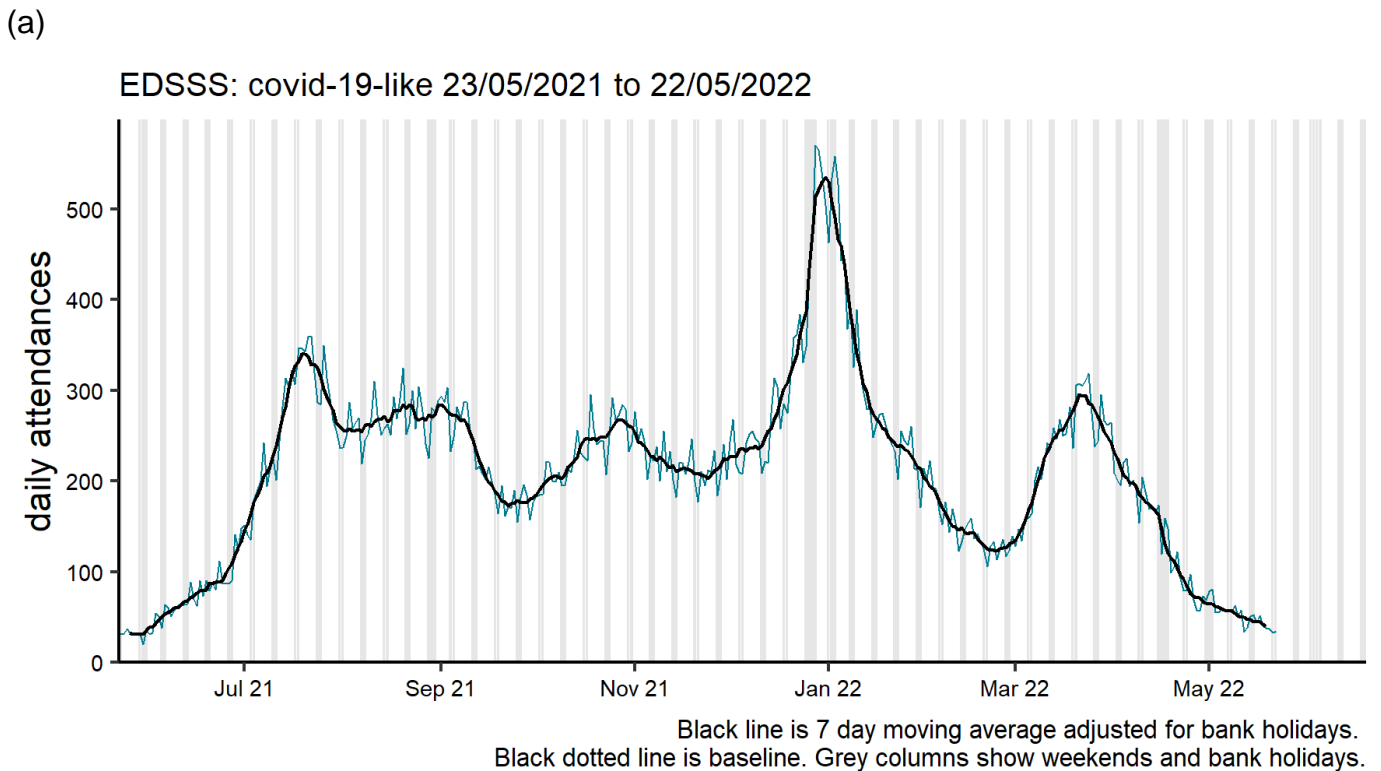
## Emergency Department attendances, Syndromic surveillance

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

Up to 22 May, the daily number of Emergency Department (ED) attendances as reported by 115 EDs for COVID-19 decreased in all regions and age groups. Daily attendances for acute respiratory infection displayed no trend nationally, however, there were increases in Yorkshire and Humber and the North East and in children aged 5 to 14 years (Figures 53 and 54).

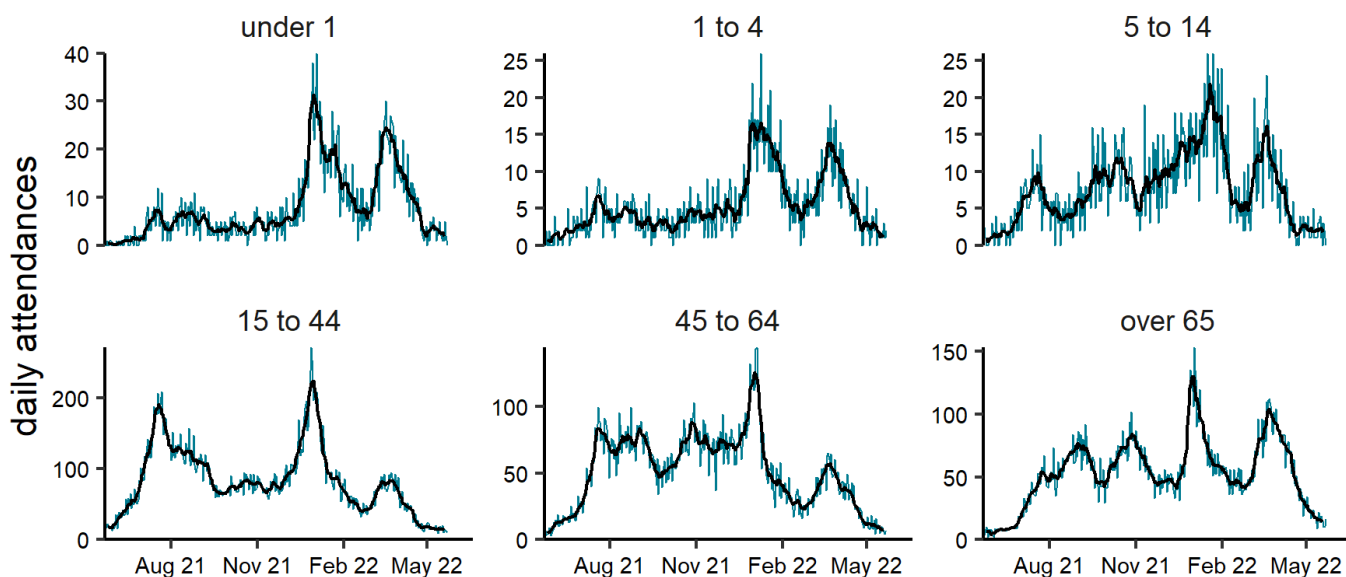
Please note: the COVID-19-like ED indicator is an underestimation of the number of COVID-19 attendances as it only includes attendances with a COVID-19-like diagnosis as their primary diagnosis. The EDSSS COVID-19-like indicator should therefore be used to monitor trends in ED attendances and not to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

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



(b)

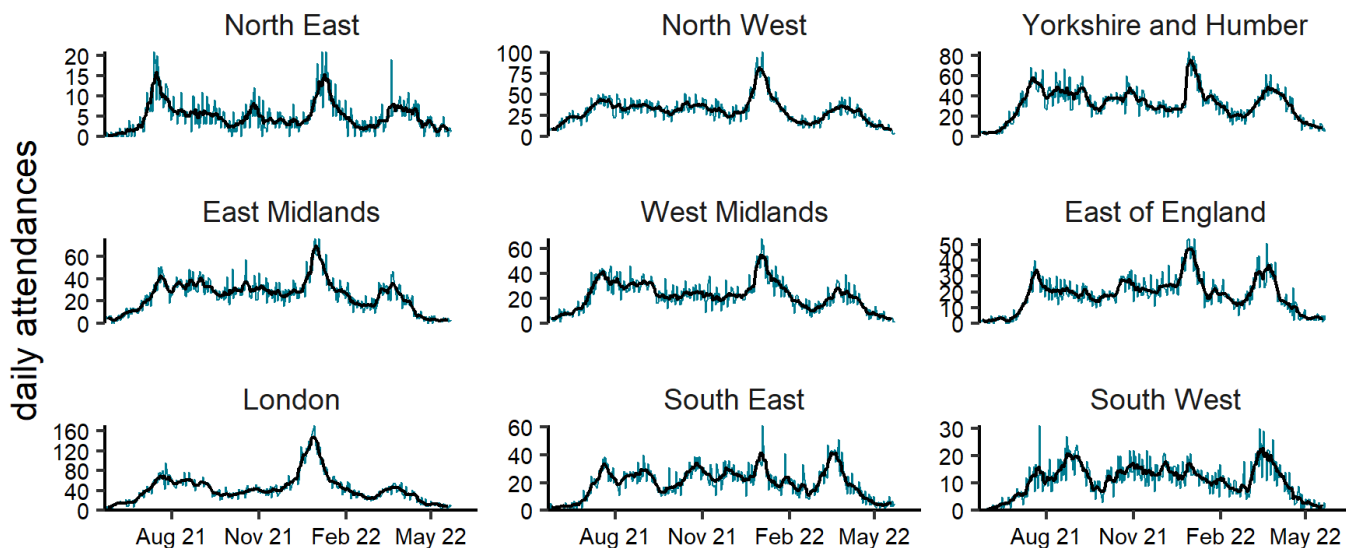
EDSSS: covid-19-like by age (years) 23/05/2021 to 22/05/2022



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

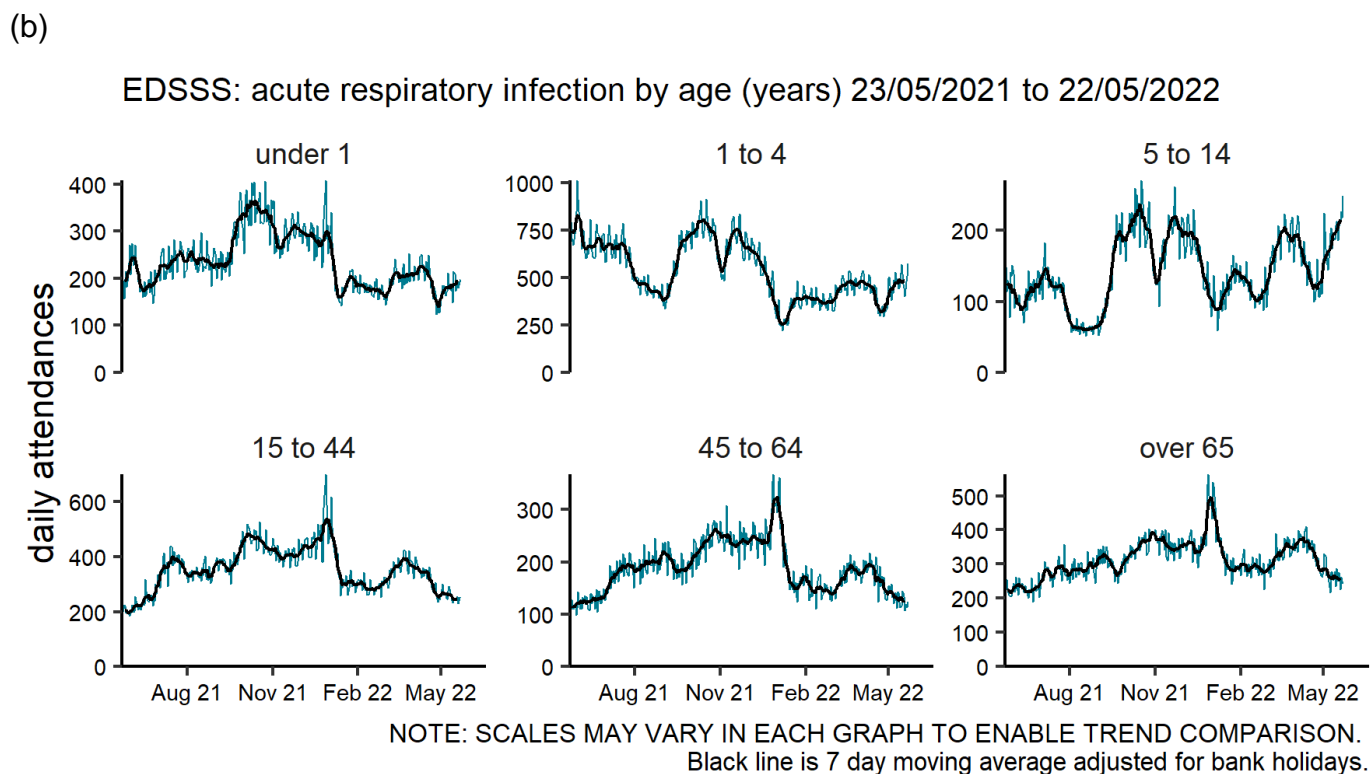
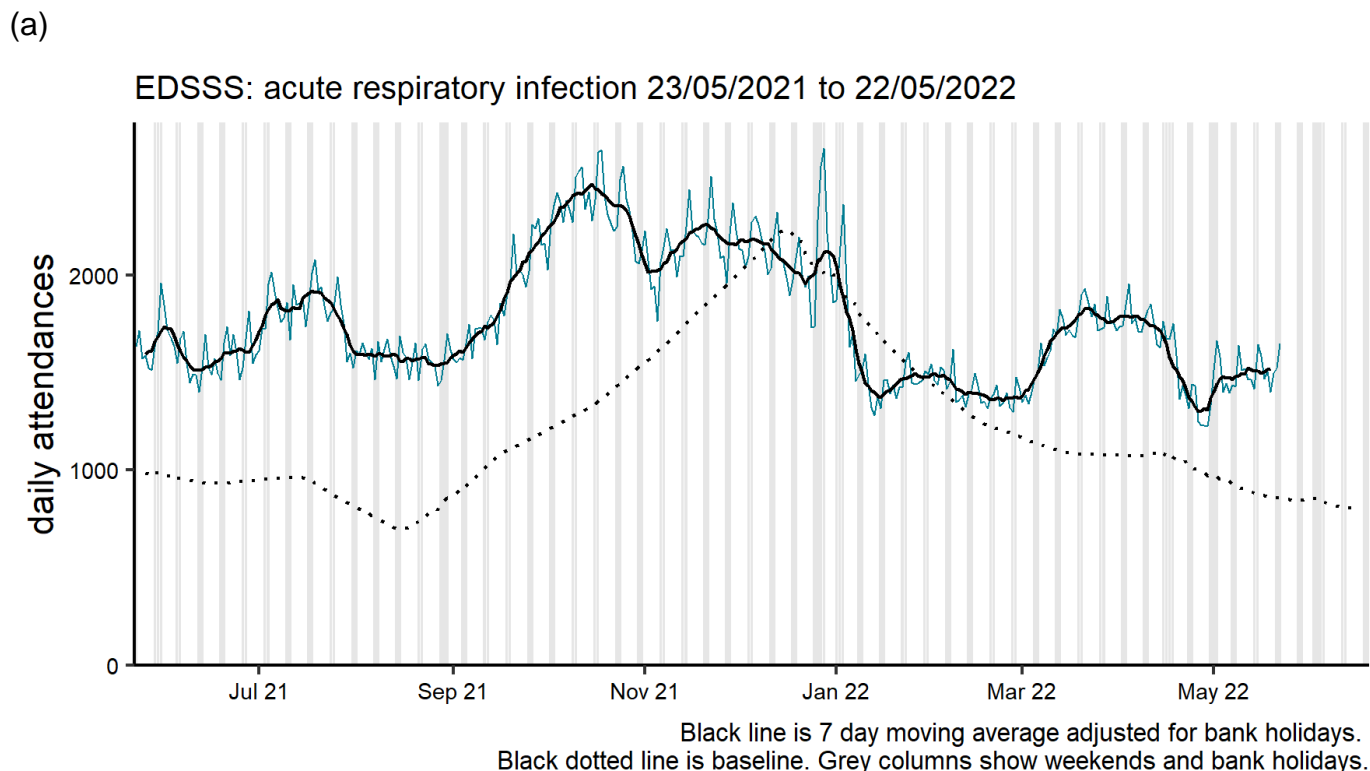
(c)

