



Public Health  
England

Protecting and improving the nation's health

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

**Week 51 report (up to week 50 data)  
17 December 2020**

## Executive summary

This report summarises the information from the surveillance systems which are used to monitor Coronavirus Disease 2019 (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 50 (between 7 December and 13 December 2020) and for some indicators daily data up to 15 December 2020.

Surveillance indicators suggest that COVID-19 activity at a national level has increased during week 50. There is currently limited testing for other respiratory viruses, however, laboratory indicators suggest that influenza activity is low.

During week 45, several social and physical distancing measures were re-introduced across England and mass testing was introduced in parts of the North-West. During week 48 national social and physical distancing measures were replaced with regional measures. Further asymptomatic testing is being rolled out in other parts of the country (<https://www.gov.uk/government/news/more-rapid-covid-19-tests-to-be-rolled-out-across-england>). All of these factors are likely to impact on surveillance indicators.

Detections of COVID-19 cases in England increased in week 50. Overall positivity rates also increased in both Pillar 1 and 2. Sharp increases in case rates were seen in London, South East and East of England in week 50, while smaller increases were observed in all other regions. Cases rates have increased in the majority of age groups in week 50. Positivity has increased in individuals who have reported having symptoms.

Through Respiratory Datamart, there were two influenza positive samples detected in week 50. Rhinovirus activity continued to decrease in week 50.

The overall number of acute respiratory infection incidents reported to PHE Health Protection Teams have increased from 786 in the previous week to 860 in week 50 across all settings in England. In the majority of reported incidents SARS-CoV-2 has been detected. It is important to note that an increasing number of outbreaks are being managed through other routes outside of Health Protection Teams.

The majority of community and syndromic indicators have remained stable during week 50. General practice (GP) influenza-like illness (ILI) consultations remained low in all UK schemes.

Through the UK GP swabbing scheme, SARS-CoV-2 positivity among patients contacting their GP with influenza like illness or lower respiratory tract infection symptoms increased from 21.8% in week 49 to 23.7% in week 50.

The overall COVID-19 confirmed hospital and ICU/HDU admission rates increased whilst the influenza confirmed hospital and ICU/HDU admission rates remained low.

Emergency department attendances for COVID-19 like diagnosis decreased slightly and whilst attendances for acute respiratory infections have remained stable in week 50.

The number of deaths among confirmed COVID-19 cases decreased slightly in week 49. Overall excess all-cause mortality was observed in week 49; by age group in the 75 to 84 year olds and subnationally in the North West, Yorkshire and Humber and the East Midlands.

Overall estimated national seroprevalence based on blood donor samples was 6.8% with the highest seroprevalence by region seen in the North West and by age group in young adults. There have been notable increases in seroprevalence in the North-West and North East in recent weeks which is likely to reflect the high levels of COVID-19 activity in this region in recent months.

Influenza vaccine uptake is 79.4% in people aged 65 years + which is the highest uptake ever achieved. Uptake in 2 and 3 year children is the highest ever recorded. For those in at-risk groups uptake is higher than the same time in the last seven seasons. For pregnant women uptake is higher than the same time last season. The data for pregnant women are undergoing validation checks. All 50-64 year olds became eligible for vaccination on 1 December. This is the first year data for this specific age band has been collected, therefore there is no comparator data from previous years. Uptake was 17.7% for those in this age band who were not in a clinical risk group. Weekly vaccine coverage data are provisional.

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# Laboratory surveillance

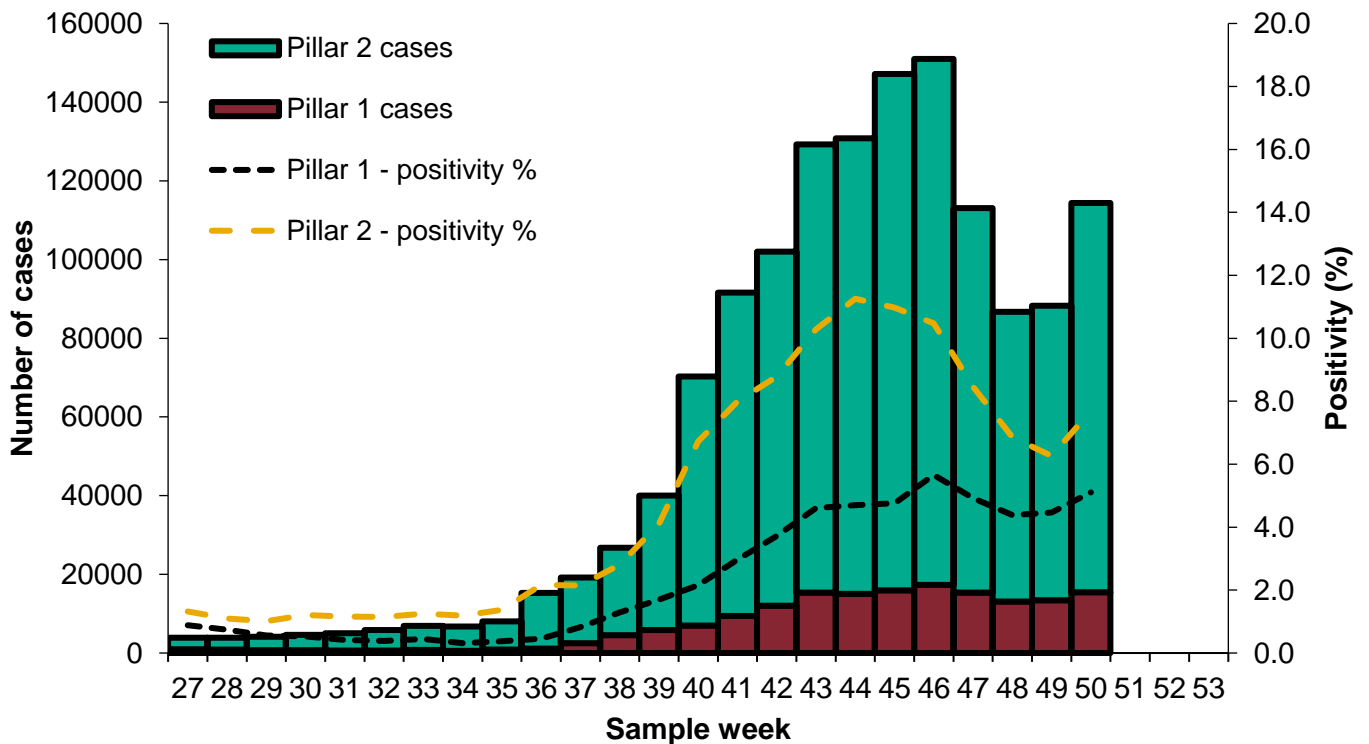
## Confirmed COVID-19 cases (England)

As of 09:00 on 15 December 2020, a total of 1,618,678 have been confirmed positive for COVID-19 in England under Pillars 1 and 2.

Overall case numbers increased in week 50. Overall positivity increased in both Pillar 1 and Pillar 2. The highest case rates were seen in the 40 to 49 year olds in Pillars 1 and 2. Increases in positivity rates were noted across the majority of age groups. Cases rates have increased sharply in London, East of England and South East regions.

From the week 42 report onwards, case rates in Figures 3,4,7 and 9 have been calculated using mid-2019 ONS population estimates.

**Figure 1: Laboratory confirmed COVID-19 cases tested under Pillar 1 and Pillar 2, based on sample week with overall weekly positivity for Pillars 1 and 2 (%)**



\*The data are 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.

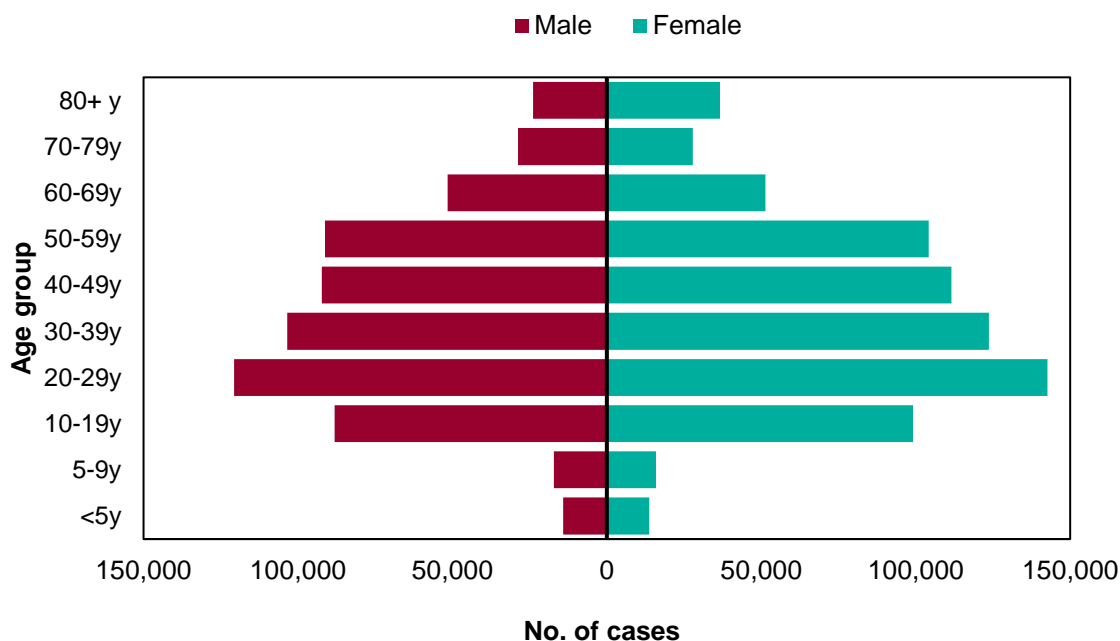
\* Positivity is calculated as the number of individuals testing positive during the week divided by the number of individuals tested during the week based on PCR testing.

\* As of 16 November 2020, the methodology for allocating geographies for cases has been updated to include alternate postcodes where applicable. This change has been applied for cases reported since 1 September 2020. Cases reported prior to 1 September 2020 will not be allocated alternate postcode geographies.

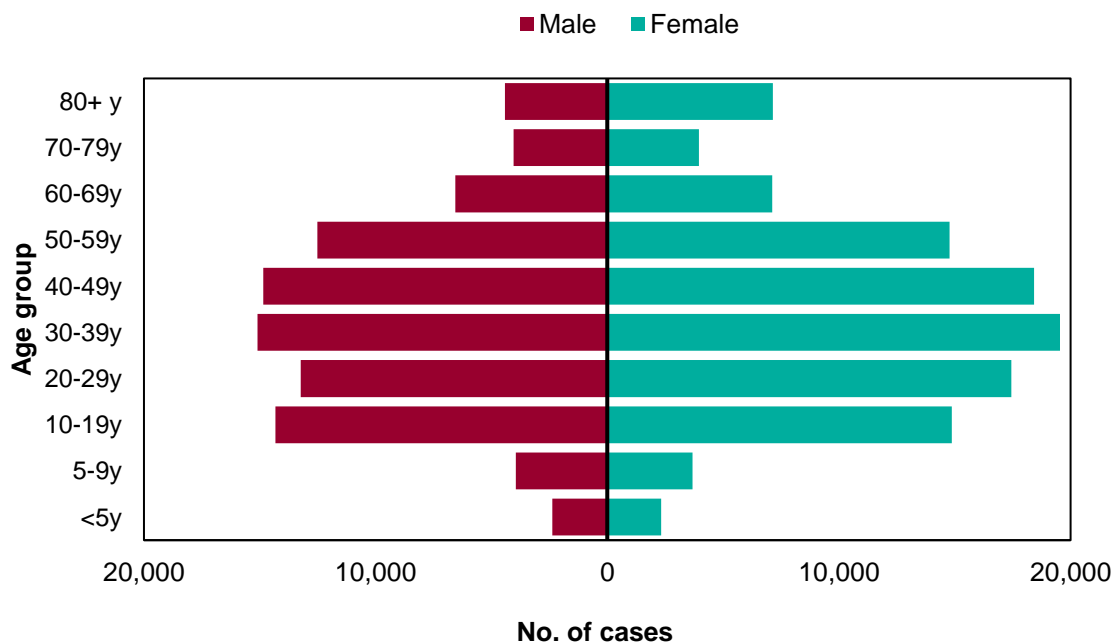
## Age and sex

**Figure 2: Age/sex pyramids for laboratory confirmed COVID-19 cases tested under Pillars 1 and 2 (a) cumulative number since week 27 (n=1,357,927), and (b) in weeks 49 and 50 (n=200,617)**

(a)

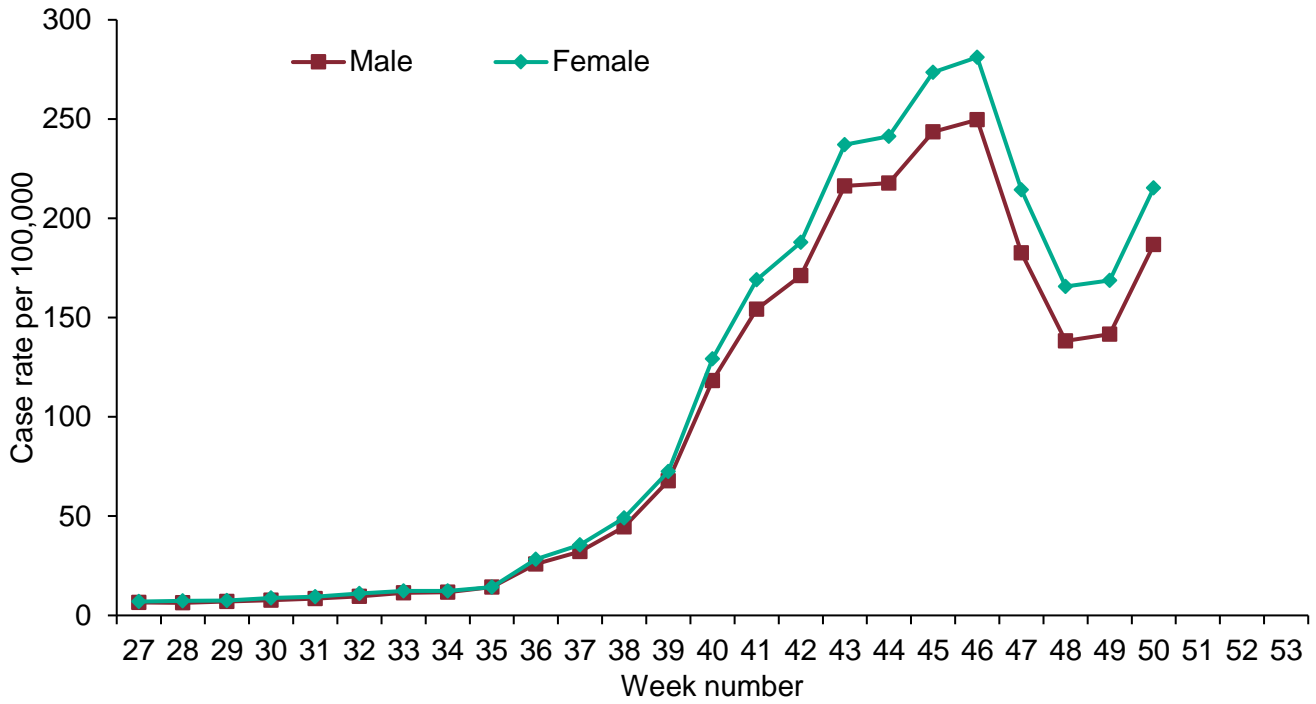


(b)