EDSSS: covid-19-like by region 23/05/2021 to 22/05/2022



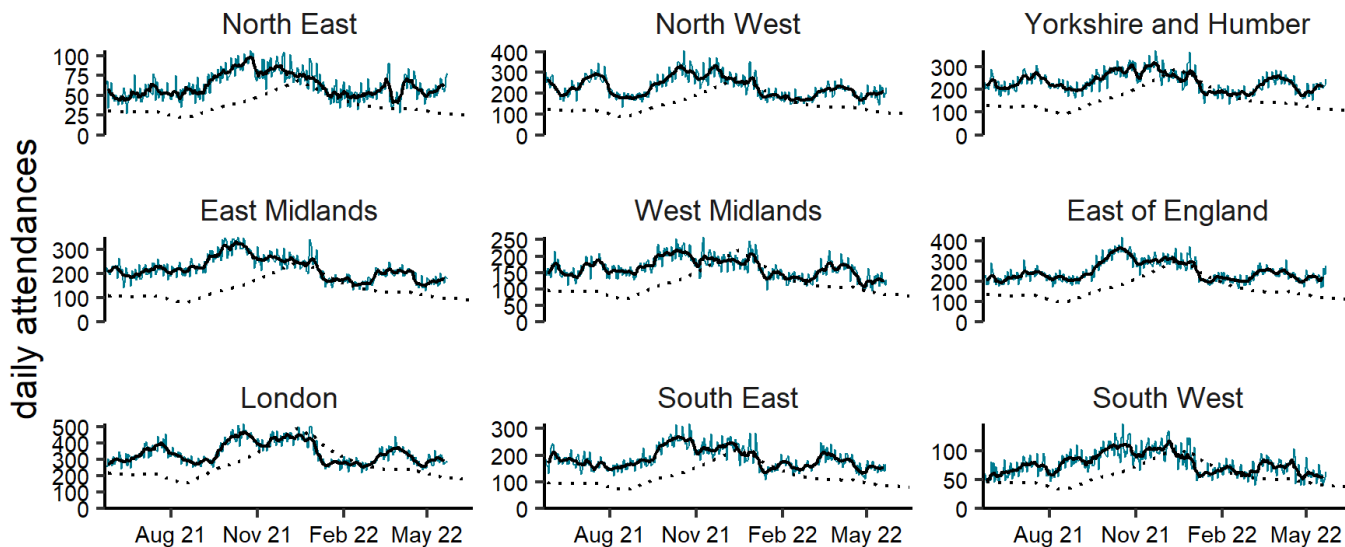
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.  
Black line is 7 day moving average adjusted for bank holidays.  
Black dotted line is baseline.

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



(c)

EDSSS: acute respiratory infection by region 23/05/2021 to 22/05/2022



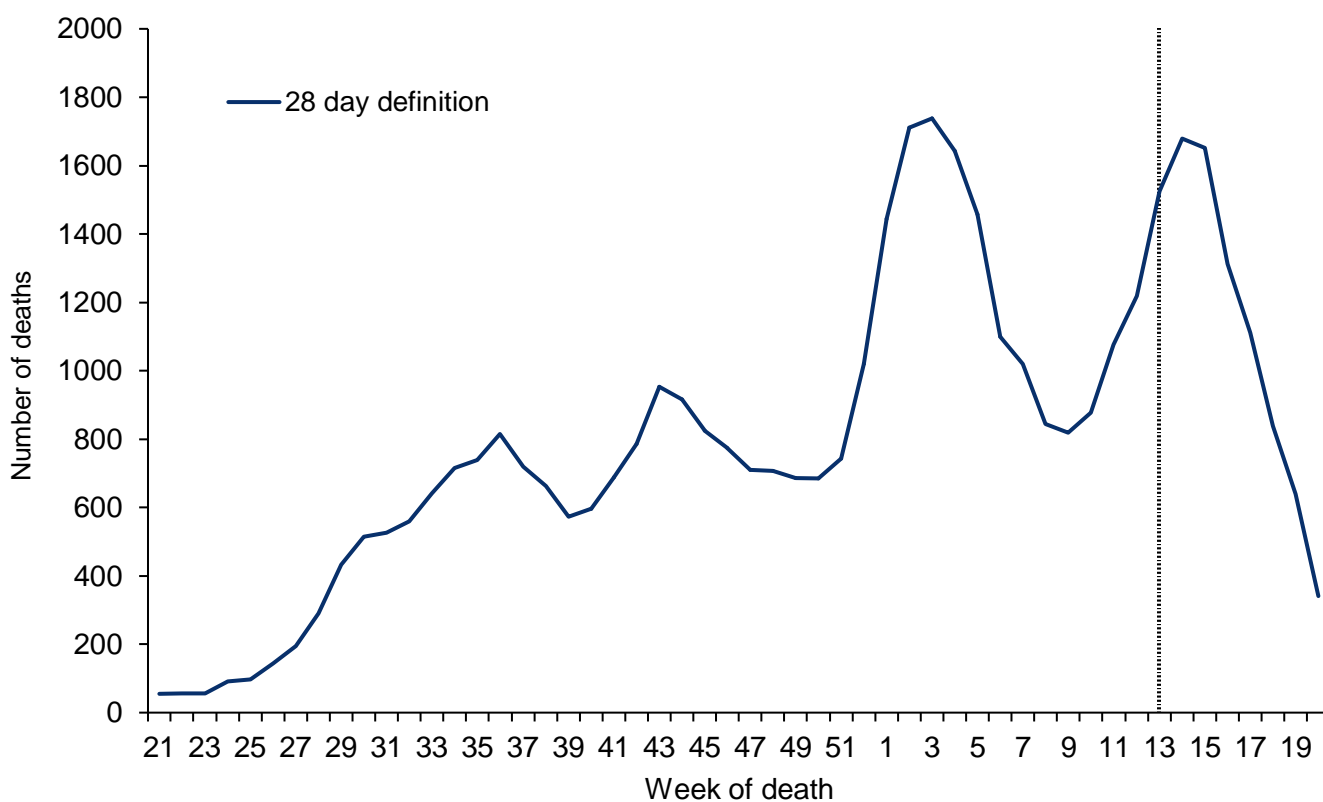
NOTE: SCALES MAY VARY IN EACH GRAPH TO ENABLE TREND COMPARISON.  
Black line is 7 day moving average adjusted for bank holidays.  
Black dotted line is baseline.

# 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 most recent episode of infection

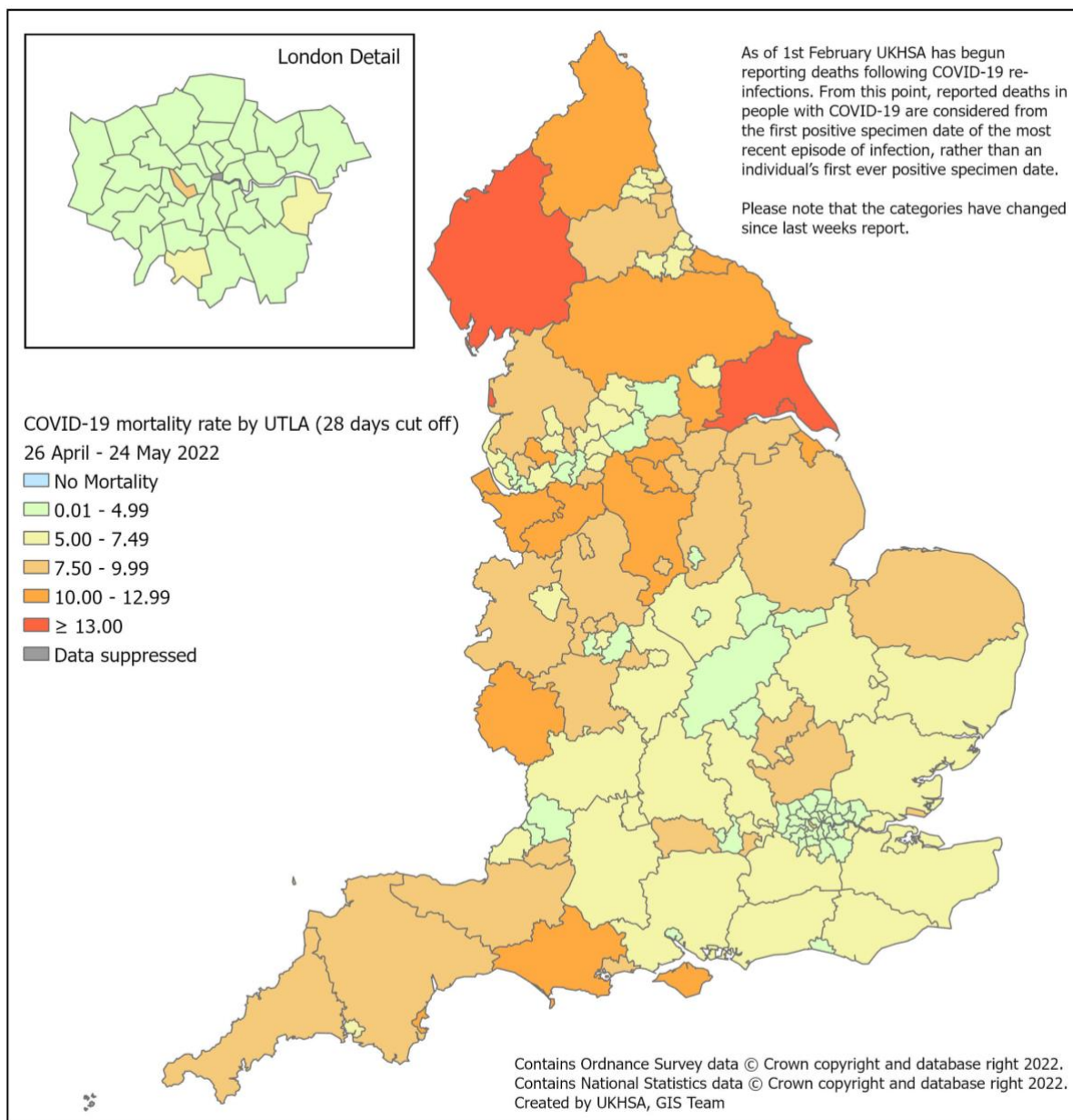
**Figure 55: Number of deaths by week of death and time since a positive COVID-19 test, England**



\* 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 57: Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillars 1 and 2 for the past 4 weeks by 28 day definition**





## Daily excess all-cause mortality (England)

Deaths occurring from 1 January 2020 to 18 May 2022 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 and the baseline was from the same day of the year in the previous 5 years plus or minus 7 days with an extrapolated time trend, and with 2 and 3 standard deviation (SD) limits shown (Figure 58).