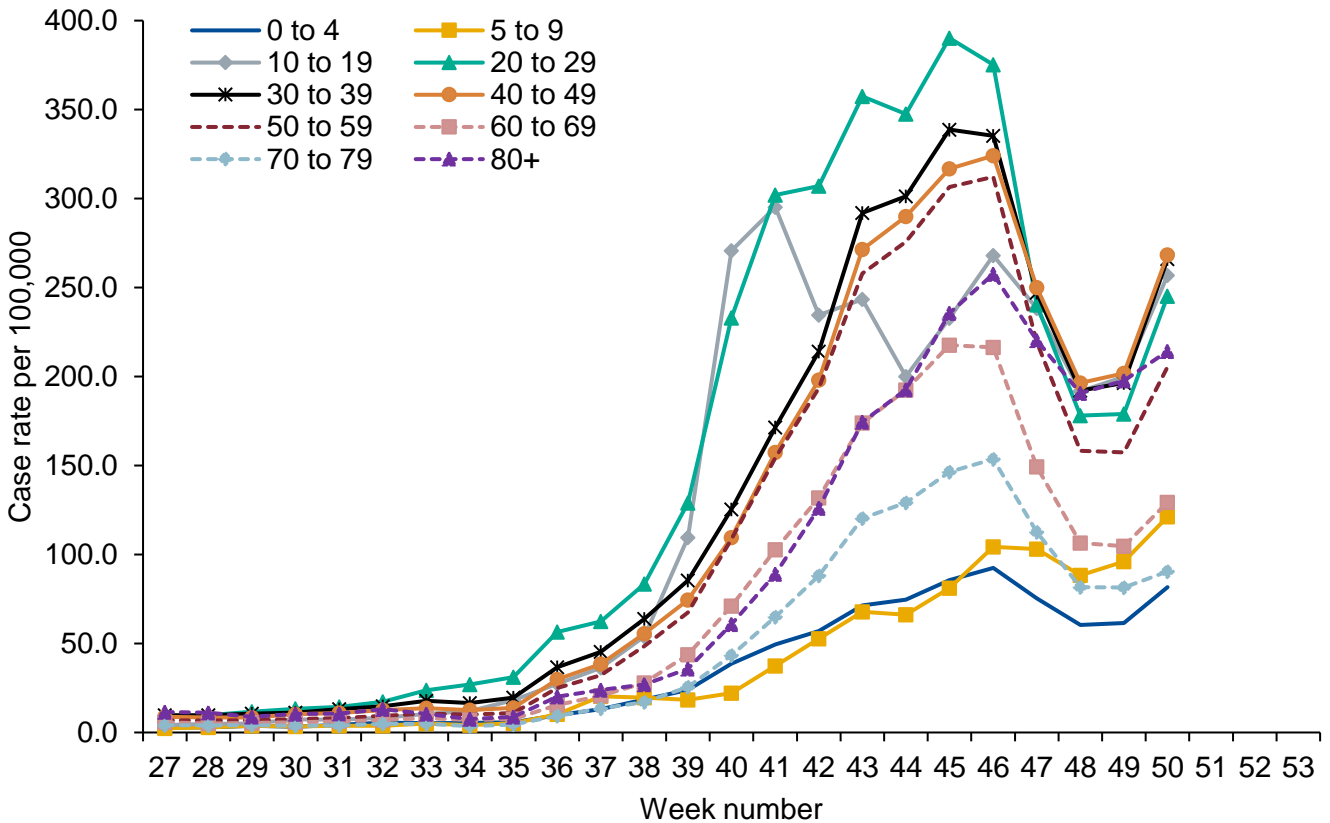




**Figure 3: Weekly laboratory confirmed COVID-19 case rates per 100,000, tested under Pillar 1 and Pillar 2, by sex**

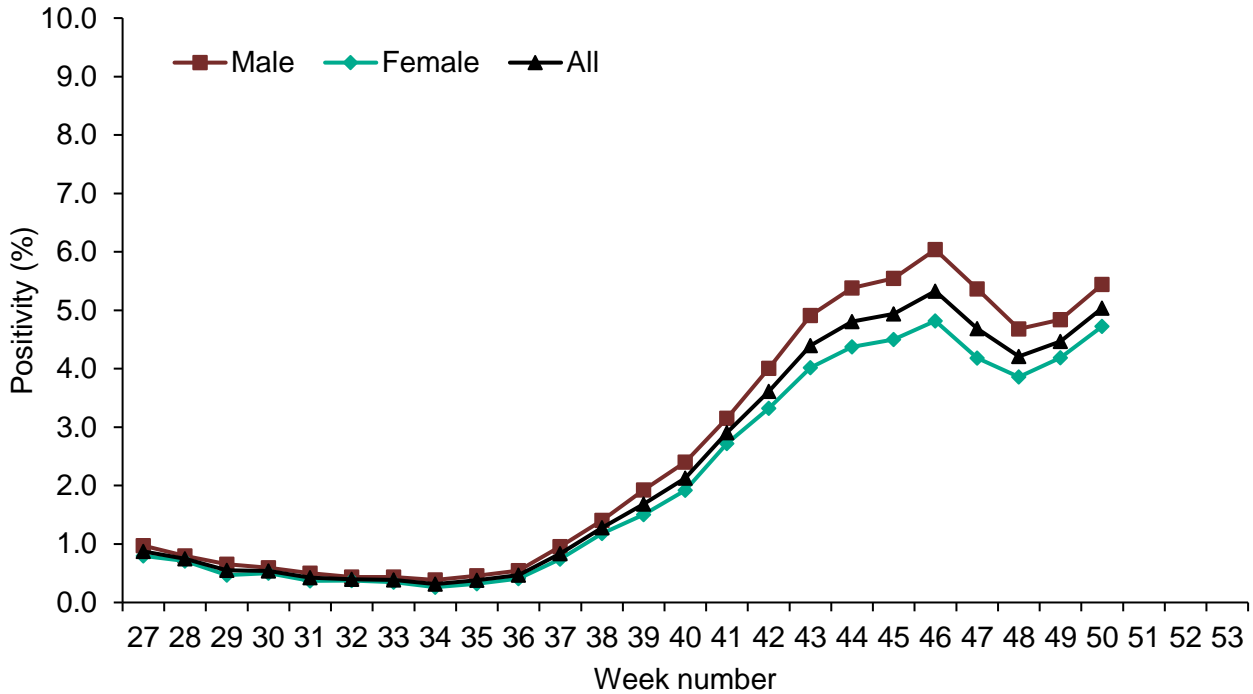


**Figure 4: Weekly laboratory confirmed COVID-19 case rates per 100,000, tested under Pillar 1 and Pillar 2, by age group**

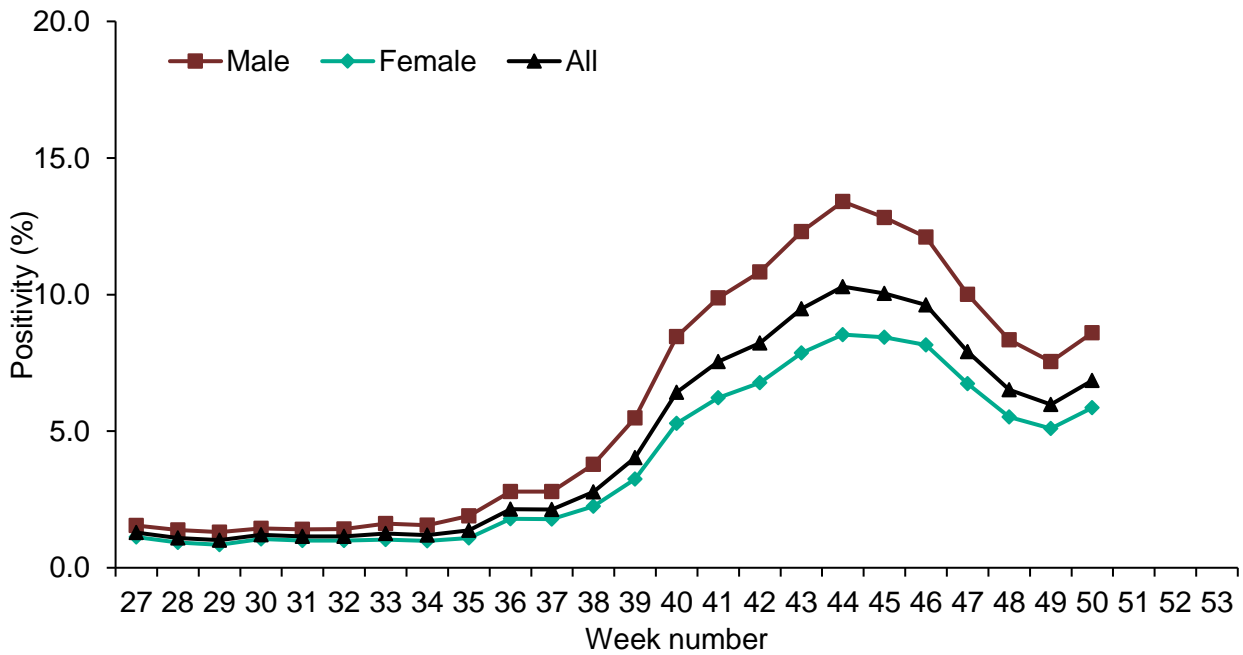


**Figure 5: Weekly positivity (%) of laboratory confirmed COVID-19 cases tested overall and by sex under (a) Pillar 1 and (b) Pillar 2, (SGSS and Respiratory DataMart)**

(a)

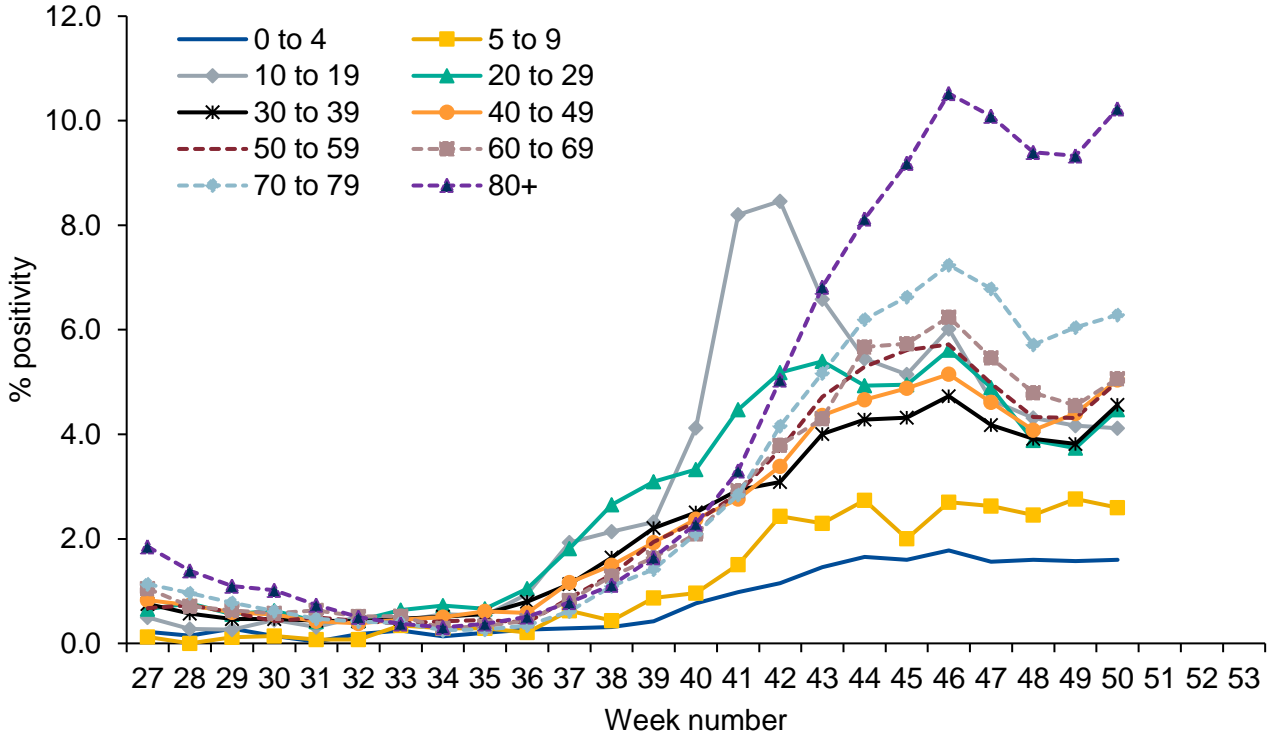


(b)