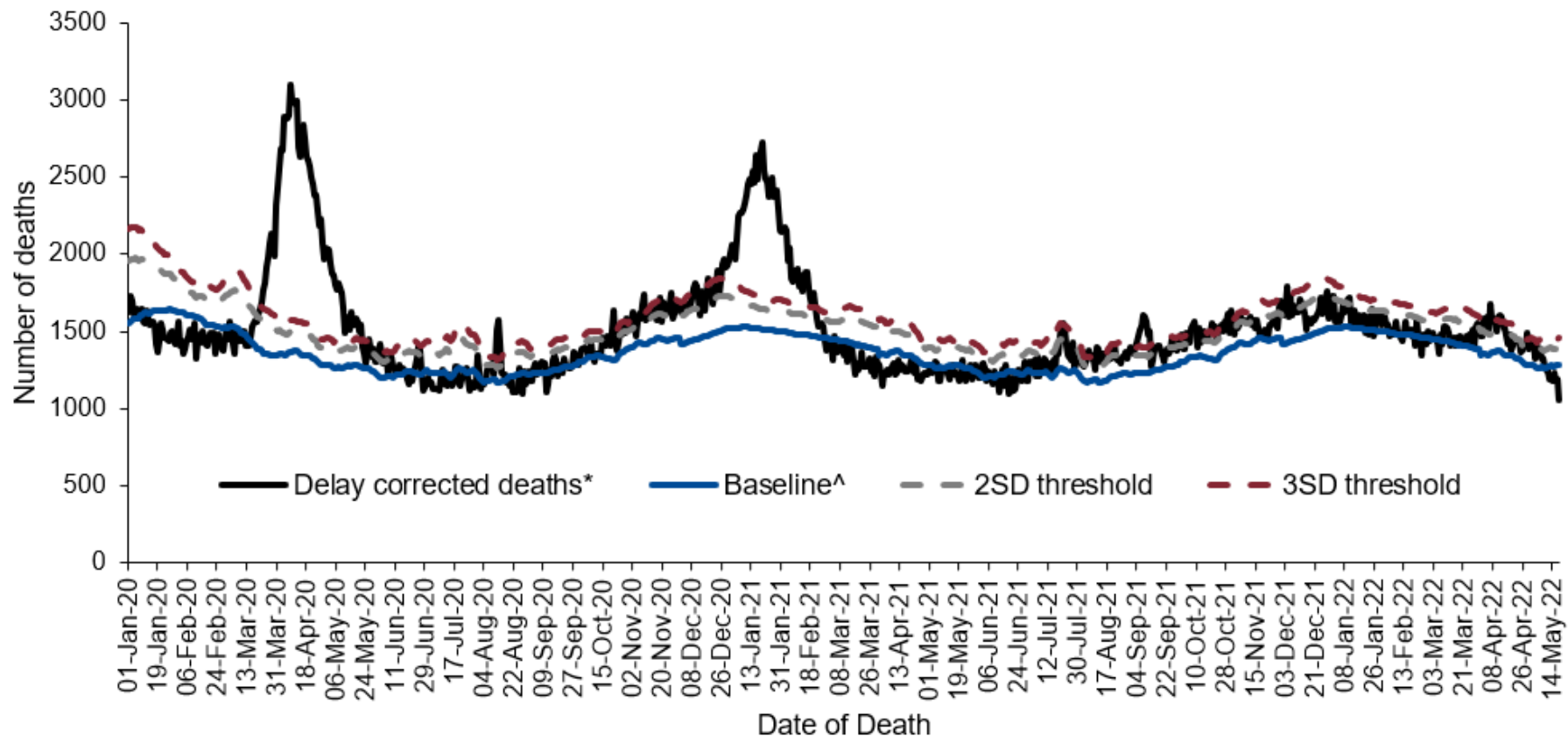
Weeks in which at least 2 days exceeded the 3SD threshold are shown in Table 4 and the daily difference from the baseline by age and region is given in Figure 59.

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 20 overall, by age or sub-nationally. Week 36 of 2021 included a heatwave period of 3 days with high temperatures (mean Central England Temperature >20c) which may have contributed to the excess seen in this week. The excess mortality noted in week 33 of 2020 and week 29 of 2021 coincide with heat waves (Figure 58, 59 and Table 4).

**Figure 58: Daily excess all-cause deaths in all ages, England, 1 January 2020 to 18 May 2022**



^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

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.

**Table 4: Excess all-cause deaths by (a) age group and (b) UKHSA centres, England**

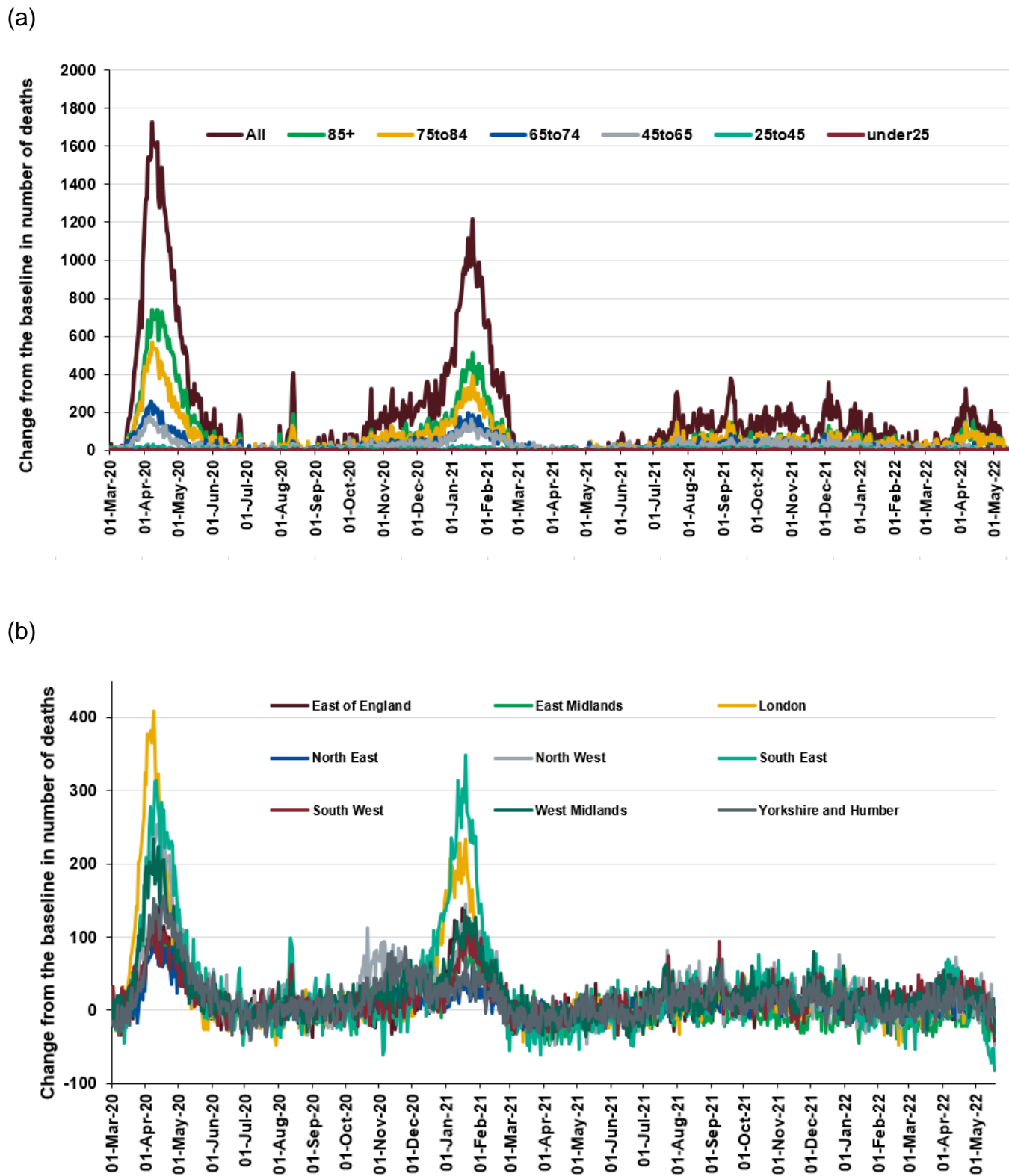
(a)

Age Group	Excess detected in week 20 2022?	Weeks in excess from week 10 to 53 2020	Weeks in excess from week 1 to 52 2021	Weeks in excess from week 1 2022
All	x	13 to 21, 33, 43, 45, 50, 52 to 53	01 to 07, 31 to 32, 35 to 36, 40 to 43, 48	14 to 15
under 25	x	None	None	None
25 to 44	x	14 to 16	None	None
45 to 64	x	12 to 19, 49 to 50, 52 to 53	01 to 08, 23, 29 to 30, 36, 40 to 44, 48	None
65 to 74	x	13 to 19, 46, 48, 52 to 53	01 to 07, 36, 43, 48	None
75 to 84	x	13 to 21, 33, 45, 49, 52 to 53	01 to 07, 32, 36, 40	14 to 16
85+	x	13 to 21, 33, 53	01 to 07, 31, 36	None

(b)

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

**Figure 59: Daily excess all-cause deaths by (a) age group and (b) UKHSA centres, England, 1 March 2020 to 18 May 2022**



# Microbiological surveillance

## 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.

The UKHSA Respiratory Virus Unit has genetically characterised 320 influenza A(H3N2) viruses, collected since week 40 of 2021. Of the characterised influenza A(H3N2) viruses where the age of the individual sampled is known, 54% are from individuals in age groups that would not normally be eligible for influenza vaccination.

Sequencing of the haemagglutinin (HA) gene shows that these A(H3N2) viruses belong in genetic subclade 3C.2a1b; 310 within a cluster designated 3C.2a1b.2a.2. The Northern Hemisphere 2021/22 influenza A(H3N2) vaccine strain (an A/Cambodia/e0826360/2020-like virus) also belongs in genetic subclade 3C.2a1b, within the 2a.1 genetic group. Ten A(H3N2) viruses collected in weeks 50 of 2021 to week 4 of 2022, fall within a cluster designated 3C.2a1b.1a. Viruses within this genetic cluster have been detected in recent months in West and South Africa.

Eleven influenza B viruses, collected since the start of the season in week 40/2021 have been genetically characterised and belong in genetic clade 1A.3 of the B/Victoria lineage, characterised by deletion of three amino acids in the haemagglutinin (HA), in a subgroup designated 1A.3a.2. The N. Hemisphere 2021/22 B/Victoria-lineage quadrivalent and trivalent vaccine component virus (a B/Washington/02/2019-like virus) belongs in genetic clade 1A.3.

Seventeen influenza A(H1N1)pdm09 viruses have been characterised to date this season, belonging in genetic subgroup 6B.1A.5a. Four fall within a cluster designated 6B.1A.5a.1, with two collected from returning travellers. Thirteen A(H1N1)pdm09 viruses also belong in genetic subgroup 6B.1A.5a, within a cluster designated 6B.1A.5a.2. The Northern Hemisphere 2021/22 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 detection of circulating A(H3N2) and influenza B viruses is in accordance with predominant detections internationally over the period of August and September 2021, and from week 40 to date.

The Respiratory Virus Unit has confirmed by genome sequencing the detection of live attenuated influenza vaccine (LAIV) viruses in 39 influenza A and/or influenza B positive samples collected since week 37 of 2021, from children aged 2 to ≤16 years of age.

## Antiviral susceptibility

Influenza positive samples are 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 of 2021 and 8 of 2022 have been analysed. No viruses with known markers of resistance to neuraminidase inhibitors were detected in 253 A(H3N2), 11 A(H1N1)pdm09 and 9 B/Victoria-lineage neuraminidase gene sequences. No viruses with known markers of resistance to baloxavir marboxil were detected in 8 A(H1N1)pdm09 and 8 B/Victoria-lineage PA gene sequences (cap-dependent endonuclease). Of 222 A(H3N2) PA gene sequences, 220 had no markers of resistance to baloxavir, however 2 sequences were identified with an E199G amino acid substitution

The E199G substitution has been reported previously as causing a minor reduction in baloxavir susceptibility (4.4-fold) in vitro, detected post treatment in a phase 2 paediatric study. For the two viruses identified with this substitution, the first was present as a mixed population (37% E199G) in a sample taken from a child in mid-January. The second virus had the E199G substitution present at 100% and was detected in an adult. No clinical details are available yet, with investigations ongoing.

**Table 5: Antiviral susceptibility of influenza positive samples tested at UKHSA-Respiratory Virus Unit (RVU)**

(Sub)type	Neuraminidase Inhibitors		Baloxavir	
	Susceptible	Reduced Susceptibility	Susceptible	Reduced Susceptibility
A(H3N2)	253	0	220	2
A(H1N1)pdm09	11	0	8	0
B/Victoria-lineage	9	0	8	0

## SARS-CoV-2 variants

UKHSA conducts surveillance of SARS-CoV-2 variants. Further information including an overview of variants, information on new variants and [detailed surveillance of particular variants of concern](#) can be found on GOV.UK and in the [latest technical briefing](#).

## Antimicrobial susceptibility

Table 6 shows in the 12 weeks up to week 20 2022, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key 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	1,352	89
	Macrolides	1,499	85
	Tetracycline	1,512	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	6,000	50
	Co-amoxiclav	6,894	52
	Macrolides	2,124	6
	Tetracycline	6,936	98
<i>S. aureus</i>	Methicillin	2,952	94
	Macrolides	3,488	68
MRSA	Clindamycin	127	38
	Tetracycline	154	71
MSSA	Clindamycin	2,075	74
	Tetracycline	2,577	92

\* Macrolides = erythromycin, azithromycin and clarithromycin

Data source: UKHSA's SGSS Antimicrobial Resistance (AMR) module, please note that this is different to the data source used in the reports published between weeks 41 2020 to 05 2021

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

## COVID-19 sero-prevalence surveillance

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



# Influenza vaccination

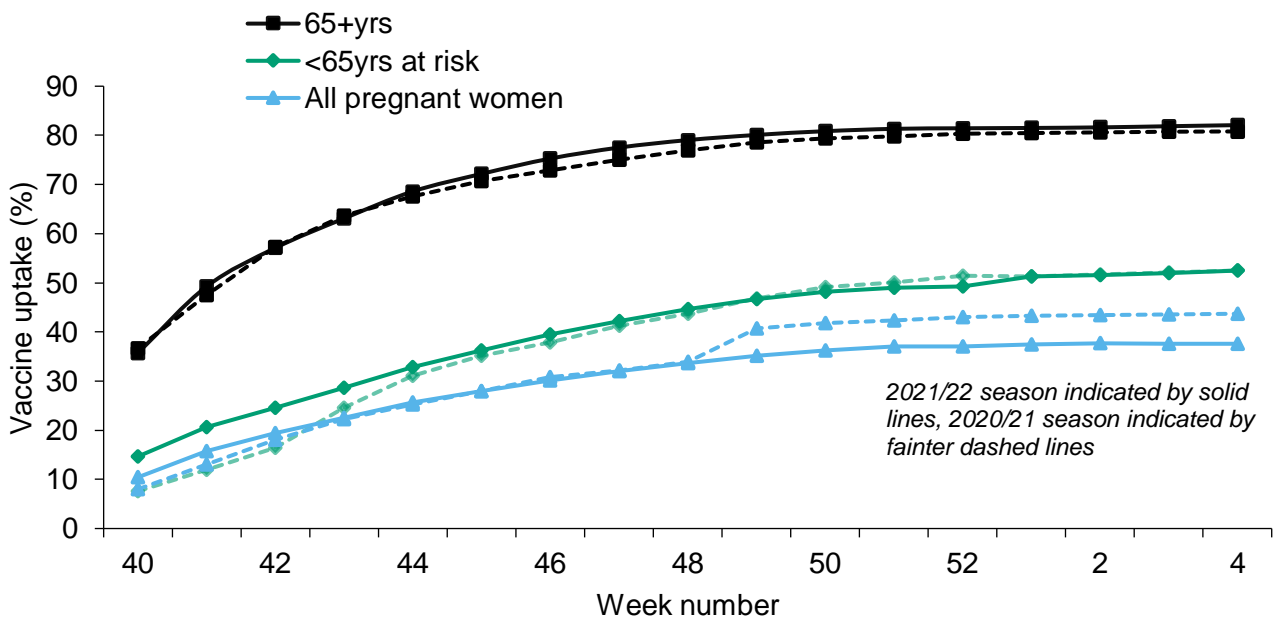
## Influenza vaccine uptake in GP patients

The last publication of weekly vaccine uptake data for the 2021 to 2022 season was on 3 February 2022. That data showed that up to week 4 2022, in 87.6 % of GP practices reporting weekly to ImmForm for the main collection, the provisional proportion of people in England who had received the 2021 to 2022 influenza vaccine in targeted groups was as follows:

- 52.5% in under 65 years in a clinical risk group
- 37.6% in all pregnant women
- 82.1% in all 65 year olds and over
- 85.1% in 65 year olds and over and in a clinical risk group
- 45.5% in those aged 50 to 64 who are not in a clinical risk group

Weekly vaccine coverage data is provisional. The sample of GP practices included in the data may change from week to week, resulting in changes to reported cumulative uptake.

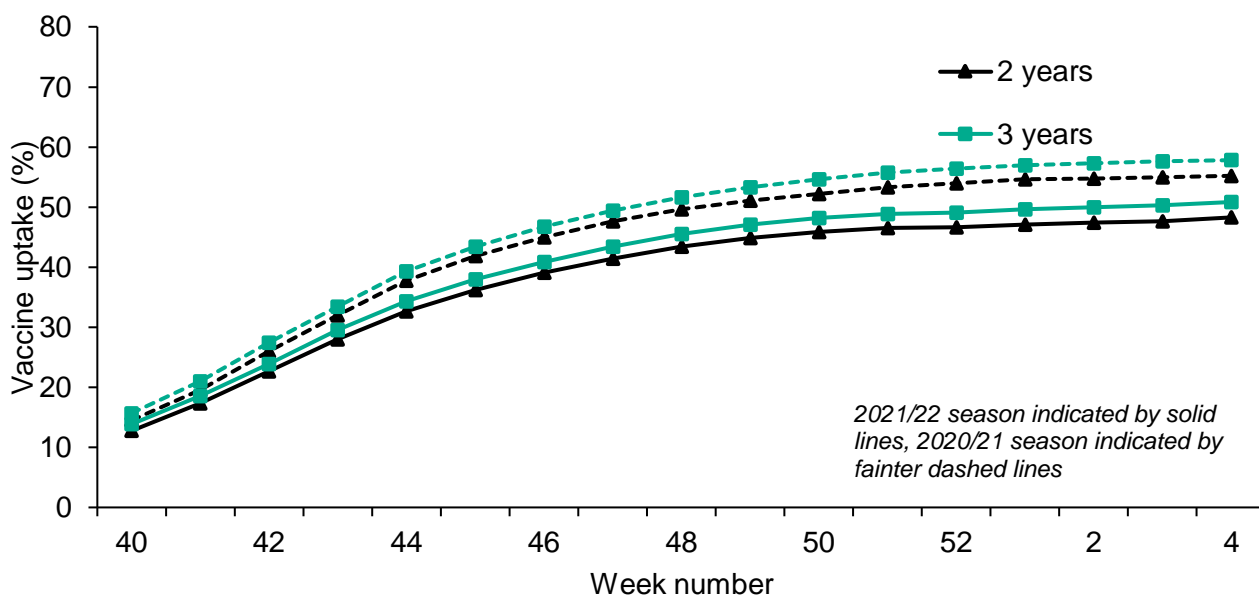
**Figure 60: Cumulative weekly influenza vaccine uptake by target group in England**



In 2021 to 2022, all 2 and 3 year olds continue to be eligible for influenza vaccination through their GPs. Up to week 4 2022, in 88.1% of GP practices reporting weekly to ImmForm for the childhood collection, the provisional proportion of children in England who had received the 2021 to 2022 influenza vaccine in targeted groups was as follows:

- 48.3% in all 2 year olds
- 50.8% in all 3 year olds

**Figure 61: Cumulative weekly influenza vaccine uptake in 2 and 3 year olds, in England**



As in previous seasons week 4 data is the last weekly publication during the Influenza season. [Monthly data](#) covering vaccinations that were given between 1 September and 28 February 2022 has been published. This is the sixth publication of monthly data this season and comparator data is available for previous seasons. The monthly GP report includes ethnicity data for at-risk groups, pregnant women and for the first time, 65 years and over.

## Influenza vaccine uptake in school age children

Provisional [monthly data](#) on influenza vaccine uptake in children of school years Reception to Year 11 has been published, showing the provisional proportion of children who received the 2021 to 2022 influenza vaccine via school, pharmacy or GP practice between 1 September and 31 January 2022.

## Influenza vaccine uptake in healthcare workers

Provisional [monthly data](#) on influenza vaccine uptake in frontline healthcare workers has been published, showing vaccine uptake at national, commissioning region, and Trust level, and by staff group, between 1 September and 28 February 2022.

# COVID-19 vaccination

## COVID-19 vaccine uptake in England

COVID-19 vaccinations began in England on 8 December 2020 during week 50 2020 (week ending 13 December 2020). Cumulative data up to week 20 2022 (week ending 22 May 2022) was extracted from the National Immunisation Management Service (NIMS). The data presented this week is the provisional proportion of living people in England who had received at least one dose, two doses and three doses of a COVID-19 vaccination by age group. The overall vaccine uptake in the population for those with at least dose 1 was 70.1%, 65.9% for dose 2 and 51.7% for dose 3. The breakdown by sex showed vaccine uptake in males was 67.7% and 72.4% in females for dose 1. For dose 2 vaccine uptake by sex was 63.4% in males and 68.4% in females. For dose 3 vaccine uptake by sex was 49.1% in males and 54.6% in females. The vaccine uptake rate in adults aged 18 and over was 81.7% (41,456,027/50,759,574) for dose 1; 78.7% (39,963,367/50,759,574) for dose 2 and 64.0% (32,527,593/ 50,759,574) for dose 3.

**Table 7: Provisional cumulative COVID-19 vaccine uptake by age in England**

NATIONAL	People in NIMS cohort	Vaccinated with at least 1 dose		Vaccinated with at least 2 doses		Vaccinated with at least 3 doses	
		Number vaccinated	% vaccine uptake	Number vaccinated	% vaccine uptake	Number vaccinated	% vaccine uptake
<b>Over 80</b>	2,931,932	2,805,013	95.7	2,787,554	95.1	2,708,637	92.4
<b>75 to under 80</b>	2,333,215	2,235,345	95.8	2,220,199	95.2	2,164,550	92.8
<b>70 to under 75</b>	2,776,737	2,620,524	94.4	2,597,989	93.6	2,509,030	90.4
<b>65 to under 70</b>	2,982,309	2,755,699	92.4	2,724,050	91.3	2,580,414	86.5
<b>60 to under 65</b>	3,612,289	3,280,187	90.8	3,234,387	89.5	2,973,818	82.3
<b>55 to under 60</b>	4,168,856	3,715,039	89.1	3,652,823	87.6	3,271,380	78.5
<b>50 to under 55</b>	4,246,577	3,680,169	86.7	3,603,455	84.9	3,121,466	73.5
<b>45 to under 50</b>	3,956,653	3,248,951	82.1	3,158,317	79.8	2,578,970	65.2
<b>40 to under 45</b>	4,328,783	3,345,065	77.3	3,220,961	74.4	2,470,094	57.1
<b>35 to under 40</b>	4,667,126	3,396,334	72.8	3,232,655	69.3	2,296,730	49.2
<b>30 to under 35</b>	4,885,624	3,410,544	69.8	3,200,838	65.5	2,113,750	43.3
<b>25 to under 30</b>	4,556,141	3,116,970	68.4	2,884,100	63.3	1,780,741	39.1
<b>20 to under 25</b>	3,926,129	2,828,237	72.0	2,553,337	65.0	1,492,391	38.0
<b>18 to under 20</b>	1,387,203	1,017,950	73.4	892,702	64.4	465,623	33.6
<b>16 to under 18</b>	1,388,173	911,706	65.7	683,552	49.2	174,180	12.5
<b>12 to under 16</b>	2,935,888	1,578,869	53.8	1,001,565	34.1	14,574	0.5
<b>5 to under 12</b>	5,078,536	411,452	8.1	15,280	0.3	22	0.0
<b>Total*</b>	<b>63,259,945</b>	<b>44,358,929</b>	<b>70.1</b>	<b>41,664,142</b>	<b>65.9</b>	<b>32,716,576</b>	<b>51.7</b>