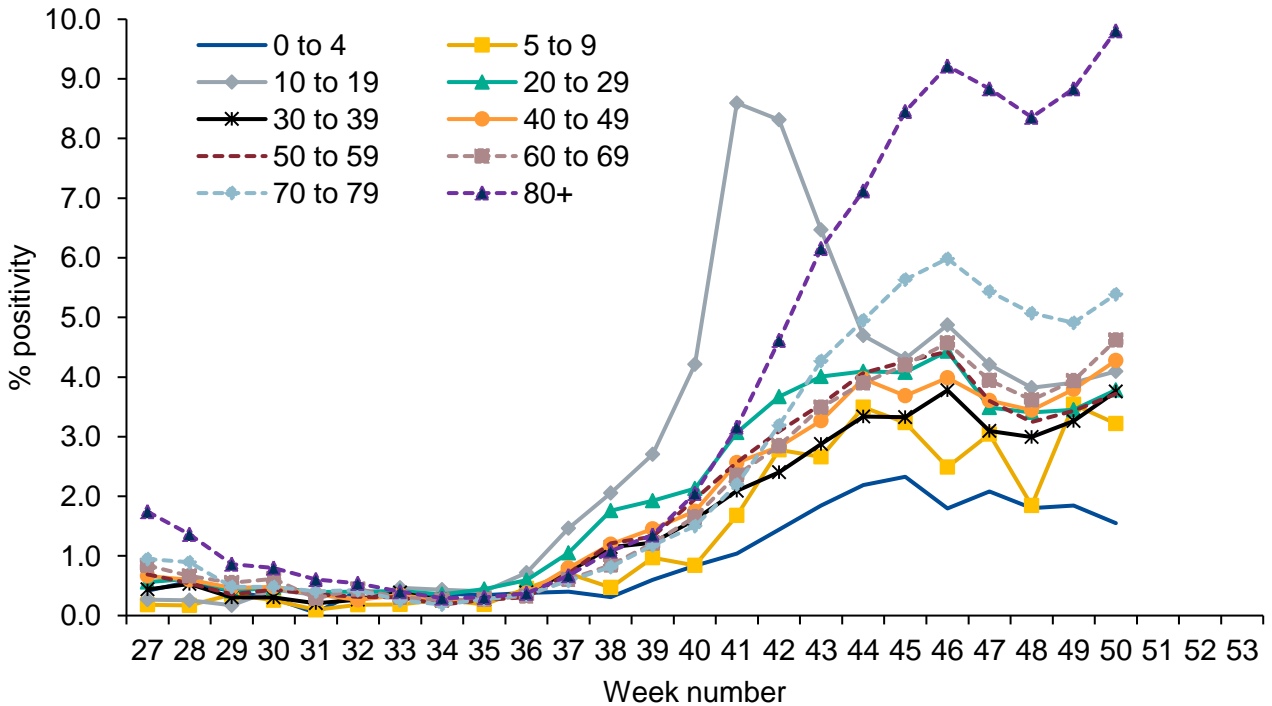


**Figure 6: Weekly positivity (%) of laboratory confirmed COVID-19 cases tested under Pillar 1, (a) by male and age group and (b) by female and age group and; under Pillar 2, (c) by male and age group and (d) by female and age group, (SGSS and Respiratory DataMart)**