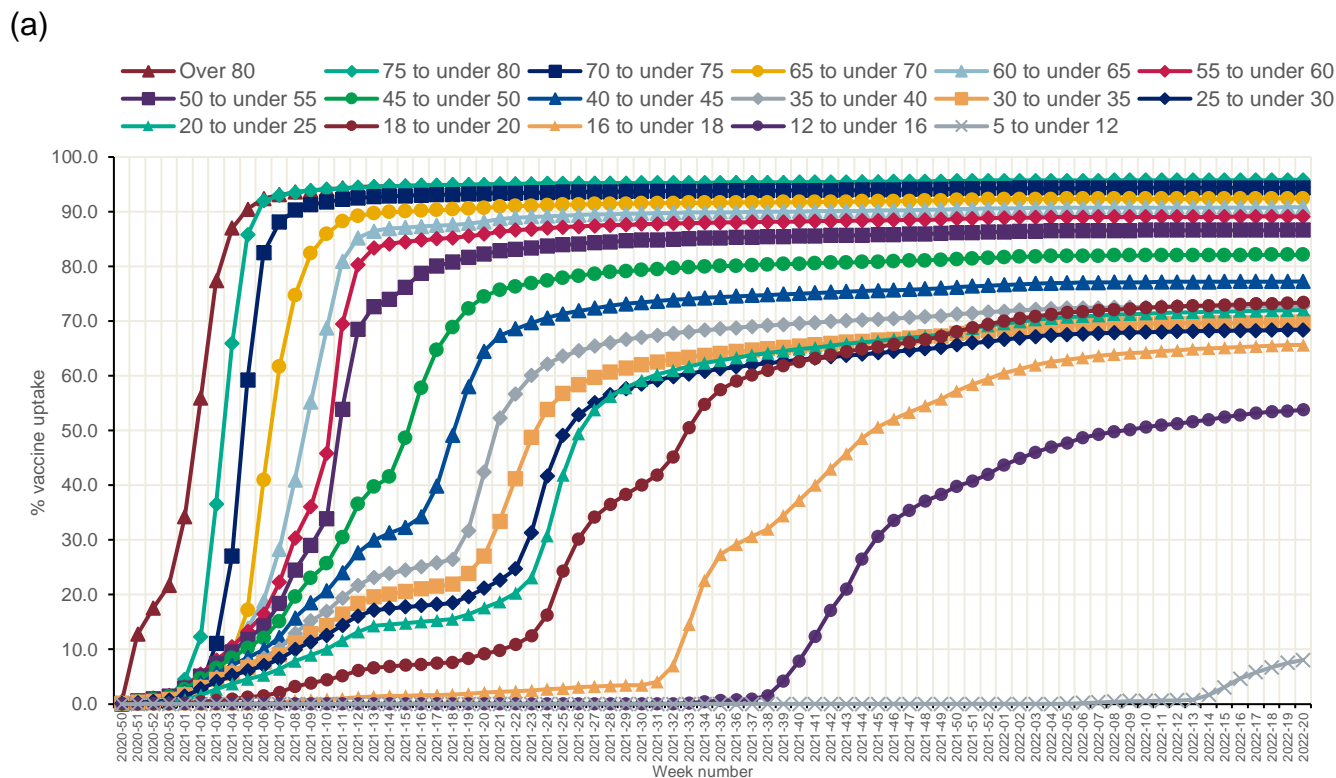
\*Caution should be exercised when summing the regional or age figures as the sum of these will not equal the England total. This is due to individuals vaccinated in England who have a registered address in Scotland or Wales or where their address is unknown. There were also vaccinations where the individual had an unknown region and age group or where age is less than 5 years old.

From 18 November 2021 (week 46 2021) UKHSA started to report on those in the population with at least three doses of COVID-19 vaccine. These figures count the number of doses a person has had in chronological order and includes vaccinations given before the start of the programme where data is available to provide a more complete record of the population coverage estimates.

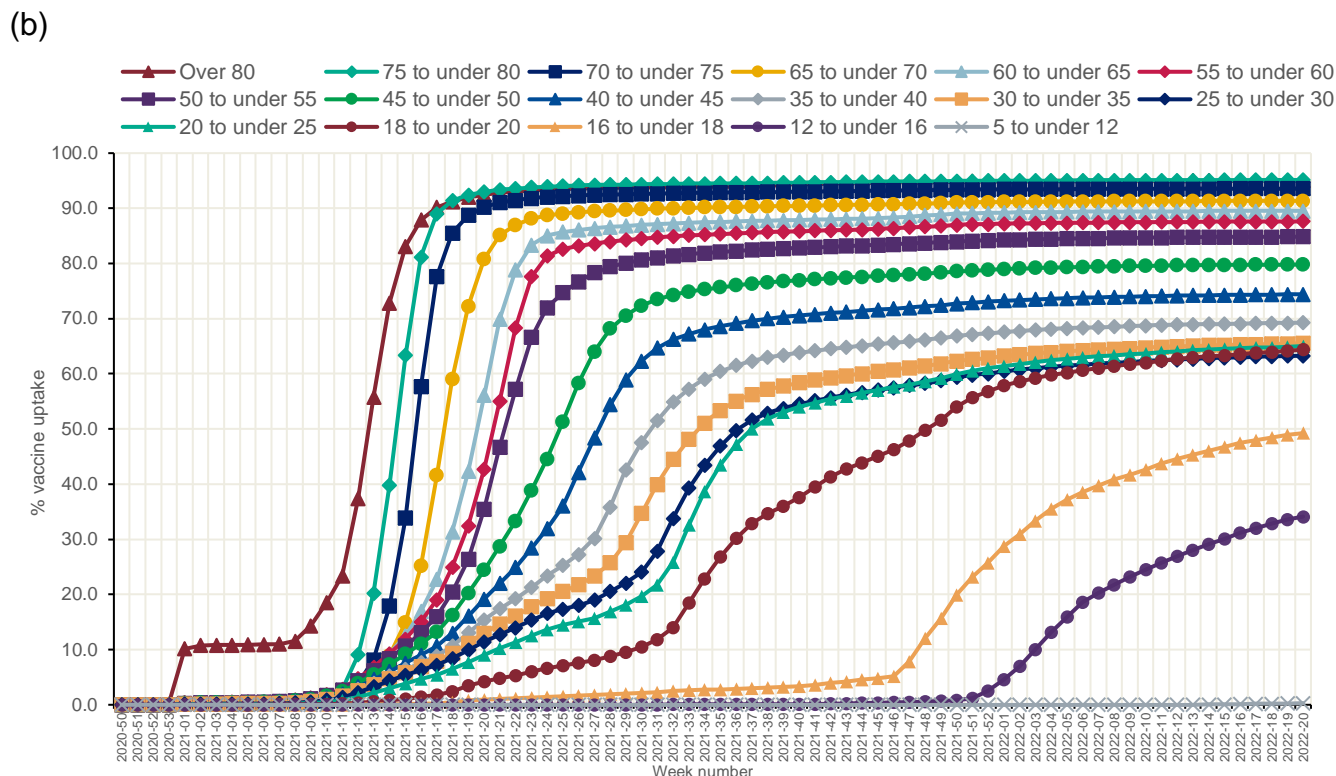
Age was previously calculated as age on the 31 August 2021 (academic cohort for all ages). Please note that from 14 April 2022 (week 15 2022), age is calculated on the date data is extracted. The weekly vaccine coverage data is extracted on a Tuesday with data capped to the previous Sunday and all backing 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.

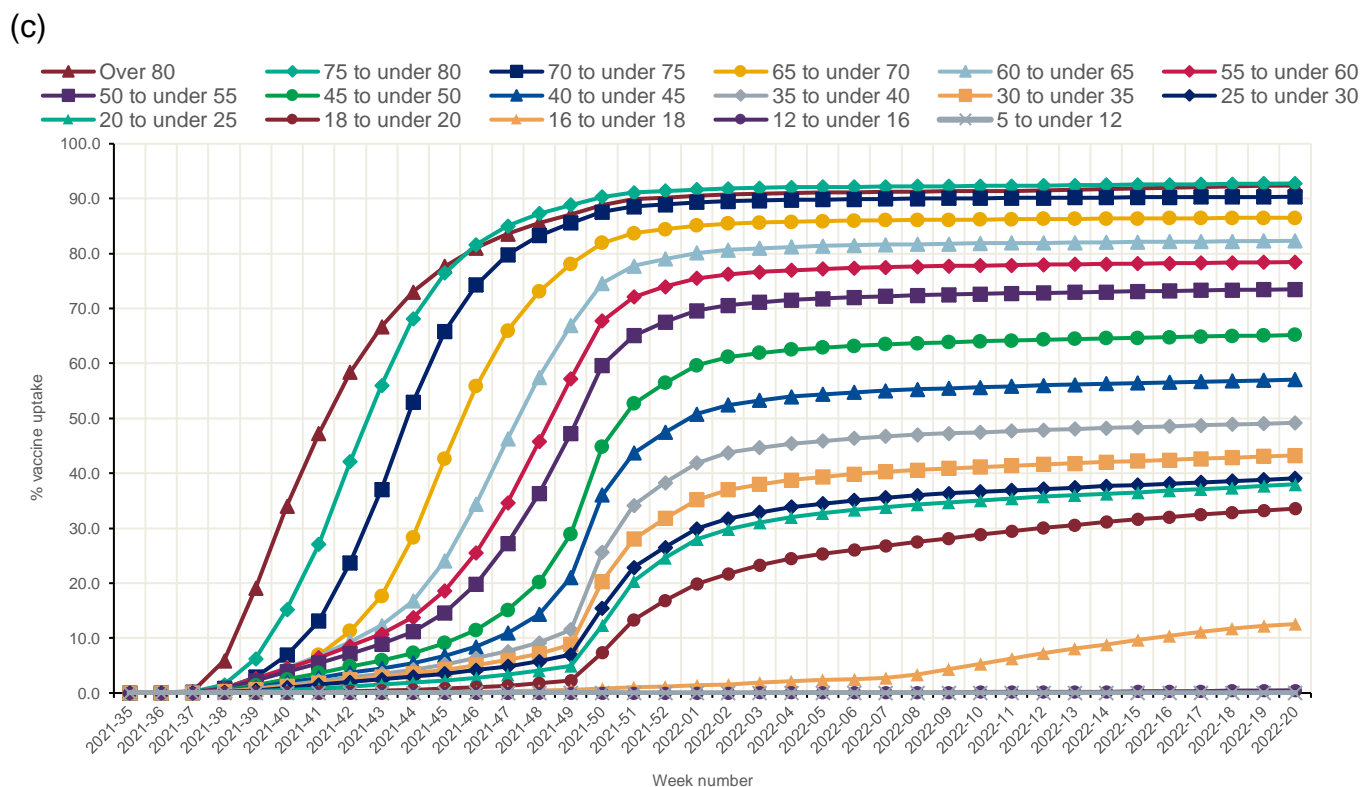
**Figure 62: Cumulative weekly COVID-19 vaccine uptake by age in England for (a) Dose 1, (b) Dose 2 and (c) Dose 3** (please note the data for this graph is shown from week 35 (week ending 5 September 2021))



Weekly National Influenza and COVID-19 Report: week 21 report (up to week 20 data)



From the 6 January 2021 (week 1 of 2021), the [Joint Committee on Vaccination and Immunisation \(JCVI\)](#) advised initially prioritising delivery of the first vaccine dose to maximise the public health impact in the short term and reduce the number of preventable deaths from COVID-19.

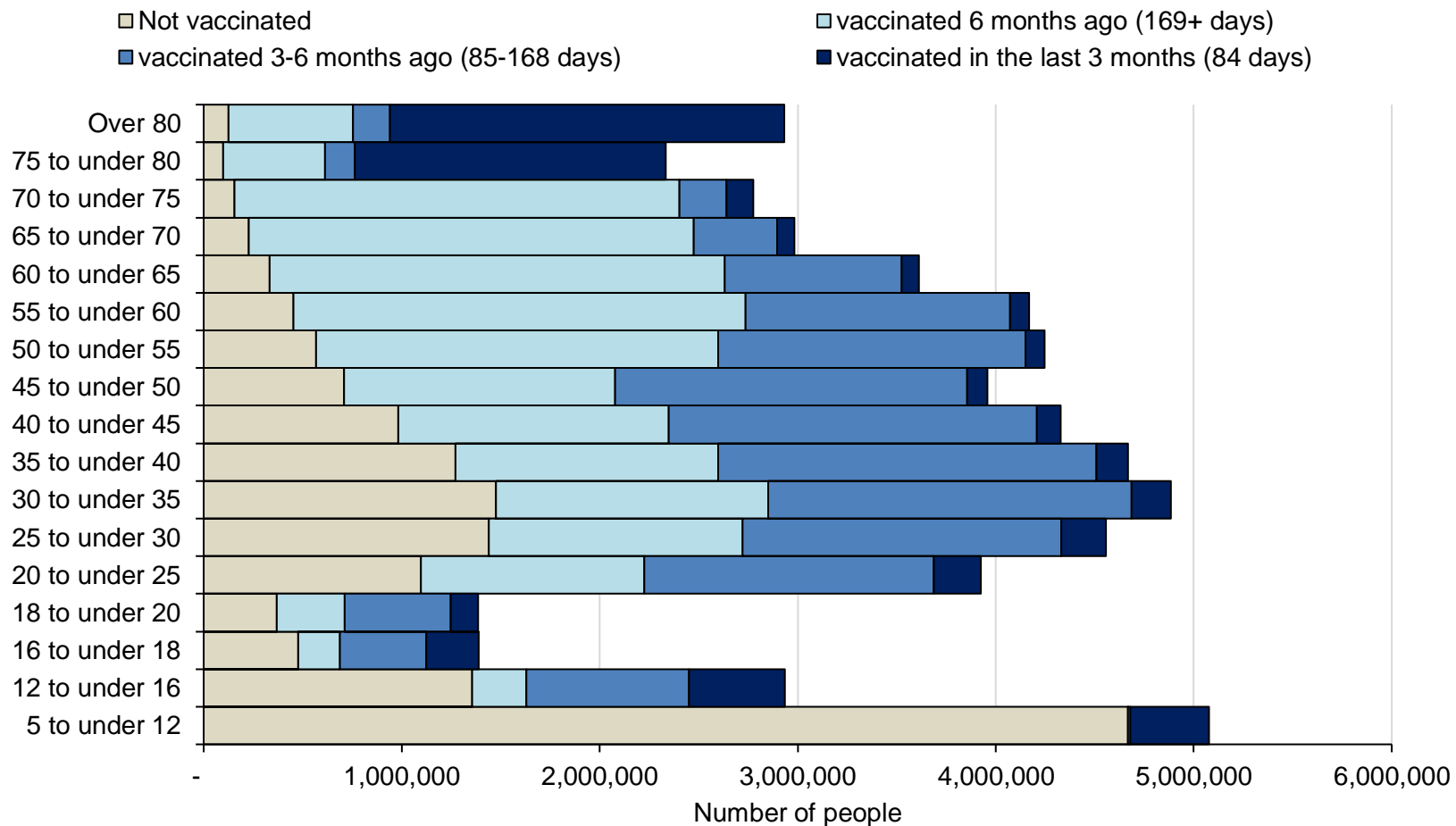


**Table 8: Provisional cumulative people vaccinated with any dose of COVID-19 vaccine in the last 3 months; 3 to 6 months and vaccinated more than 6 months ago**

National	People in NIMS cohort	Vaccinated in the last 3 months (84 days)		Vaccinated 3 to 6 months ago (85 to 168 days)		Vaccinated 6 months ago (169 or more days)	
		Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated
Over 80	2,931,932	1,991,640	67.9	185,406	6.3	627,968	21.4
75 to under 80	2,333,215	1,570,726	67.3	149,693	6.4	514,926	22.1
70 to under 75	2,776,737	137,122	4.9	236,185	8.5	2,247,217	80.9
65 to under 70	2,982,309	84,822	2.8	423,362	14.2	2,247,515	75.4
60 to under 65	3,612,289	87,348	2.4	894,879	24.8	2,297,960	63.6
55 to under 60	4,168,856	95,120	2.3	1,336,455	32.1	2,283,464	54.8
50 to under 55	4,246,577	97,344	2.3	1,552,334	36.6	2,030,491	47.8
45 to under 50	3,956,653	100,859	2.5	1,777,303	44.9	1,370,789	34.6
40 to under 45	4,328,783	121,182	2.8	1,860,280	43.0	1,363,603	31.5
35 to under 40	4,667,126	157,192	3.4	1,910,879	40.9	1,328,263	28.5
30 to under 35	4,885,624	200,745	4.1	1,834,684	37.6	1,375,115	28.1
25 to under 30	4,556,141	224,539	4.9	1,610,618	35.4	1,281,813	28.1
20 to under 25	3,926,129	239,291	6.1	1,460,523	37.2	1,128,423	28.7
18 to under 20	1,387,203	140,835	10.2	534,889	38.6	342,226	24.7
16 to under 18	1,388,173	265,368	19.1	434,268	31.3	212,070	15.3
12 to under 16	2,935,888	485,457	16.5	821,930	28.0	271,482	9.2
5 to under 12	5,078,536	398,923	7.9	12,357	0.2	172	0.0

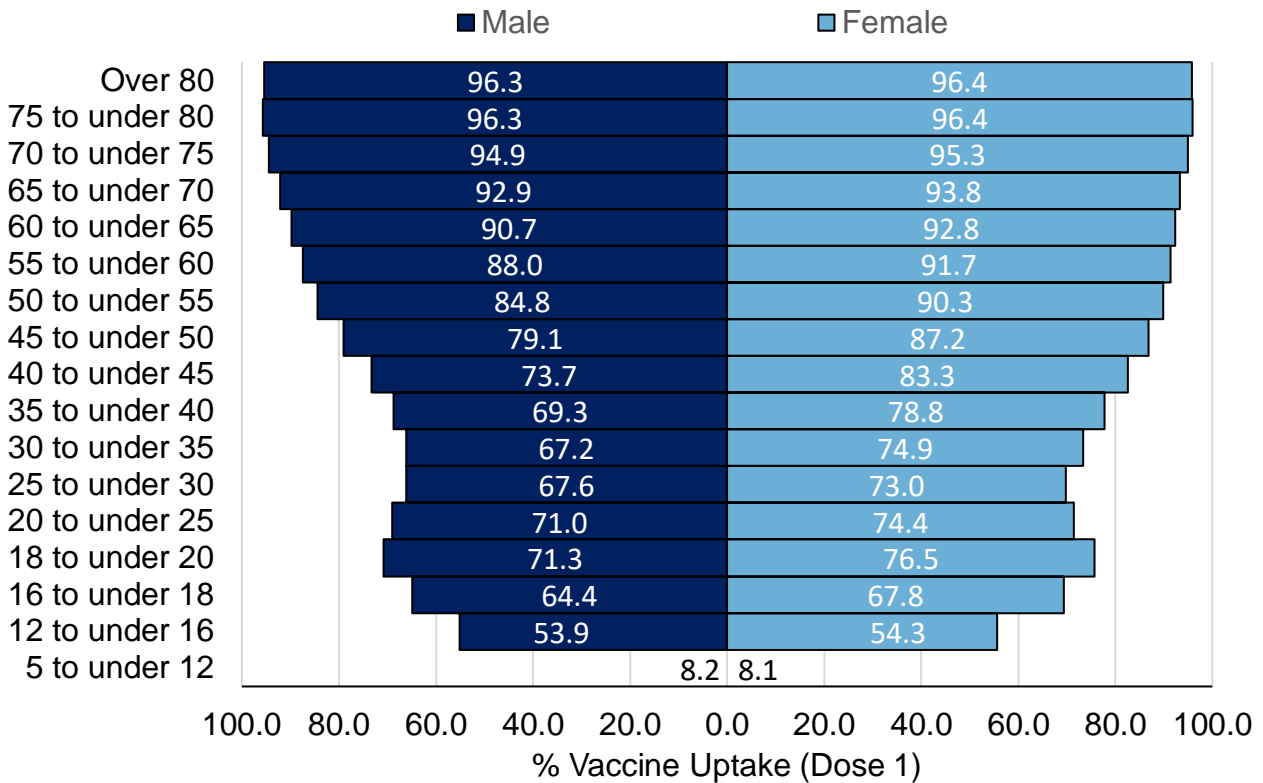
Table 8 is presented to provide an overview of how recently a person has been vaccinated either through the primary vaccination campaign or the spring booster campaign. This helps us understand the data in the context of vaccine waning across the whole COVID-19 programme.

**Figure 63: Provisional cumulative people vaccinated with any dose of COVID-19 vaccine in the last 3 months; 3 to 6 months and vaccinated more than 6 months ago.**