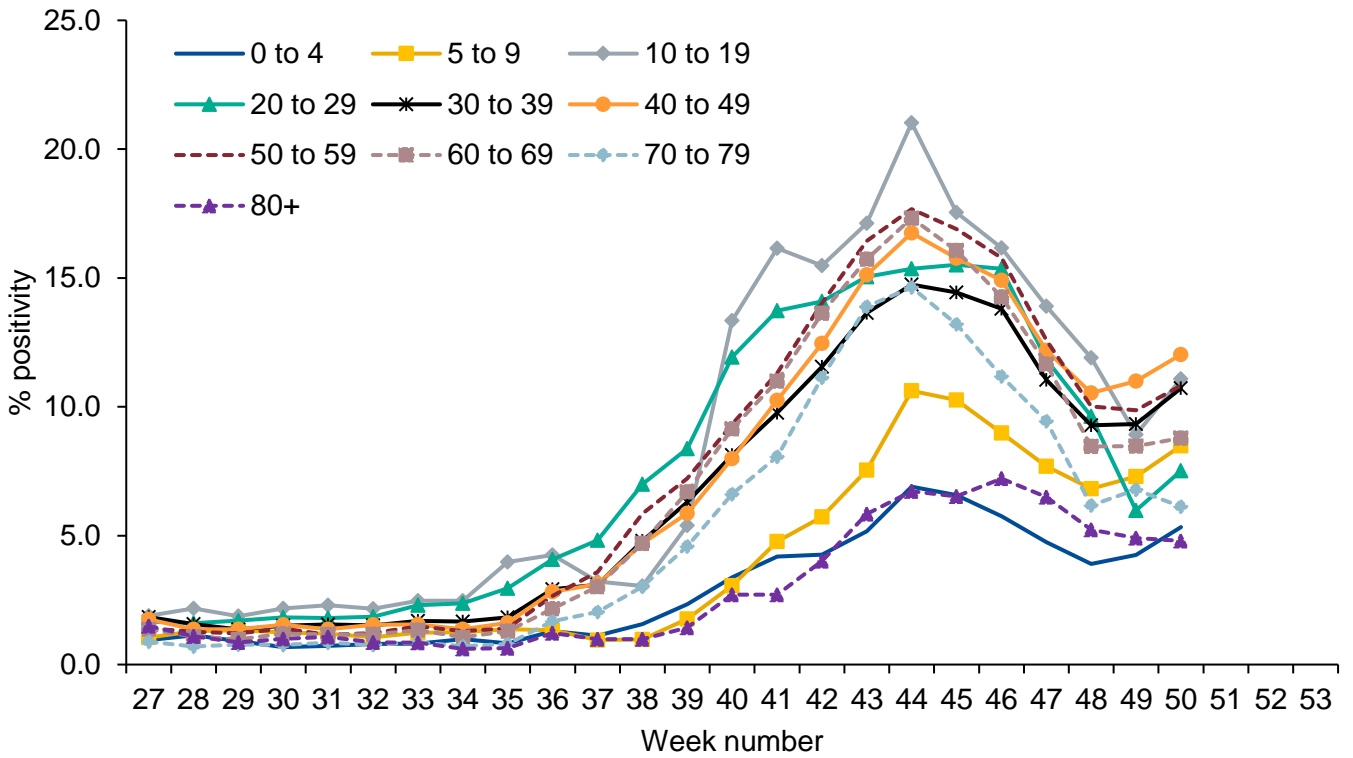
(a) Pillar 1 - Male



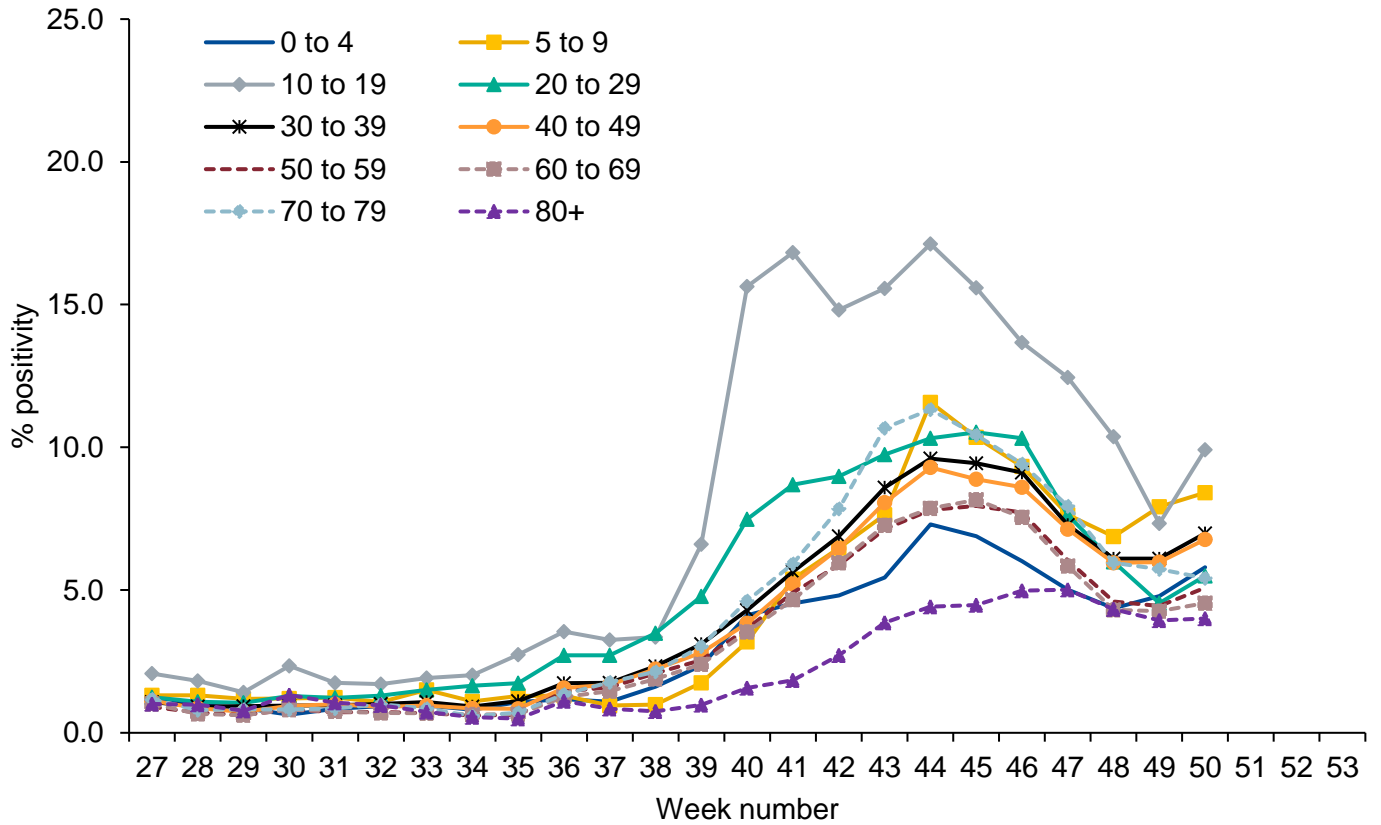
(b) Pillar 1 - Female



(c) Pillar 2 - Male



(d) Pillar 2 - Female

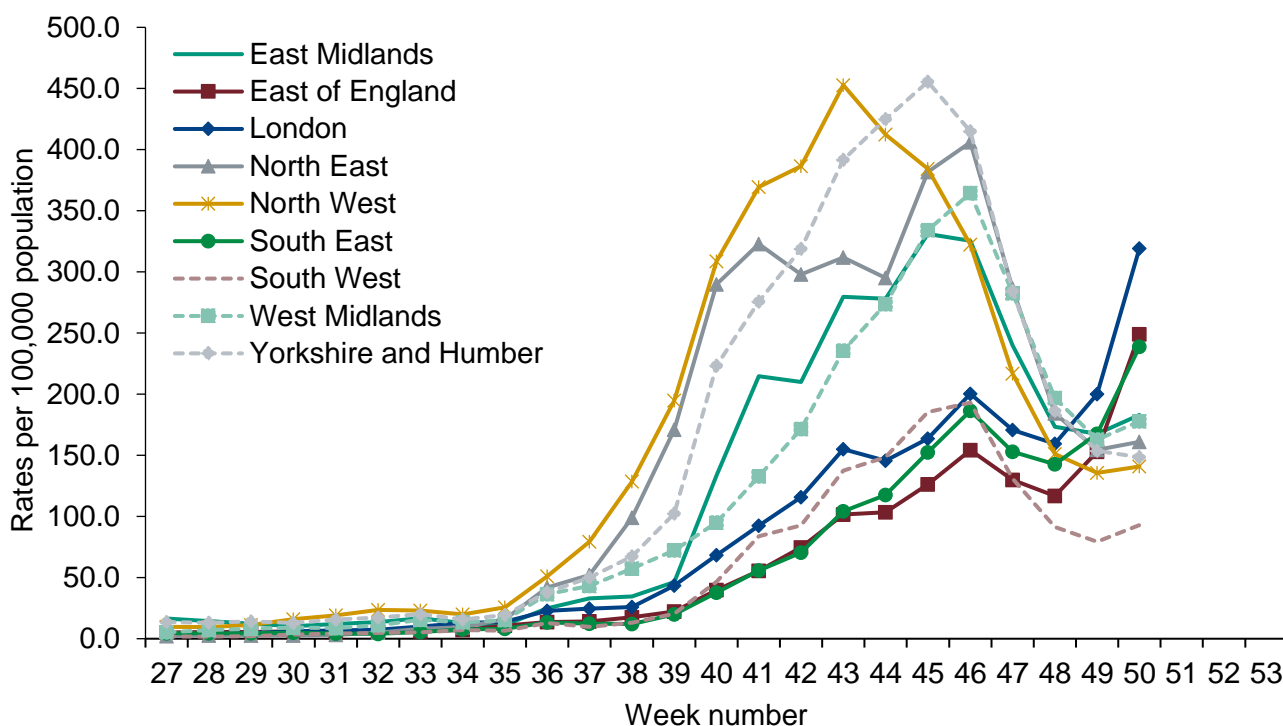


## Geography

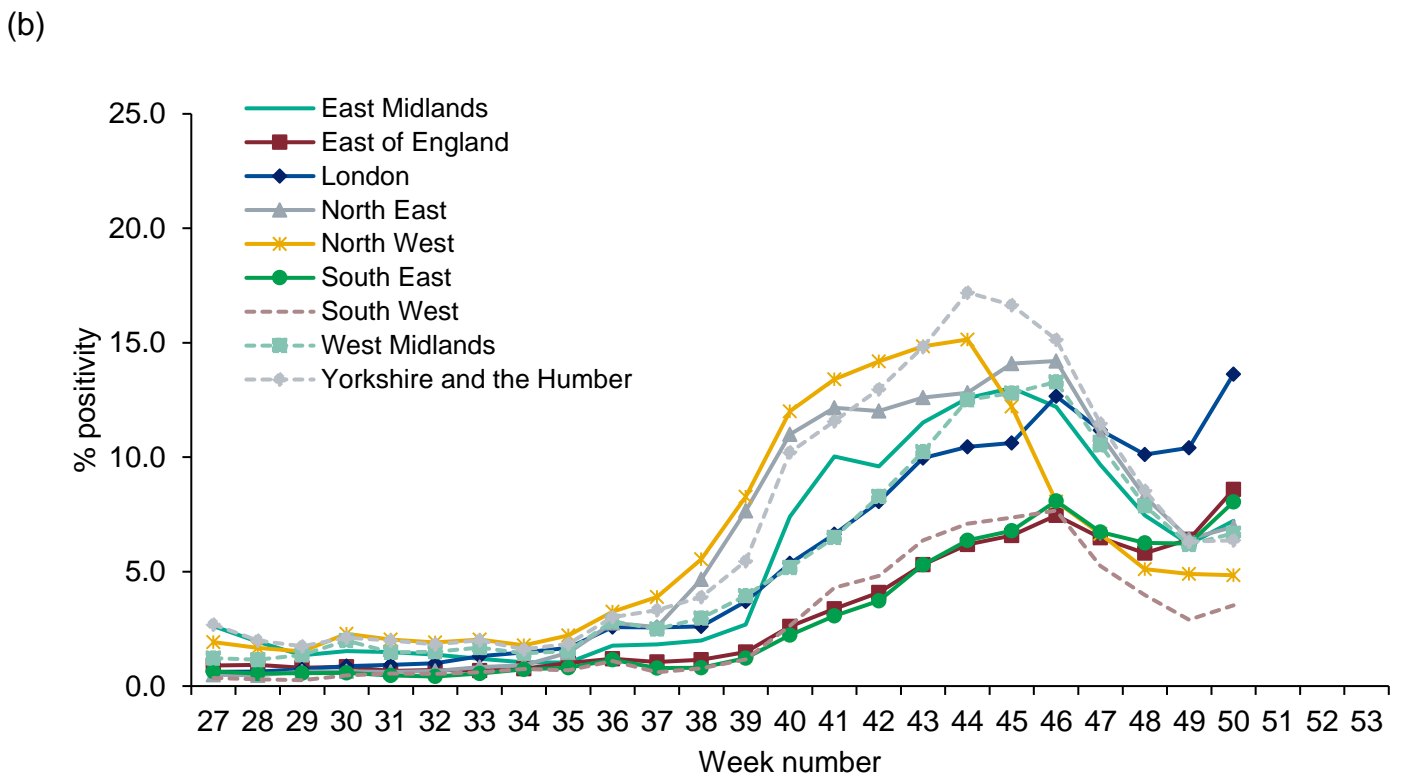
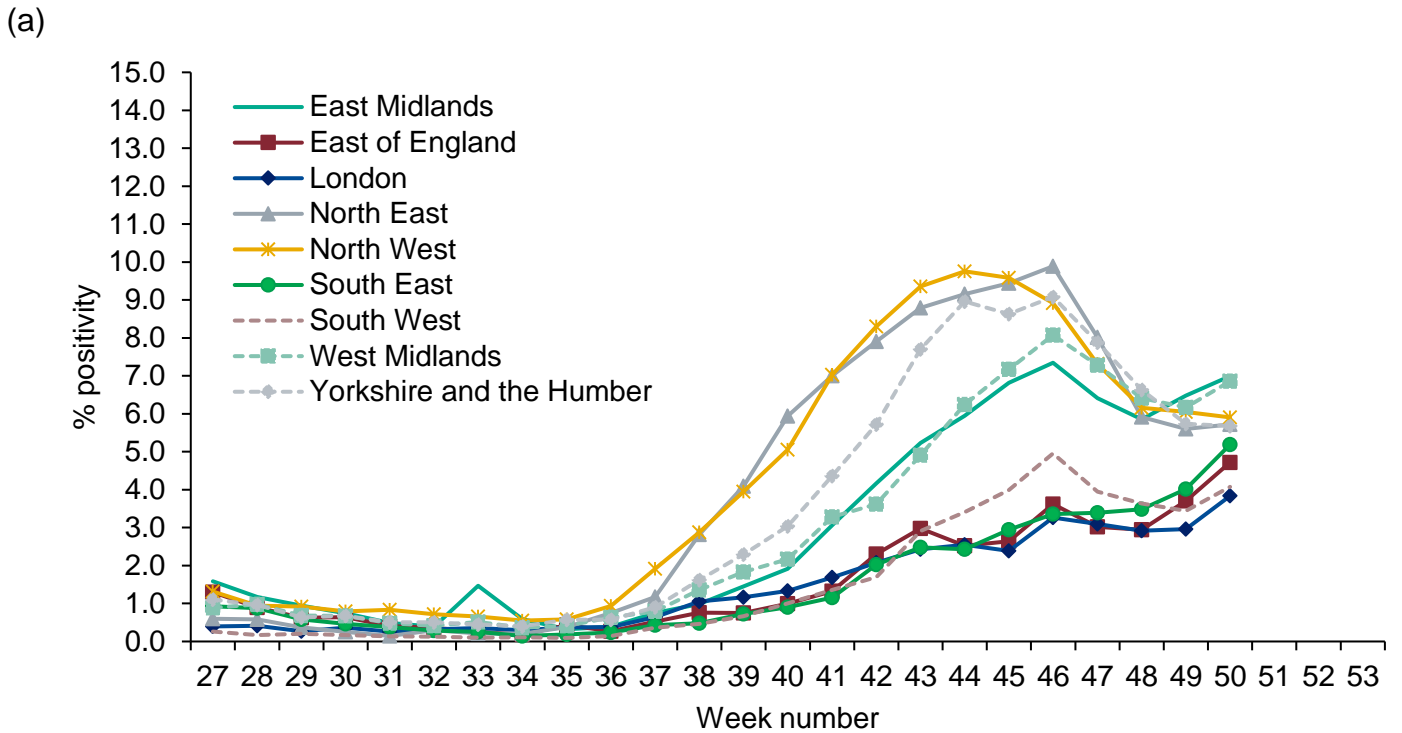
**Table 1: Cumulative number of cases under Pillars 1 and 2 (n=1,598,428) and cumulative number of cases since week 27 under Pillar 1 and 2 (n=1,363,466)**

PHE Centres	Cumulative Pillar 1 + 2 cases	Cumulative since week 27, Pillar 1 + 2 cases
North East	108,691	93,653
North West	328,074	285,827
Yorkshire and Humber	231,200	202,507
West Midlands	187,177	162,014
East Midlands	155,825	135,180
East of England	117,282	93,148
London	210,803	177,172
South East	169,334	136,620
South West	90,042	77,345

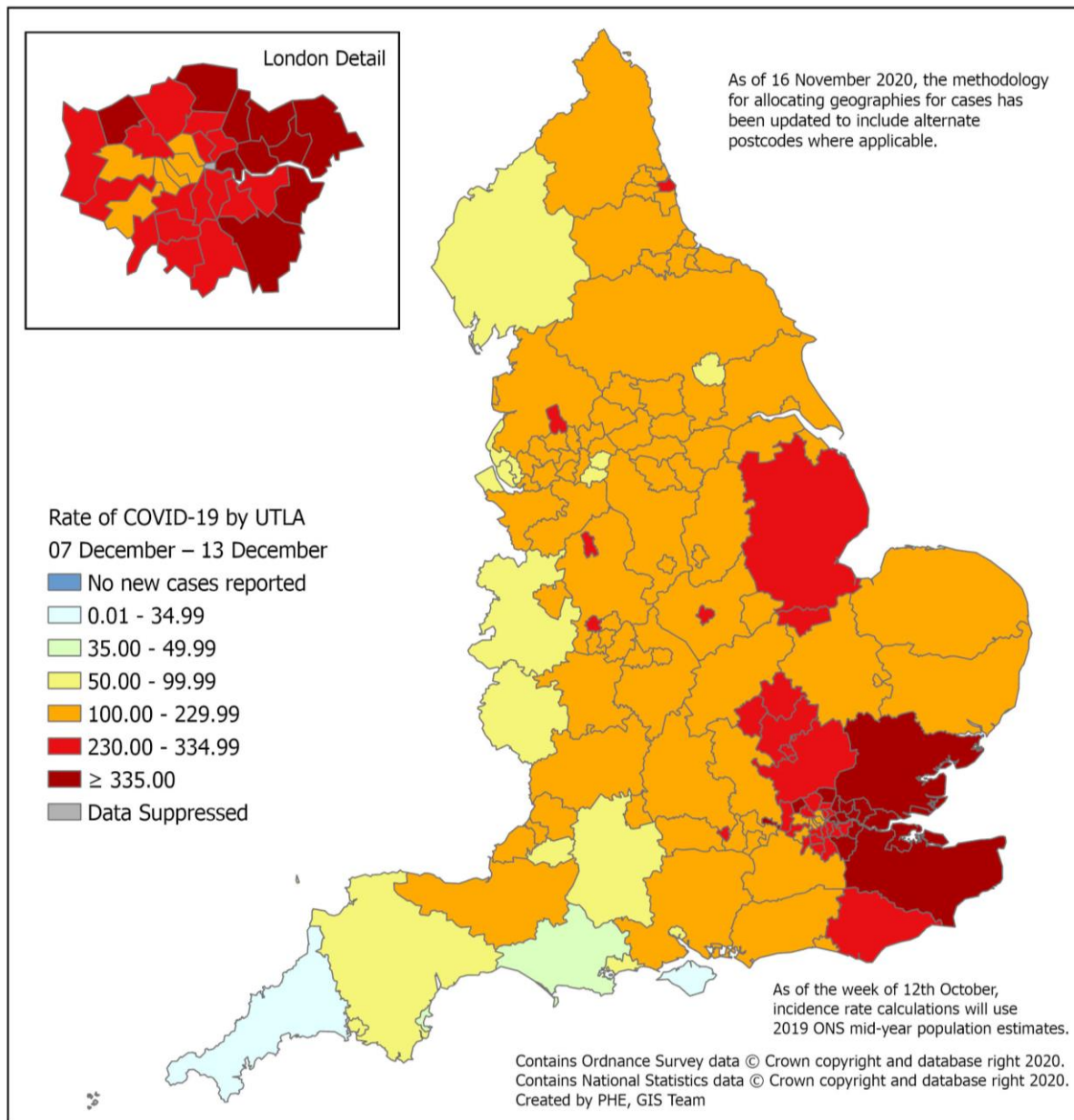
**Figure 7: Weekly laboratory confirmed COVID-19 case rates per 100,000 population (Pillar 1 and Pillar 2), by PHE Centres and sample week**



**Figure 8: Weekly positivity of laboratory confirmed COVID-19 cases tested under (a) Pillar 1 (%) and (b) Pillar 2 (%), by PHE Centres and sample week, (SGSS and Respiratory DataMart)**

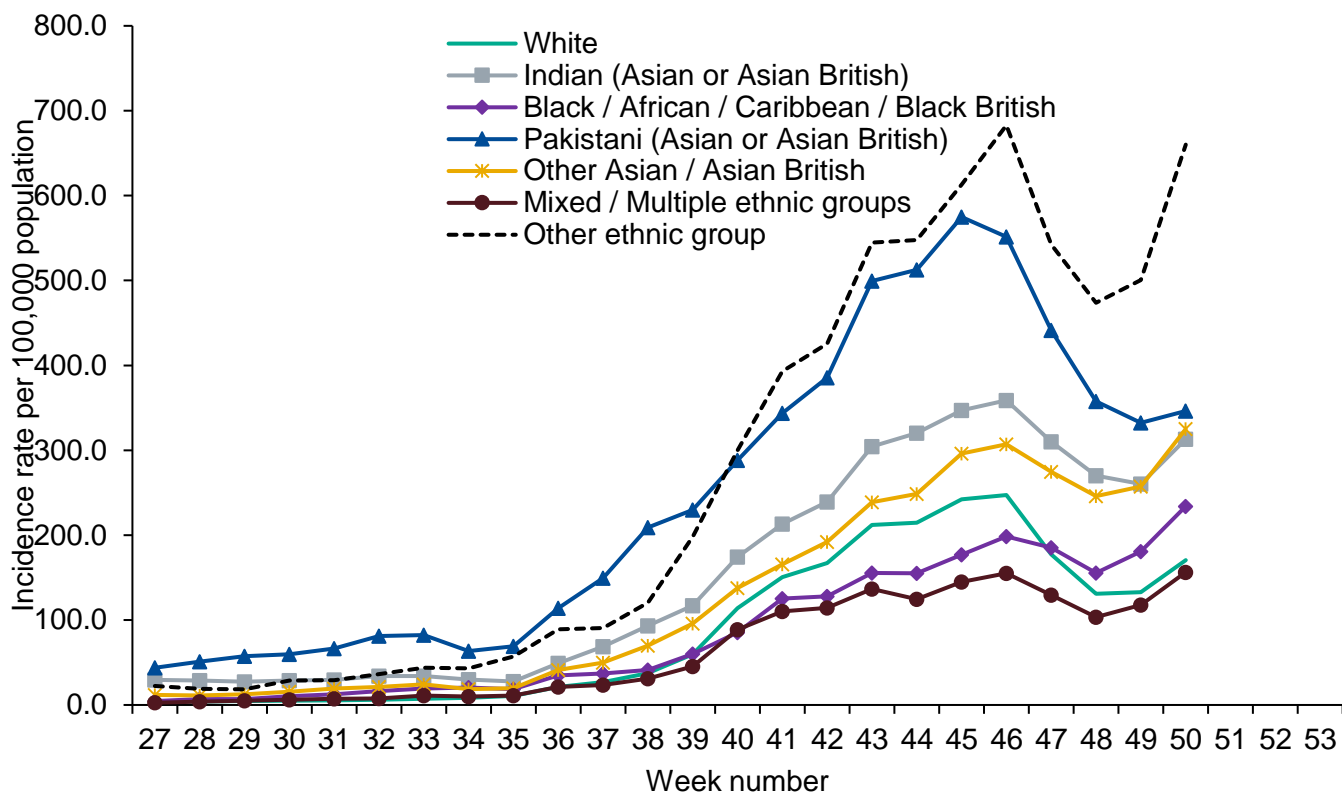


**Figure 9: Weekly rate of COVID-19 cases per 100,000 population (Pillar 1 and 2), by upper-tier local authority, England (box shows enlarged map of London area)**



## Ethnicity

**Figure 10: Weekly incidence per 100,000 population by ethnicity, England**

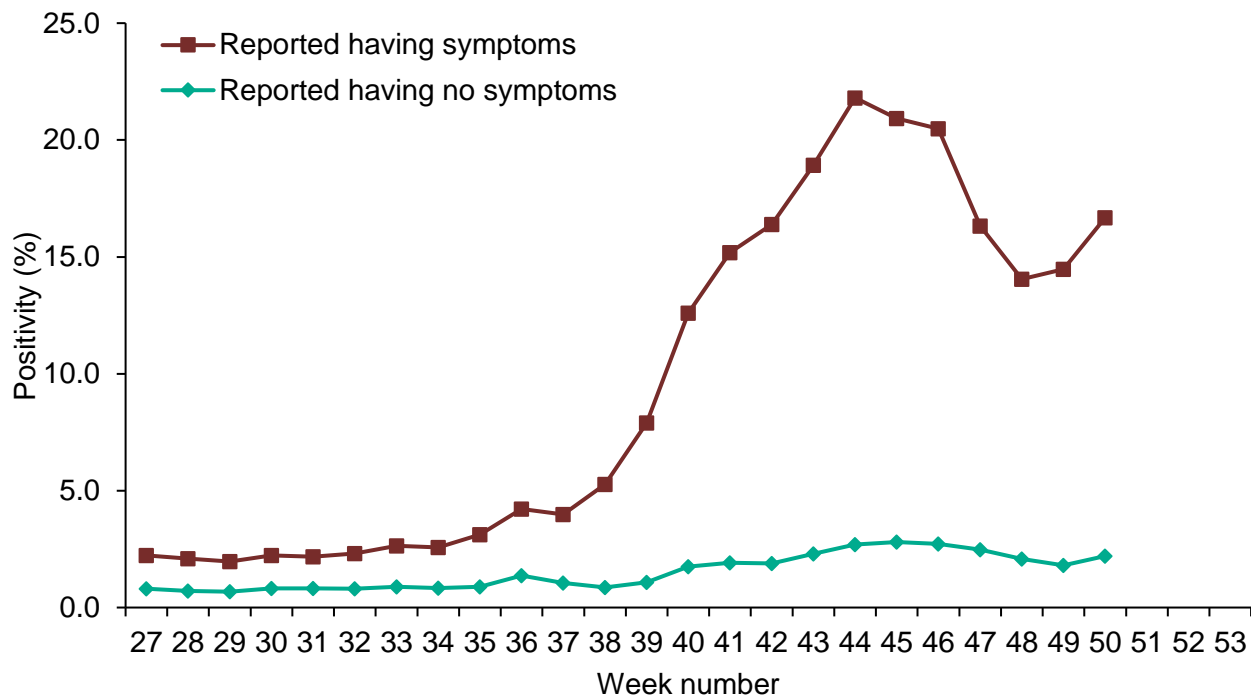


\*the incidence rates on Figure 10 have been calculated using the mid-2018 ONS population estimates