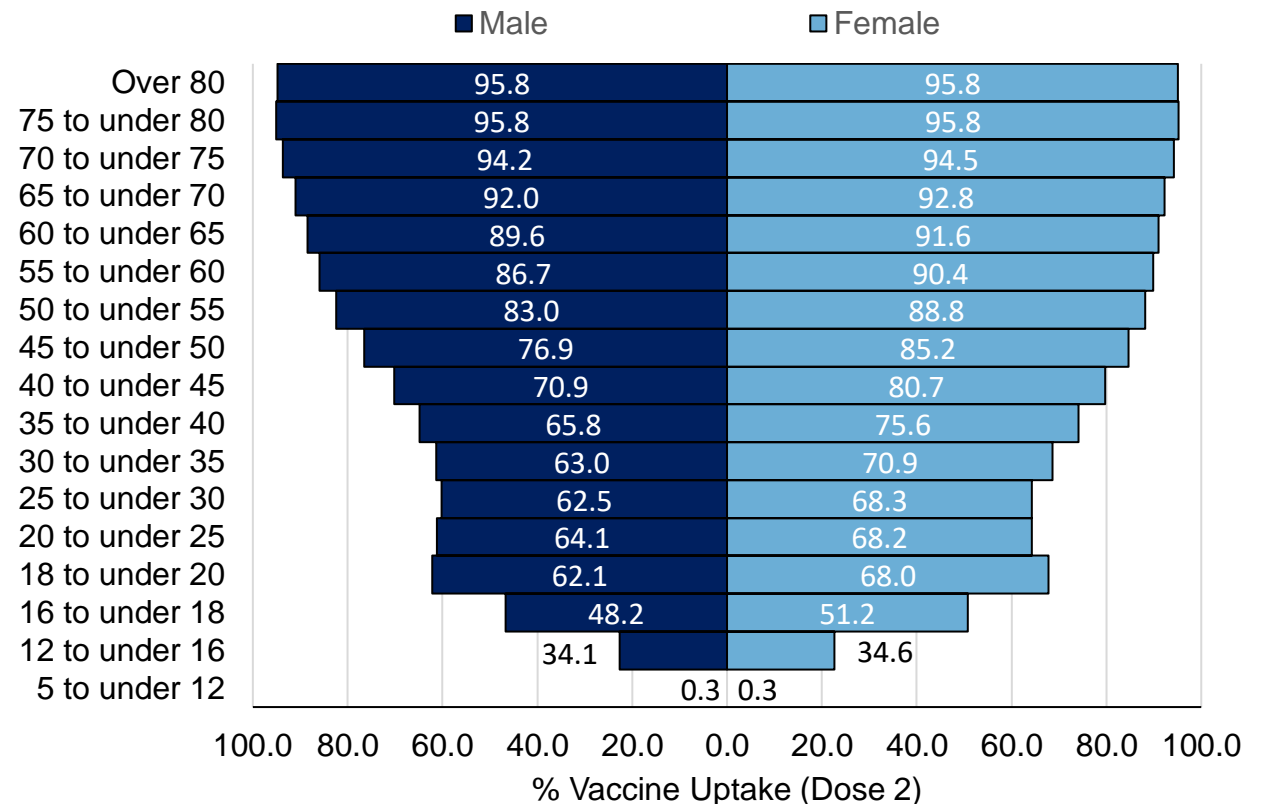




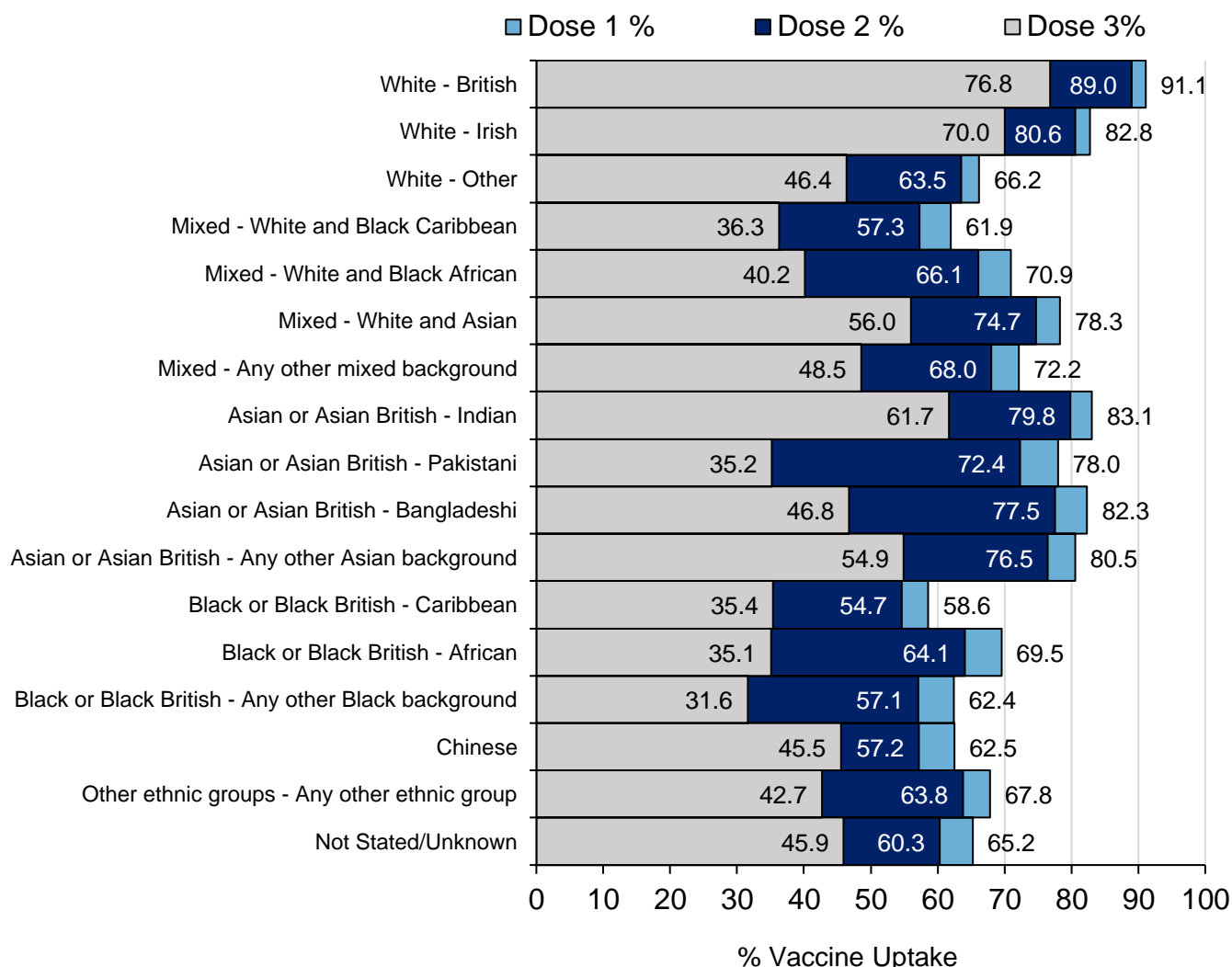
**Figure 64: Age-Sex pyramid for COVID-19 vaccine uptake by age in England for Dose 1**



**Figure 65: Age-Sex pyramid for COVID-19 vaccine uptake by age in England for Dose 2**



**Figure 66: Cumulative weekly COVID-19 vaccine uptake by ethnicity in those living and resident in England, aged 18 and over.**



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

## Spring Booster Campaign

Immunity derived from vaccination declines over time and many of the oldest adults who are at much higher risk of severe coronavirus (COVID-19) received their booster vaccine dose in Autumn 2021. Therefore, as a precautionary strategy to maintain high levels of immunity, an extra spring dose is advised around six months and provided there is at least 3 months from the previous dose for adults aged 75 years and over, residents in a care home for older adults, and individuals aged 12 years and over who are immunosuppressed, as defined in the COVID-19 healthcare guidance [Green Book](#).

Tables 9 and 10 present coverage as measured against the total population of people aged 75 and over (so includes people who are not yet due to have their spring booster). It is important that unvaccinated individuals, especially vulnerable adults, receive a primary course of vaccination, irrespective of whether individuals have had previous infection. Table 11 is presented to provide an overview of how recently a person has been vaccinated either through the primary vaccination campaign or the spring booster campaign. This helps us understand the data in the context of vaccine waning across the whole COVID-19 programme. Please note that Table 11 is a subset of Table 8.

By the end of week 20 (week ending 22 May 2022), 66.9% (3,520,082 /5,265,147) of all people aged 75 and over had been vaccinated with a spring booster dose since 21 March 2022, Table 9.

**Table 9: Provisional cumulative people vaccinated with at least 3 doses of COVID-19 vaccine since the start of the Spring booster campaign that began on the 21 March 2022 by age in England.**

National	People in NIMS cohort	Vaccinated with at least 3 doses since 21 March 2022 (spring booster)	Percentage vaccine uptake
Over 80	2,931,932	1,967,416	67.1
75 to under 80	2,333,215	1,552,666	66.5
75 and over	5,265,147	3,520,082	66.9

Weekly National Influenza and COVID-19 Report: week 21 report (up to week 20 data)

By the end of week 20 (week ending 22 May 2022), 67.7% (3,562,366/5,265,147) of people aged 75 and over have now been vaccinated within the last three months, a further 6.4% (335,099/5,265,147) last vaccinated between 3 and 6 months ago and 21.7% (1,142,894/5,265,147) vaccinated six or more months ago.

**Table 10: 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	Vaccinated in the last 3 months (84 days)		Vaccinated 3 to 6 months ago (85 to 168 days)		Vaccinated 6 months ago (169 or more days)	
		Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated
Over 80	2,931,932	1,991,640	67.9	185,406	6.3	627,968	21.4
75 to under 80	2,333,215	1,570,726	67.3	149,693	6.4	514,926	22.1
75 and over	5,265,147	3,562,366	67.7	335,099	6.4	1,142,894	21.7

**Table 11: Provisional cumulative people vaccinated with a spring booster COVID-19 vaccine against those eligible by the end of each month.**

Age on 31 March 2022	Number of people eligible for spring booster on 31 March 2022	Number of eligible people vaccinated (up to end of previous week)	Percentage vaccine uptake (up to 8 May) in those eligible on 31 March 2022
Over 80	1,185,911	999,472	84.3
75 to 79	480,315	393,444	81.9
75 and over	1,666,226	1,392,916	83.6
Age on 30 April 2022	Number of people eligible for spring booster on 30 April 2022	Number of eligible people vaccinated (up to end of previous week)	Percentage vaccine uptake (up to 8 May) in those eligible on 30 April 2022
Over 80	2,255,386	1,805,971	80.1
75 to 79	1,724,823	1,400,903	81.2
75 and over	3,980,209	3,206,874	80.6

Table 11 looks at people aged 75 and over at the end of each month who are eligible for a spring booster if they have completed a primary course of two doses and are at least six months from their previous dose. Eligible population figures help to show that people who become eligible first are vaccinated earlier in the Spring booster campaign.

Please note that this uses a different age cut off definition to the rest of the report and is therefore not a subset of other tables. Eligible population figures in this table do not include those who are aged 75 and over and have not been vaccinated; unvaccinated people are taken into consideration in the coverage tables above.

## Immunosuppression

Provisional vaccine uptake data in living and resident people identified as immunosuppressed in England to the end of week 19 can be found in table 12. This shows that vaccine uptake in the 516,863 identified as immunosuppressed was 95.7% for at least dose 1, 94.5% for at least 2 doses and 88.5% for at least 3 doses. Data on vaccine uptake in people with at least 3 doses by age in England can be found in the National flu and COVID-19 surveillance reports.

**Table 12: Vaccine uptake in people identified as immunosuppressed in England**

Immuno-suppression	People in NIMs Cohort	Numbers vaccinated with at least 1 dose	Percentage vaccine uptake with at least 1 dose	Numbers vaccinated with at least 2 doses	Percentage vaccine uptake with at least 2 doses	Numbers vaccinated with at least 3 doses	Percentage vaccine uptake with at least 3 doses
England	516,863	494,591	95.7	488,688	94.5	457,444	88.5

**Table 13: Vaccine uptake in people identified as immunosuppressed in England with at least 3 doses of COVID-19 vaccine since the start of the Spring booster campaign that began on the 21 March 2022 by age in England.**

Immuno-suppression	People in NIMS cohort	Vaccinated with at least 3 doses since 21 March 2022 (spring booster)	Percentage vaccine uptake
England	516,863	104,633	20.2

Tables 12 and 13 present coverage as measured against the total population of people identified as immunosuppressed, many of whom have been recently vaccinated and are therefore not yet due to have their spring booster.

**Table 14: People identified as immunosuppressed in England vaccinated with any dose of COVID-19 vaccine in the last 3 months; 3 to 6 months and vaccinated more than 6 months ago.**

Immuno-suppression	People in NIMS cohort	Vaccinated in the last 3 months (84 days)		Vaccinated 3 to 6 months ago (85 to 168 days)		Vaccinated 6 months ago (169 or more days)	
		Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated	Numbers vaccinated	Percentage vaccinated
England	516,863	145,107	28.1	227,915	44.1	121,569	23.5

Table 14 is presented to provide an overview of how recently a person identified as immunosuppressed has been vaccinated either through the primary vaccination campaign or the spring booster campaign. This helps us understand the data in the context of vaccine waning across the whole COVID-19 programme and shows that most people identified as immunosuppressed have been recently vaccinated.

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 and impact of the COVID-19 vaccines, please see [the COVID-19 vaccine weekly 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 counts of vaccinations, please see the [Vaccinations' section of the UK COVID-19 dashboard](#).

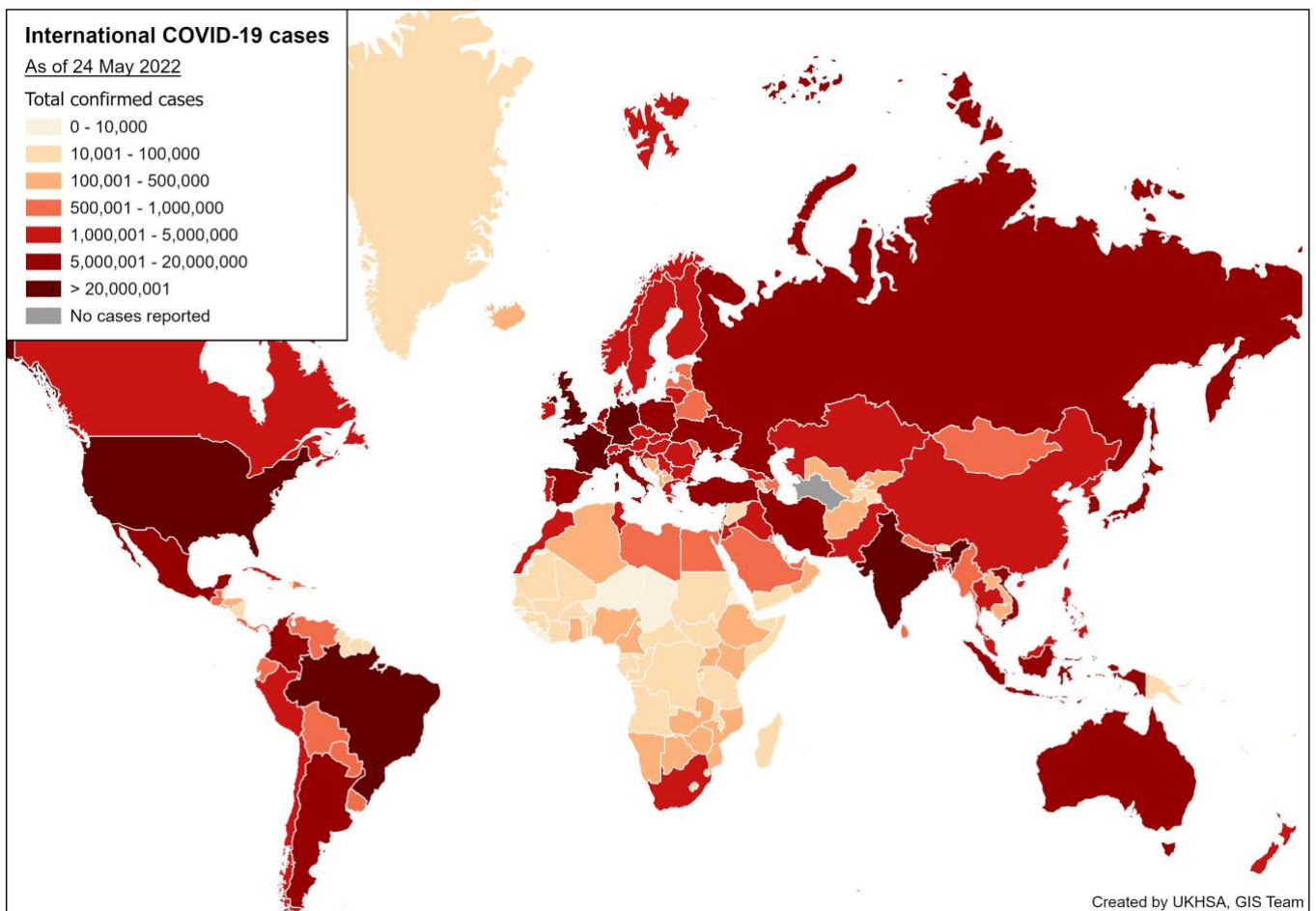
# International update

## Global COVID-19 update

Globally, up to 24 May 2022, a total of 527,589,118 cases of COVID-19 infection have been reported worldwide, including 6,276,627 COVID-19 related deaths.