## Positivity by symptoms

**Figure 11: Weekly positivity of laboratory confirmed COVID-19 cases by symptoms reported on test request, (SGSS and Respiratory DataMart)**



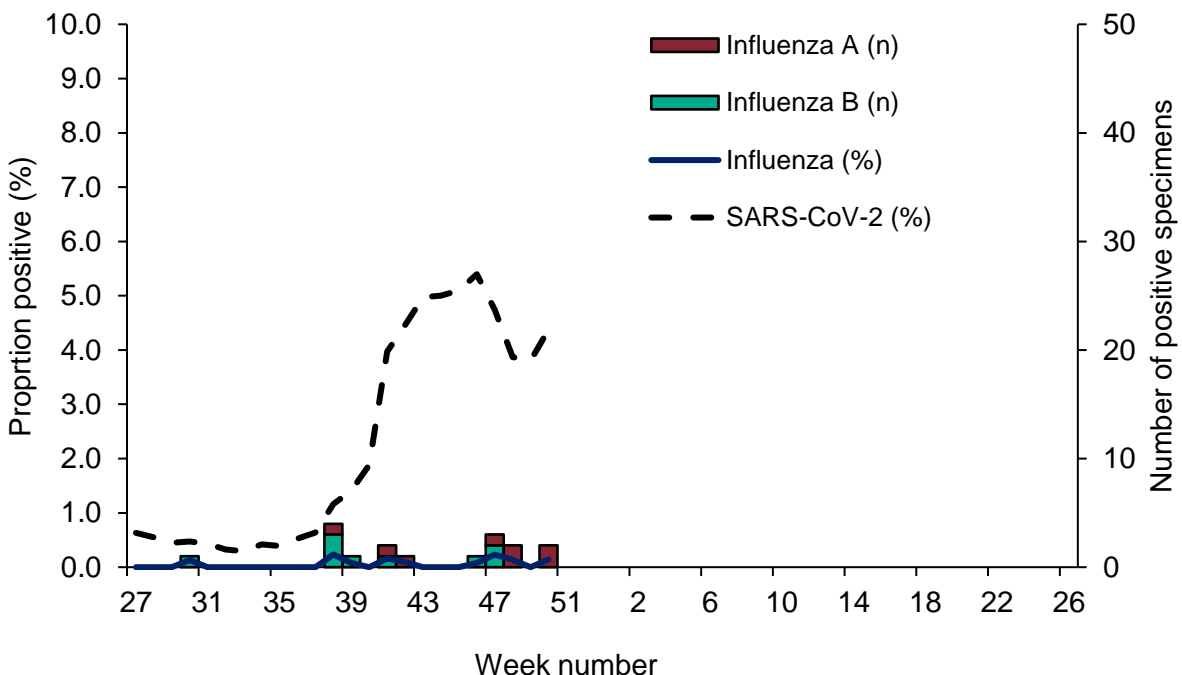
## Respiratory DataMart system (England)

The Respiratory Datamart system was initiated 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. 16 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 facilitate comparison with data on other respiratory viruses.

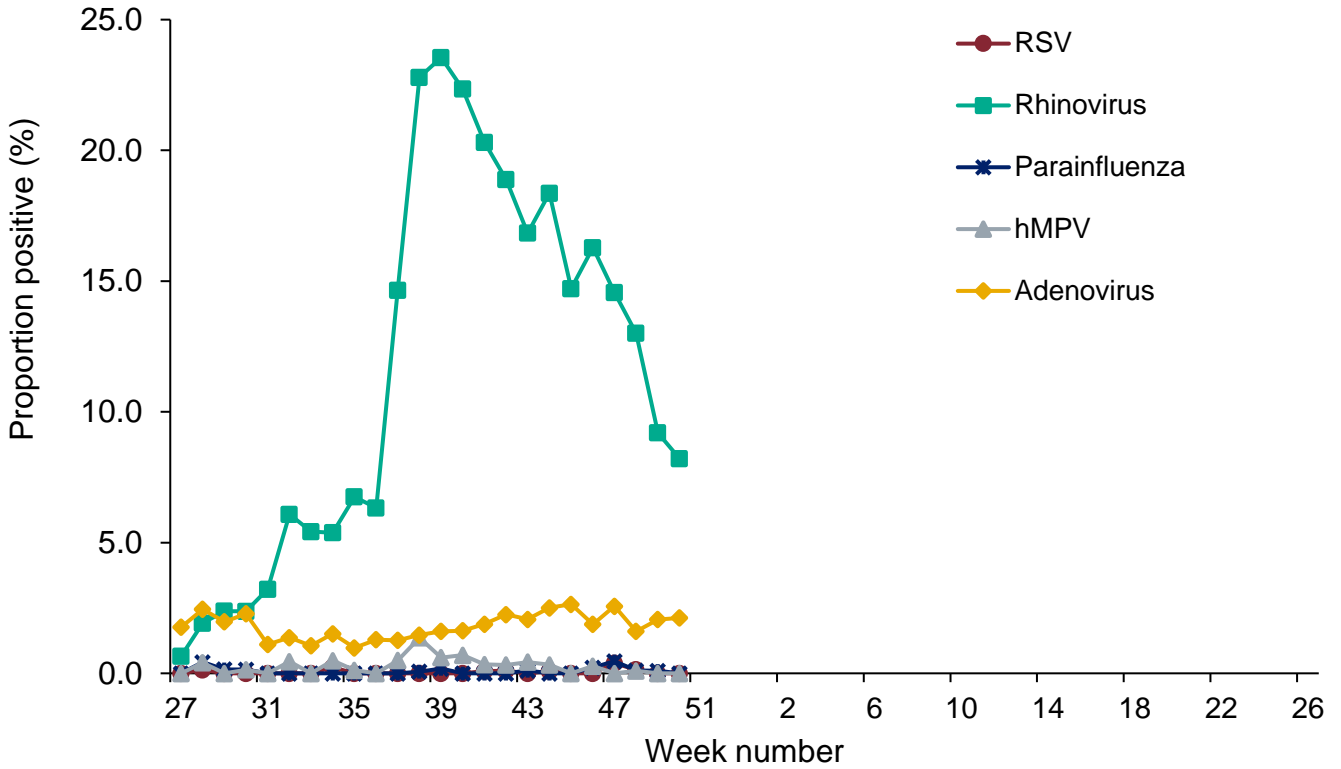
In week 50 2020, out of the 111,298 respiratory specimens reported through the Respiratory DataMart System (based on data received from 15 out of 16 laboratories), 4874 samples were positive for SARS-CoV-2 with an overall positivity of 4.4%. The highest positivity was noted in the 65+ year olds at 5.3% in week 50. The overall influenza positivity remained very low at 0.1% in week 50, with 2 of 1407 samples testing positive for flu (one influenza A(H3N2) and one influenza A(not subtyped)). (Figure 12).

Rhinovirus positivity decreased at 8.2% in week 50 compared to 9.2% in the previous week (Figure 13). The highest positivity by age group for rhinovirus was noted in the less than 5 year olds in week 50 (Figure 14). Respiratory syncytial virus (RSV), adenovirus, parainfluenza and human metapneumovirus (hMPV) positivity all remained low at 0.0%, 2.1%, 0.0% and 0.0% respectively in week 50 (Figure 13).

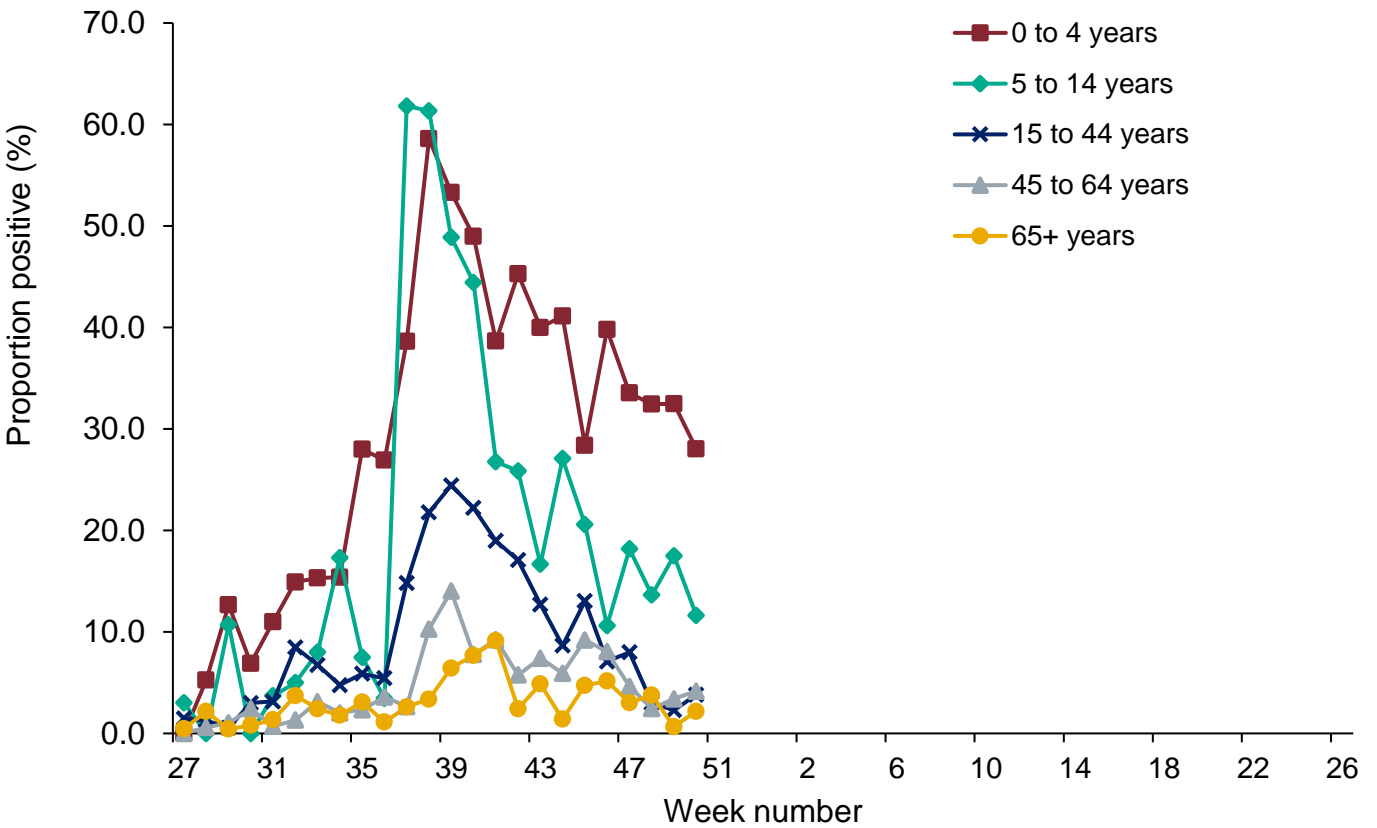
**Figure 12: DataMart samples positive for influenza and weekly positivity (%) for influenza and SARS-CoV-2, England**



**Figure 13: DataMart weekly positivity (%) for other respiratory viruses, England**



**Figure 14: DataMart weekly positivity (%) for rhinovirus by age, England**



# Community surveillance

## Acute respiratory infection incidents

Information on acute respiratory infection (ARI) incidents is based on situations reported to PHE Health Protection Teams (HPTs). These include:

- confirmed outbreaks of acute respiratory infections ie two or more laboratory confirmed cases (SARS-CoV-2, influenza or other respiratory pathogens) linked to a particular setting
- setting situations where an outbreak is suspected

All suspected outbreaks are further investigated by the HPT in liaison with local partners and a significant proportion do not meet the criteria of a confirmed outbreak. For example if suspected cases test negative for COVID19 or other respiratory pathogens, or cases are subsequently found not to have direct links to the setting. Since Pillar 2 testing became open to everyone during week 21 more incidents of mild disease have been detected in settings with healthy young populations.

Processes for reporting ARI incidents vary between PHE Centres.

The situations captured on HPZone represent a subset of all ongoing clusters and outbreaks in England rather than an exhaustive listing. A variety of arrangements are in place with local authorities and other stakeholders supporting HPTs, however data are not routinely documented on HPZone. As a result, the number of outbreaks reported for some of the regions are underestimates.

The denominator (the overall number of settings in each category) will differ by the setting category, for example there are fewer hospitals than workplaces, as will the propensity to report incidents to PHE. Therefore these data are more useful for monitoring trends over time than making comparisons across setting categories.

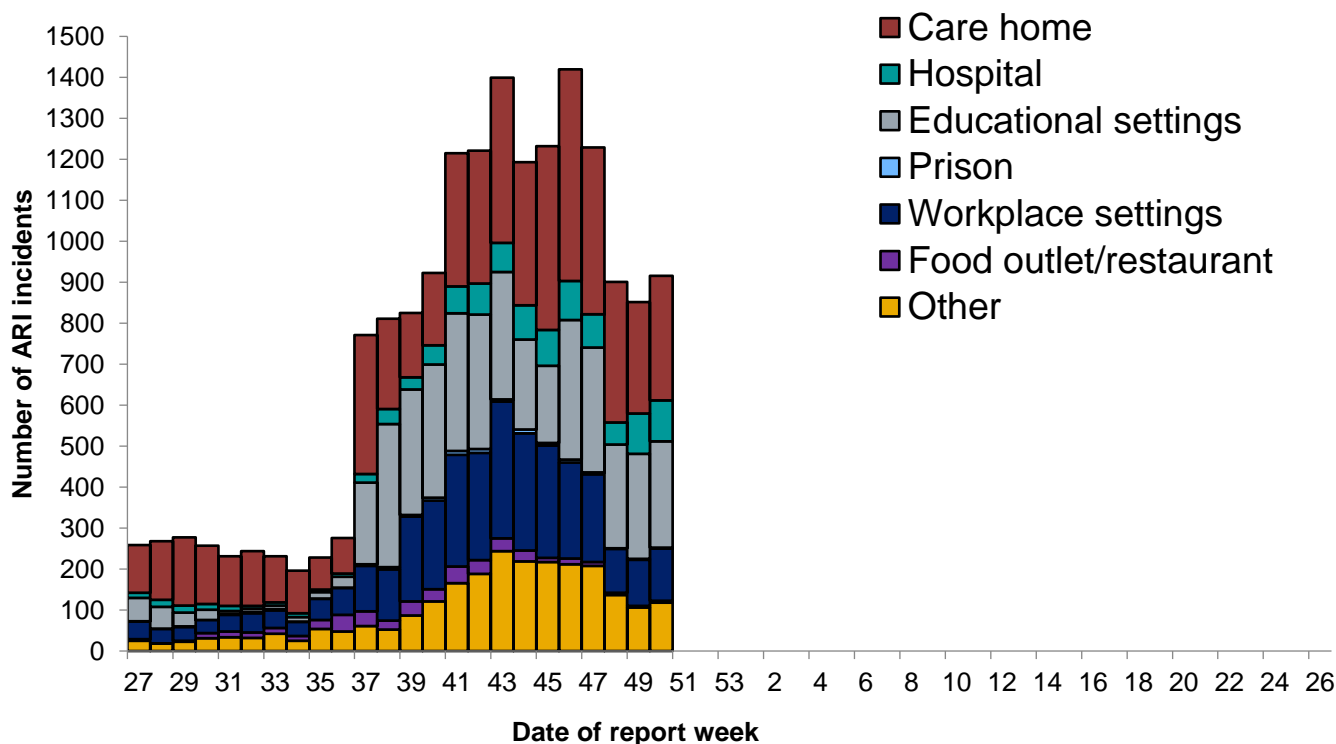
The number of incidents in each setting with at least one laboratory confirmed case of COVID19 are reported below. A national school helpline started operating on 17 September 2020 and a Universities helpline started operating on 7 October. This is likely to have had an impact on the number of situations/outbreaks being reported to HPTs in these settings

917 new ARI incidents have been reported in week 50 in the UK (Figure 15):

- 305 incidents were from care homes where 227 had at least one linked case that tested positive for SARS-CoV-2

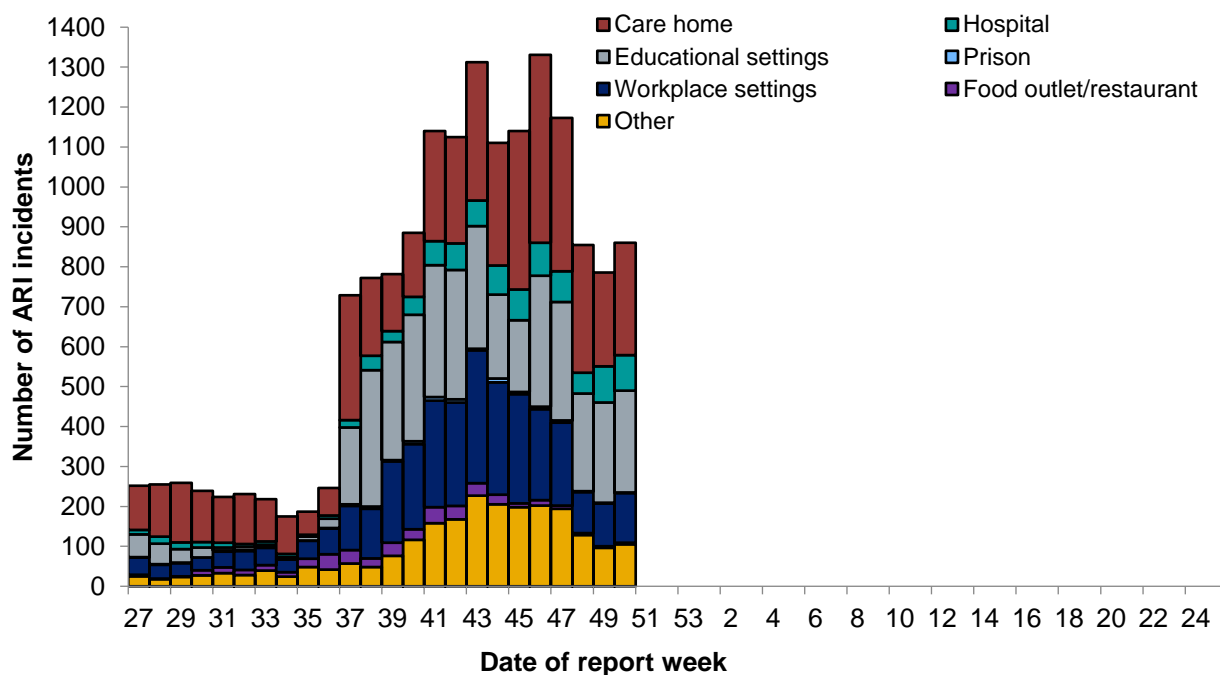
- 260 incidents were from educational settings where 200 had at least one linked case that tested positive for SARS-CoV-2
- 100 incidents were from hospitals where 93 had at least one linked case that tested positive for SARS-CoV-2
- 2 incidents were from prisons where no test results were available
- 127 incidents were from workplace settings where 87 had at least one linked case that tested positive for SARS-CoV-2
- 5 incidents were from food outlets/restaurants where 3 had at least one linked case that tested positive for SARS-CoV-2
- 118 incidents were from other settings where 87 had at least one linked case that tested positive for SARS-CoV-2

**Figure 15: Number of acute respiratory infection (ARI) incidents by institution, UK**

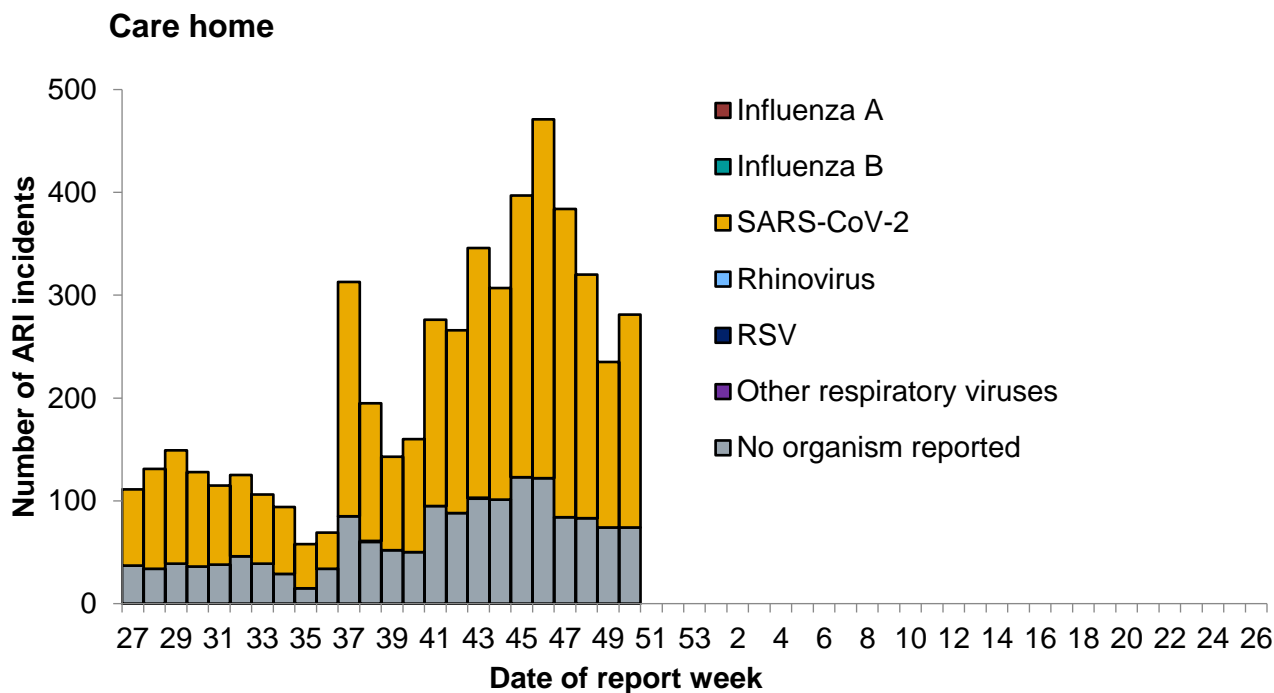


\*excludes data from Wales

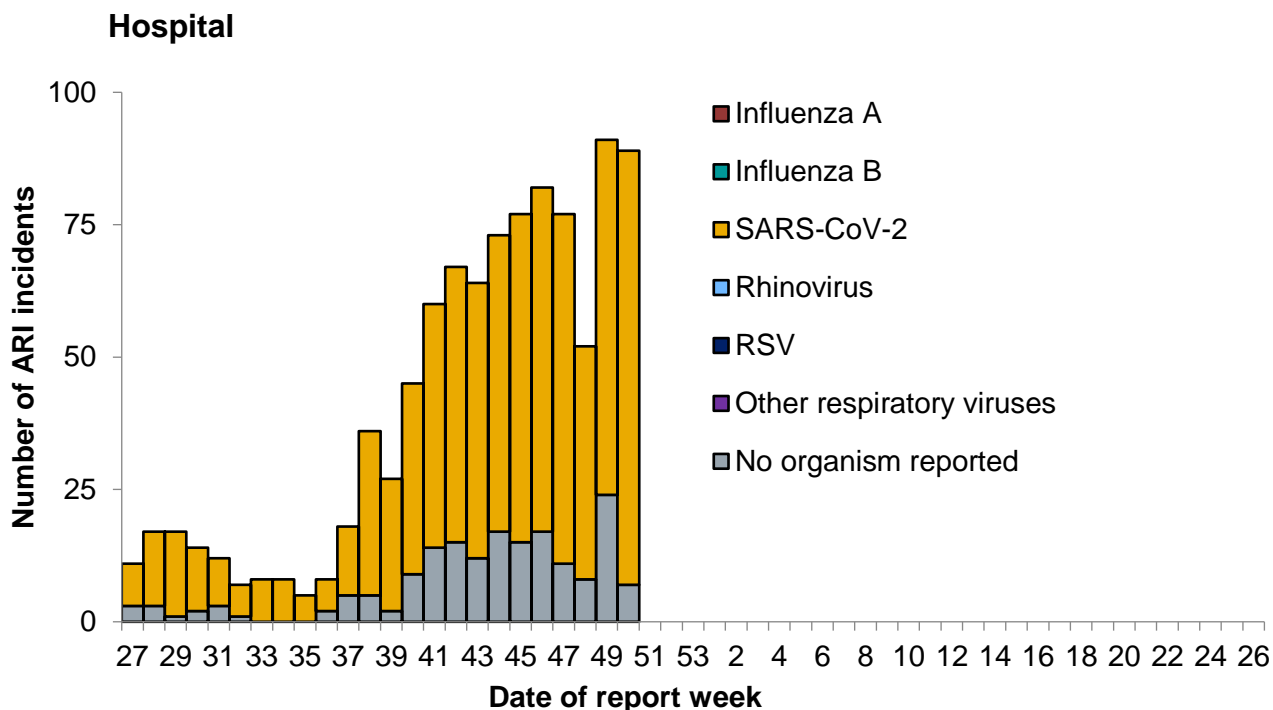
**Figure 16: Number of acute respiratory infection (ARI) incidents by institution, England**



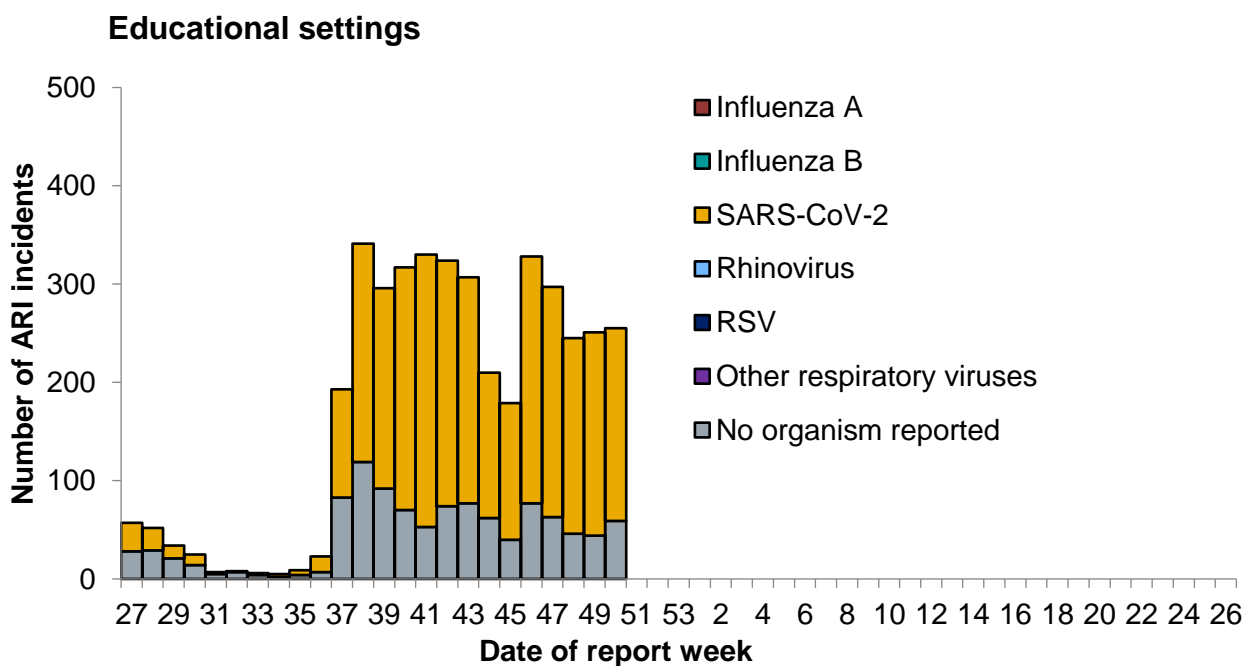
**Figure 17: Number of acute respiratory infection (ARI) incidents in care homes by virus type from week 27, England**