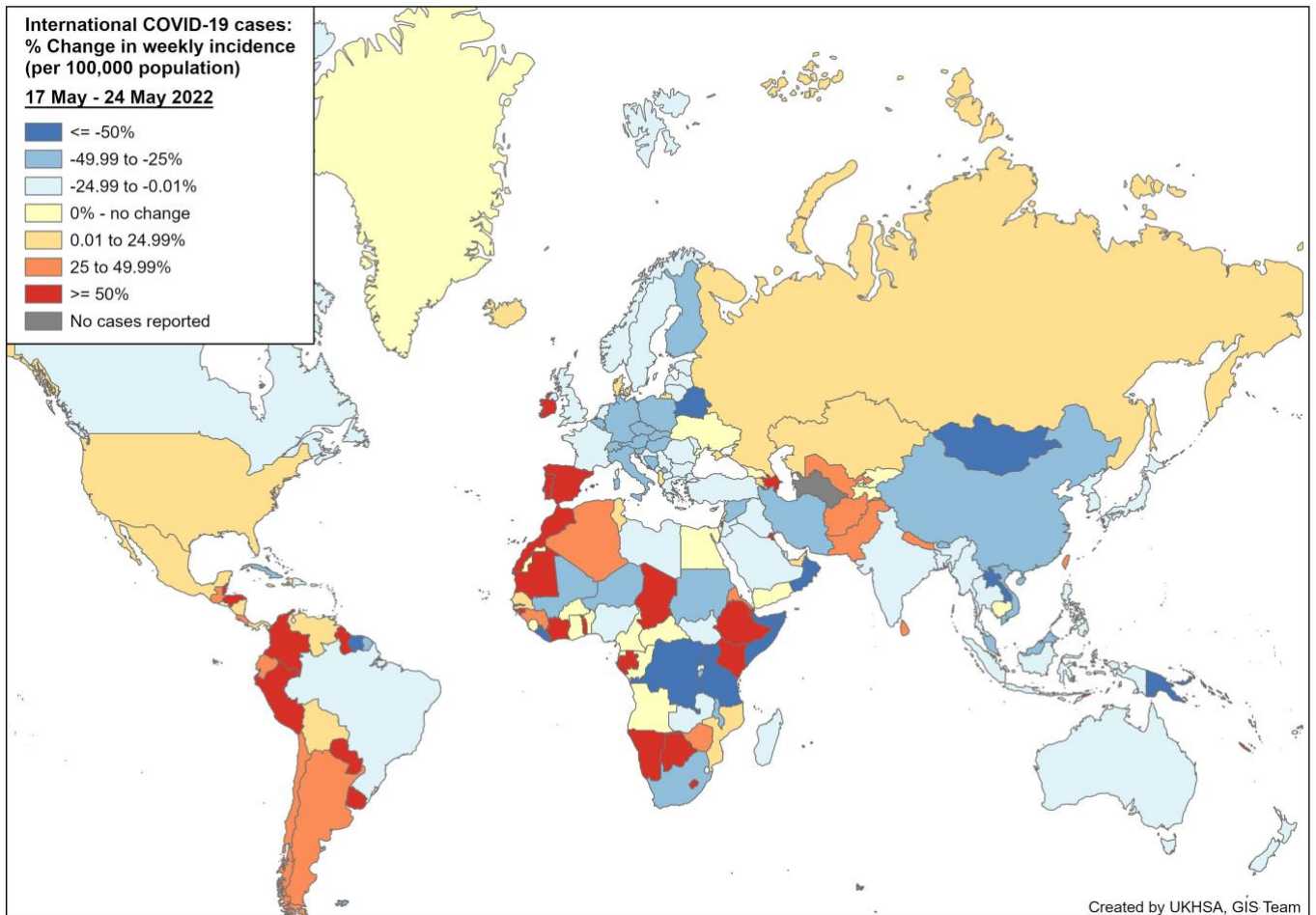
For further information on the global COVID-19 situation please see the [WHO COVID-19 situation reports](#).

**Figure 67: Global map of cumulative COVID-19 cases**

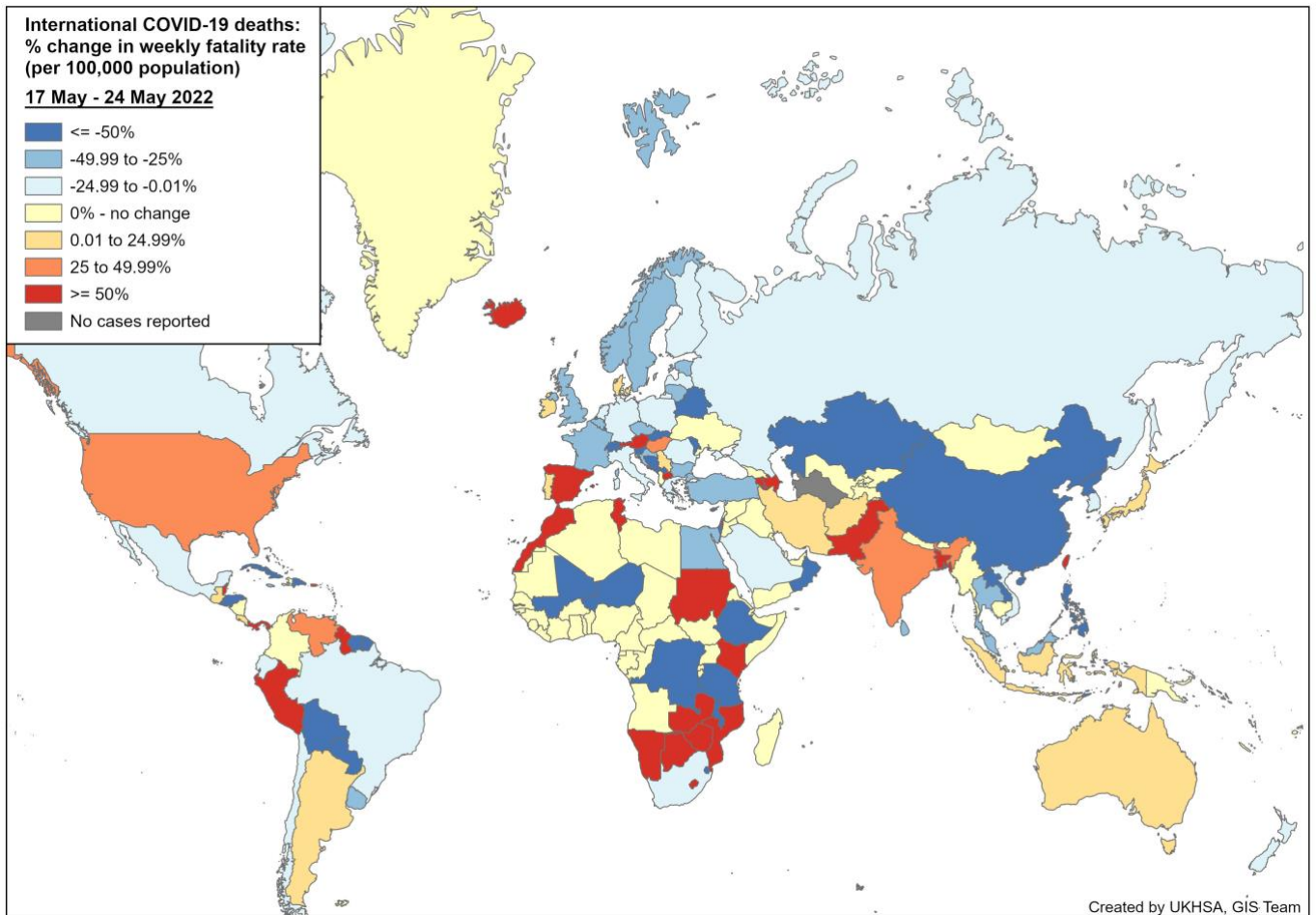




**Figure 68: Global map of percentage change in weekly COVID-19 case incidence rate per 100,000 population compared to the previous week**



**Figure 69: Global map of percentage change in weekly COVID-19 fatality rate per 100,000 population compared to the previous week**



## Global influenza update

Updated on 16 May 2022 (based on data up to 1 May 2022) ([WHO website](#)).

In the temperate zones of the northern hemisphere, influenza activity decreased or remained stable. Detections were mainly influenza A(H3N2) viruses and B/Victoria lineage viruses, with some detections of A(H1N1)pdm09 viruses. In the temperate zones of the southern hemisphere, influenza activity was low overall as expected at this time of year, except in Argentina and Chile. In Argentina, influenza detections remained elevated, and positivity was at a high intensity level. In Chile, positivity increased above the epidemic threshold.

In the countries of North America, influenza activity was stable compared to the previous period and influenza positivity was higher than usual for this time of year and was predominantly due to influenza A viruses, with A(H3N2) predominant among the subtyped viruses.

In Europe, overall influenza continues to decline with influenza A(H3N2) predominant.

In East Asia, in China influenza activity with mainly influenza B/Victoria lineage detections continued to decrease, with A(H3N2) becoming the predominantly detected virus across the southern provinces. Elsewhere, influenza illness indicators and activity remained low.

In Central Asia, a single influenza B detection was reported in Kazakhstan.

In Northern Africa, Tunisia continued to report few detections of mainly influenza A(H3N2) and one influenza A(H1N1)pdm09 detection, and Egypt reported increasing detections of influenza B followed by A(H3N2).

In Western Asia, influenza activity was low across reporting countries, with the exception of Georgia where detections of influenza A(H3N2) continued to be reported though decreasing.

In the Caribbean and Central American countries, low influenza activity was reported with influenza A(H3N2) predominant.

In tropical South America, low influenza activity was reported with influenza A(H3N2) predominant.

In tropical Africa, influenza activity remained low with influenza A(H3N2) predominating followed by influenza B/Victoria lineage viruses.

In Southern Asia, influenza virus detections were at low levels with a few detections of A(H3N2) and A(H1N1)pdm09 viruses.

In South-East Asia, low detections of A(H3N2) were reported in Singapore and Timor-Leste.

The WHO Global Influenza Surveillance and Response System (GISRS) laboratories tested more than 346,542 specimens during the period 18 April to 1 May 2022. A total of 27,625 specimens were positive for influenza viruses, of which 27,081 (98%) were typed as influenza A and 544 (2%) as influenza B. Of the sub-typed influenza A viruses, 283 (6.5%) were influenza A(H1N1)pdm09 and 4,098 (93.5%) were influenza A(H3N2). Of the characterized B viruses, 257 (100%) belonged to the B-Victoria lineage.

## Influenza in Europe

Updated on 25 May 2022, up to week 19 of 2022 ([Joint ECDC-WHO Europe Influenza weekly update](#))

For the region as a whole, so far in the 2021 to 2022 influenza season, influenza activity reached well above that observed in the 2020 to 2021 season.

Influenza activity, based on sentinel primary care specimens from patients presenting with ILI or ARI symptoms, first peaked in week 52/2021 (when it reached 19% positivity), declining thereafter until week 4/2022, when it increased again reaching a plateau phase (25-30% positivity) between weeks 10 and 15/2022 (this represents late activity compared to most previous seasons) followed by a subsequent 4-week decline.

For week 19 of 2022, of 40 countries and areas reporting on intensity of influenza activity, 24 reported baseline-intensity (across the Region), 13 reported low-intensity (across the Region), 2 reported high-intensity (Finland and Luxembourg) and 1 reported medium-intensity (Latvia).

Of 41 countries and areas reporting on geographic spread of influenza viruses, 15 reported no activity (in eastern, southern and western areas), 15 reported sporadic spread (across the Region), 2 reported local spread (Luxembourg and Slovenia), 1 reported regional spread (France) and 8 reported widespread activity (Estonia, Finland, Germany, Latvia, Netherlands, Norway, Portugal and Sweden).

For week 19 of 2022, 85 (10%) of 892 sentinel specimens tested positive for an influenza virus; 83 (98%) were type A and 2 (2%) were type B. Of 55 subtyped A viruses, 87% were A(H3) and 13% A(H1)pdm09. So far in the 2021 to 2022 influenza season, of 58,012 sentinel specimens tested for influenza viruses, 6,804 were positive with the most dominant strain being A(H3).

## 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](#).

## Other respiratory viruses

### Avian influenza and other zoonotic influenza

[Latest WHO update on 13 May 2022](#)

Since the previous WHO update on 7 April 2022, 1 human case of infection with influenza A(H5N6) and 1 human case of influenza A(H5N1) have been reported officially. One human case of influenza A(H3N8) was reported in this time period from China, and based on the information currently available is the first case of human influenza A(H3N8) infection reported globally. One case of an Eurasian avian-like swine influenza A(H1N1)v virus was reported from Germany.

## Middle East respiratory syndrome coronavirus (MERS-CoV)

From September 2012 to 15 May 2022, a total of 2,591 laboratory-confirmed cases of MERS-CoV and 894 associated deaths were reported globally to WHO under the International Health Regulations (IHR 2005).

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 two laboratory-confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection to the WHO ([WHO website](#)).

Up to 17 August 2021, 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](#)

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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