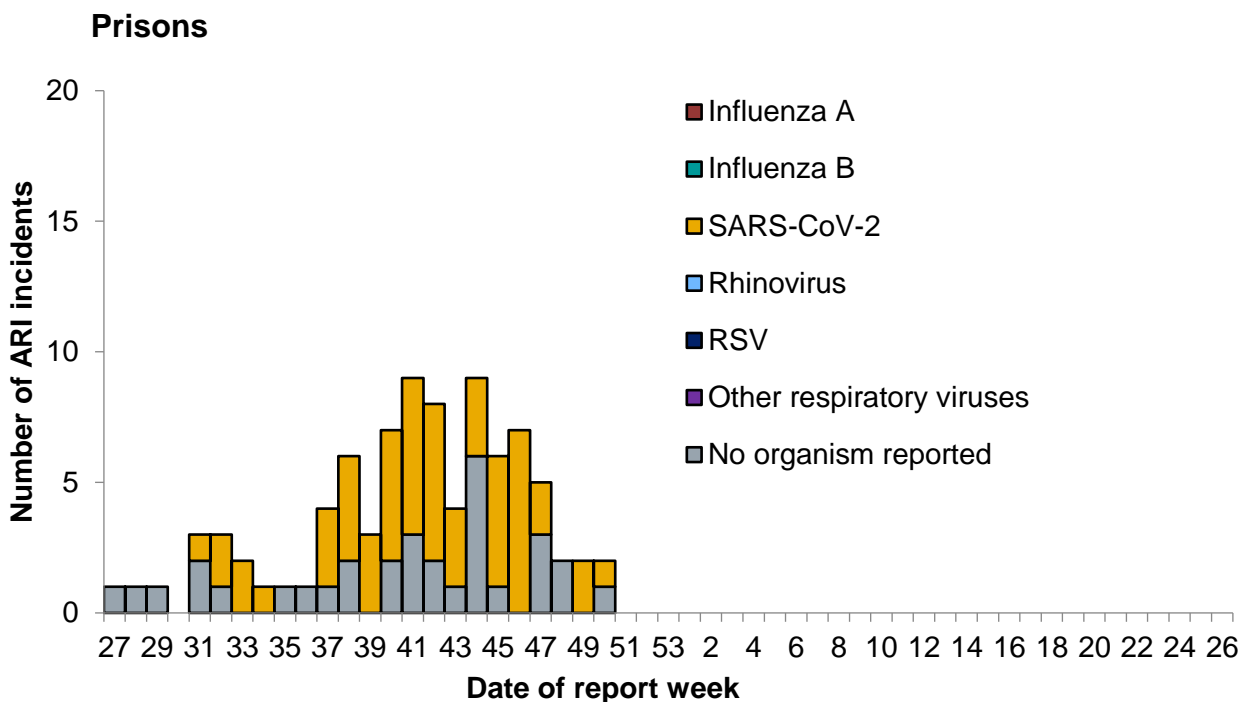
**Figure 18: Number of acute respiratory infection (ARI) incidents in hospitals by virus type from week 27, England**



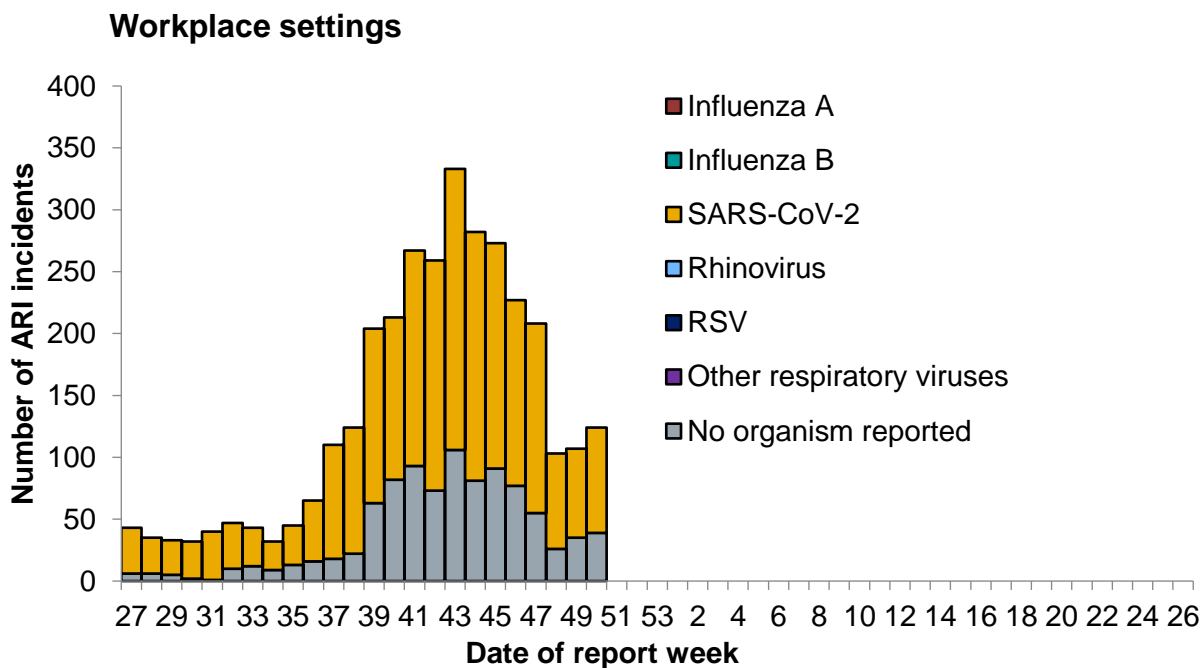
**Figure 19: Number of acute respiratory infection (ARI) incidents in educational settings by virus type from week 27, England**



**Figure 20: Number of acute respiratory infection (ARI) incidents in prisons by virus type from week 27, England**

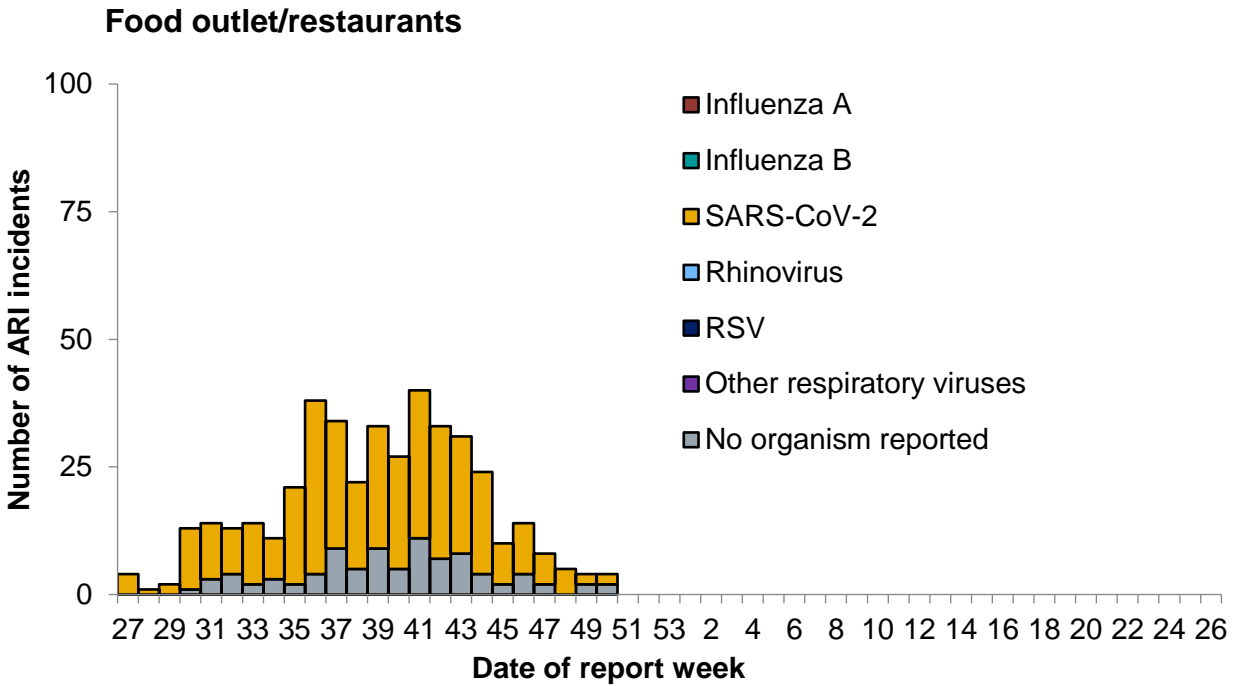


**Figure 21: Number of acute respiratory infection (ARI) incidents in workplace settings by virus type from week 27, England**

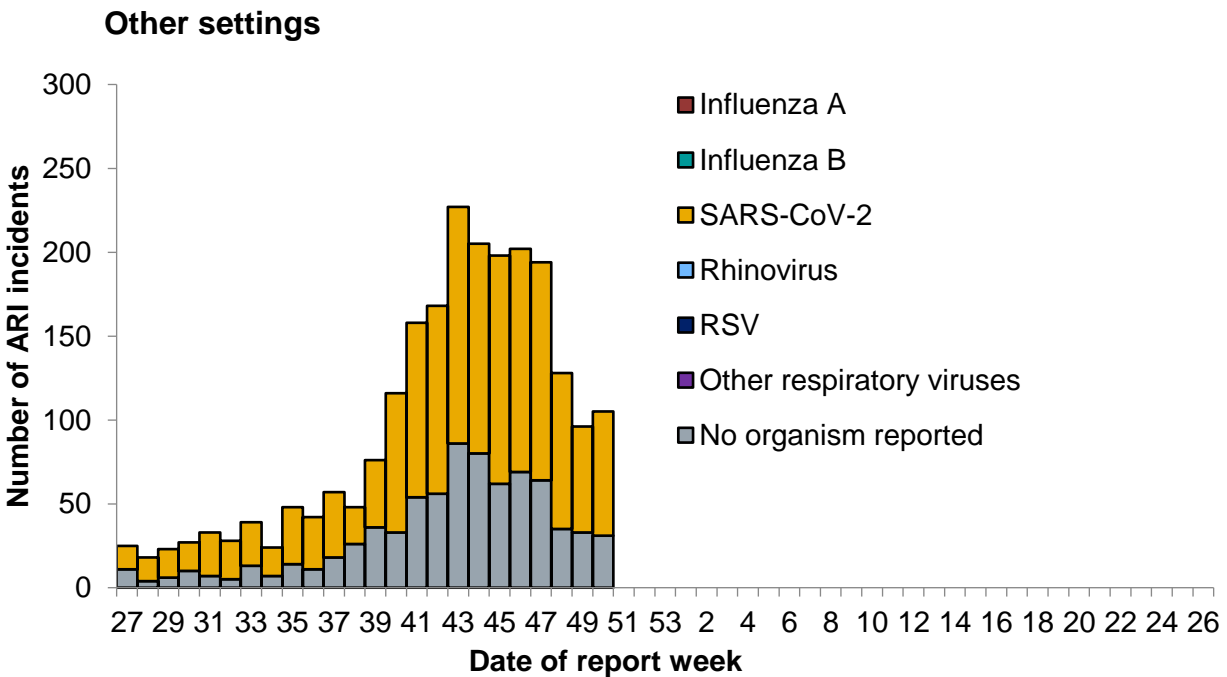




**Figure 22: Number of acute respiratory infection (ARI) incidents in food outlet/restaurants settings by virus type from week 27, England**



**Figure 23: Number of acute respiratory infection (ARI) incidents in other settings settings by virus type from week 27, England**



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

PHE Centres	Care home	Hospital	Educational settings	Prisons	Workplace settings	Food outlet/restaurant settings	Other settings	Total
East of England	97(19)	15(7)	17(3)	0(0)	30(10)	1(0)	52(13)	212(52)
East Midlands	122(32)	51(14)	62(6)	2(0)	65(11)	2(0)	40(7)	344(70)
London	95(38)	103(42)	349(108)	3(1)	77(20)	5(1)	42(10)	674(220)
North East	84(13)	1(0)	8(0)	1(0)	12(1)	0(0)	28(3)	134(17)
North West	112(26)	28(7)	27(4)	0(0)	61(19)	2(1)	66(11)	296(68)
South East	249(55)	22(4)	313(81)	3(1)	101(28)	5(1)	88(18)	781(188)
South West	149(37)	8(2)	85(16)	0(0)	52(9)	2(0)	49(8)	345(72)
West Midlands	170(33)	65(6)	102(29)	2(0)	91(15)	3(1)	87(19)	520(103)
Yorkshire and Humber	142(28)	16(7)	85(8)	0(0)	53(11)	1(0)	71(16)	368(70)
<b>Total</b>	1220(281)	309(89)	1048(255)	11(2)	542(124)	21(4)	523(105)	3674(860)

## COVID-19 cases by type of residence

Table 3 shows the proportion of confirmed COVID-19 cases according to their type of residence. Property classifications are derived from Ordnance Survey AddressBase and are matched to address details within the laboratory data. Properties are identified by unique property reference number (UPRN) and basic land property unit (BLPU). Cases with poor or no address data which failed the address matching and are classed as 'undetermined'. No fixed abode and overseas addresses identified by recording in the laboratory data.

In week 50, the highest percentage of confirmed COVID-19 cases by type of residence was seen in residential dwelling (Table 3).

**Table 3: Type of residence of confirmed COVID-19 cases by percentage of total weekly cases**

Type of residence	week45	week46	week47	week48	week49	week50
Residential dwelling (including houses, flats, sheltered accommodation)	91.6	91.0	90.1	90.7	90.5	92.8
Undetermined	3.3	3.3	4.5	3.4	3.5	2.2
Care/Nursing home	2.6	3.1	3.5	4.0	4.3	3.2
Other property classifications	0.8	1.0	0.7	0.7	0.6	0.5
Residential institution (including residential education)	0.5	0.5	0.3	0.2	0.2	0.2
House in multiple occupancy (HMO)	0.6	0.6	0.4	0.4	0.3	0.4
Medical facilities (including hospitals and hospices, and mental health)	0.2	0.3	0.2	0.2	0.2	0.2
Prisons, detention centres, secure units	0.2	0.2	0.3	0.4	0.3	0.5
Overseas address	0.0	0.0	0.0	0.0	0.0	0.0
No fixed abode	0.0	0.0	0.0	0.0	0.0	0.0

## Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

Boarding schools in England within the MOSA network are recruited each season to report various respiratory related illnesses including influenza like illnesses (ILI). For the 2020 to 21 season, 6 MOSA schools have agreed to participate in the scheme, including a total of 4,138 pupils.

The overall ILI rate (all school years) for week 50 was 0.0 per 1,000 students compared to 1.65 per 1,000 students in the previous week. The overall ILI rate (all staff) for week 50 was 0.0 per 1,000 staff compared to 0.61 per 1,000 staff in the previous week.

The overall laboratory confirmed COVID-19 rate (all school years) for week 50 was 0.0 per 1,000 students compared to 6.04 per 1,000 students in the previous week.

The overall laboratory confirmed COVID-19 (all staff) for week 50 was 0.0 per 1,000 staff compared to 3.65 per 1,000 staff in the previous week.

If you are a MOSA school and would like to participate in this scheme, please email [mosa@phe.gov.uk](mailto:mosa@phe.gov.uk) for more information.

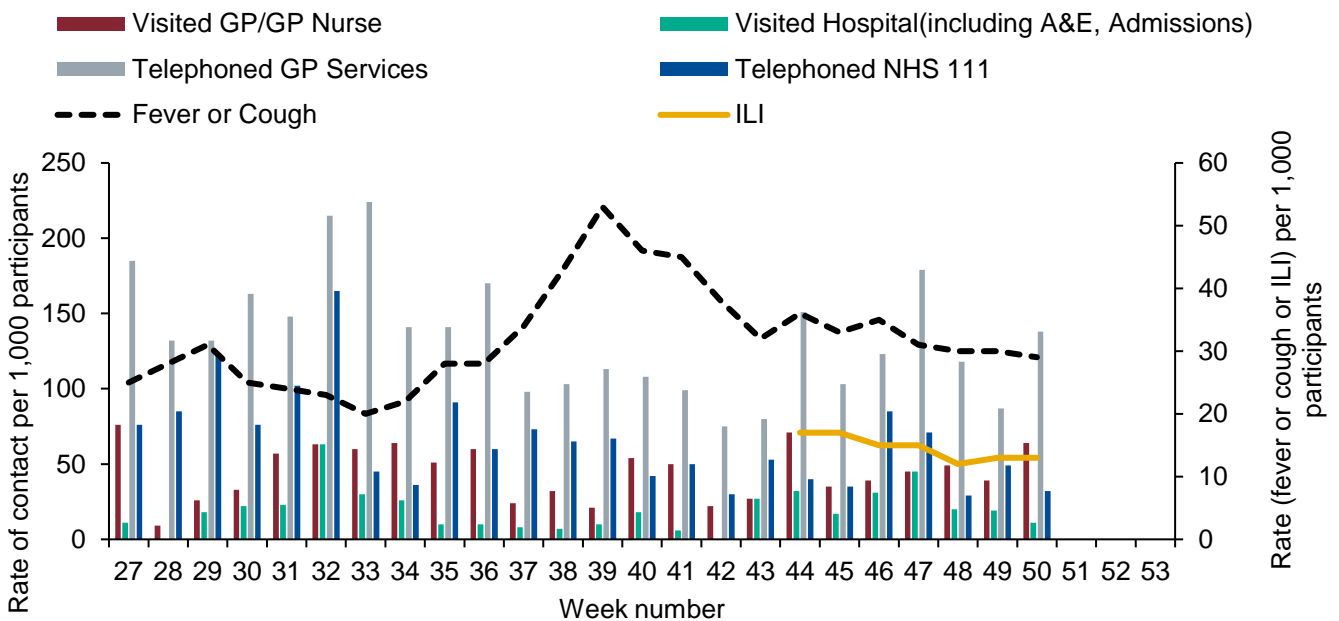
# FluSurvey

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.

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 3,293 participants completed the weekly COVID-19 surveillance survey in week 50, of which 94 (2.9%) reported fever or cough and 41 (1.3%) reporting ILI. The most commonly reported method of access to healthcare services continue to be through telephoning a GP practice in week 50 (Figure 24).

**Figure 24: Rate of contact with different healthcare services among FluSurvey participants reporting fever or cough symptoms, England**



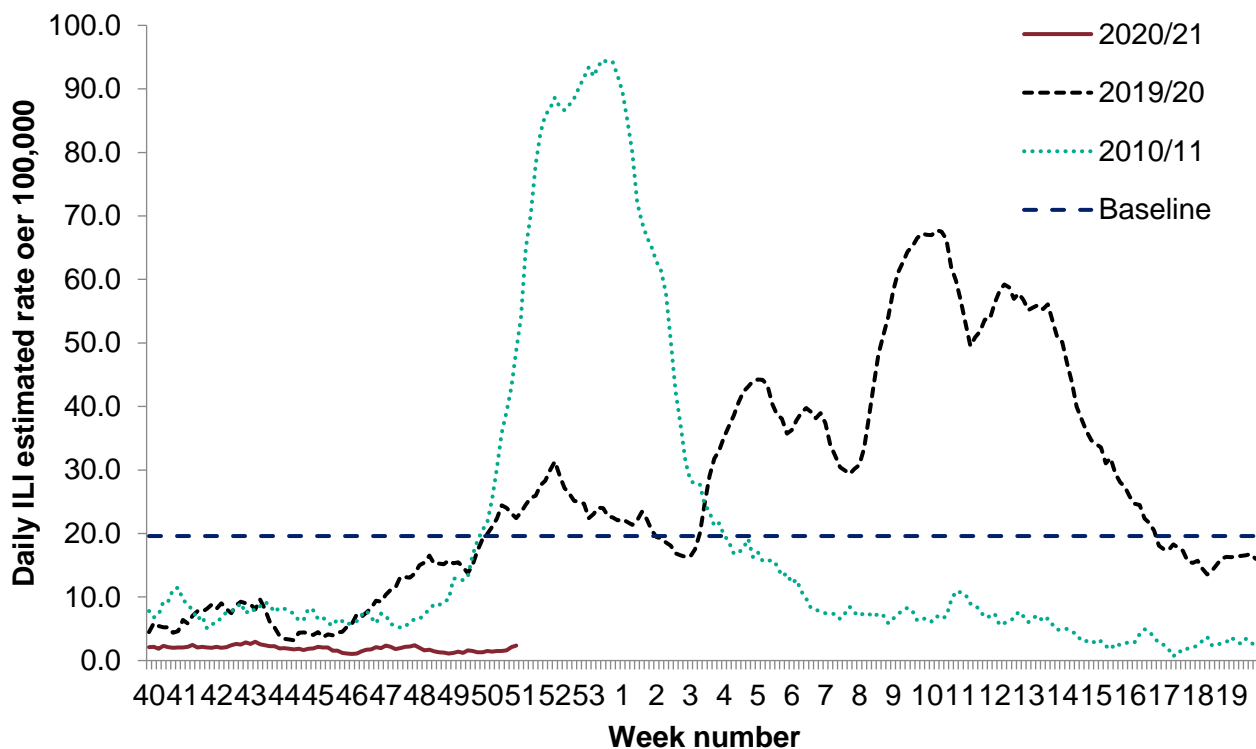
## FluDetector

FluDetector is a web-based model which assesses internet-based search queries for influenza-like illness (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 six days before it).

For week 50, the daily ILI rate remained low and below the baseline threshold of 19.6 per 100,000 for the 2020 to 2021 season (Figure 25).

**Figure 25: Daily estimated ILI Google search query rates per 100,000 population, England**

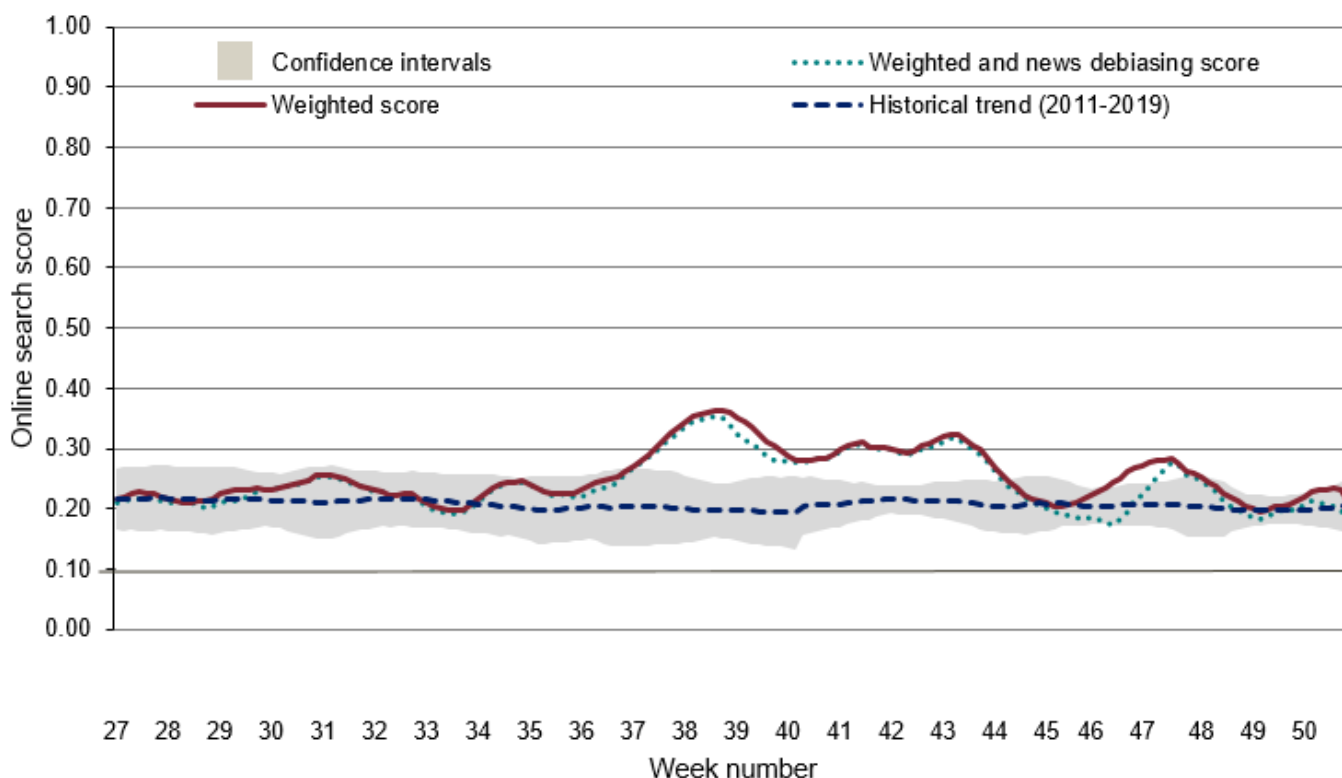


## Google search queries

This is a web-based syndromic surveillance system which uses daily search query frequency statistics obtained from the Google Health Trends API [1]. This model focuses on search queries about COVID-19 symptoms as well as generic queries about “coronavirus” (e.g. “covid-19”). The search query frequency time series has been 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.

During week 50, the overall and media-debiasing weighted Google search scores remained stable (Figure 26).

**Figure 26: Normalised Google search score for COVID-19 symptoms, with weighted score for media-debiasing and historical trend, England**



# NHS 111

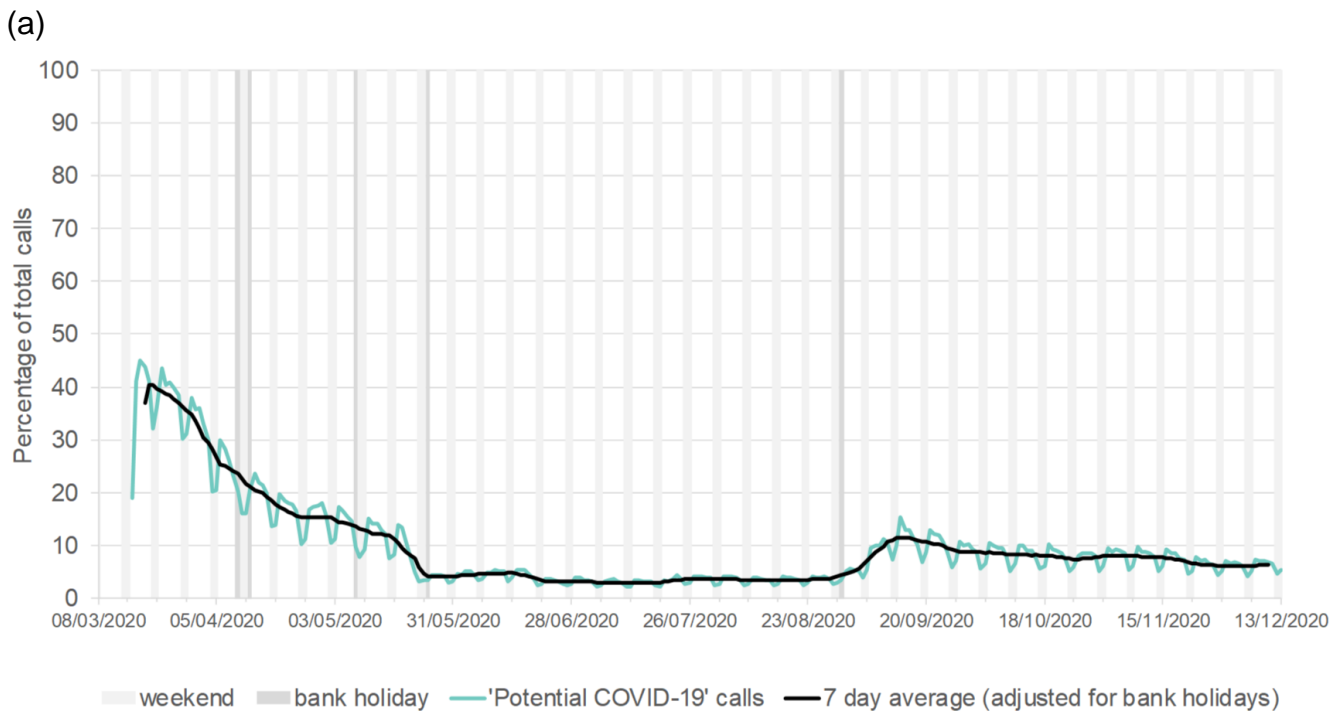
The NHS 111 service monitors daily trends in phone calls made to the service in England, to capture trends in infectious diseases such as influenza and norovirus.

Up to 13 December 2020, the daily percentage of NHS 111 'potential COVID-19-like', cold/flu and loss of taste or smell calls (as a percentage of total NHS 111 calls) remained stable. NHS 111 online assessments cold/flu and loss of taste or smell increased, while potential COVID-19 online assessments remained stable (Figure 27 and 28).

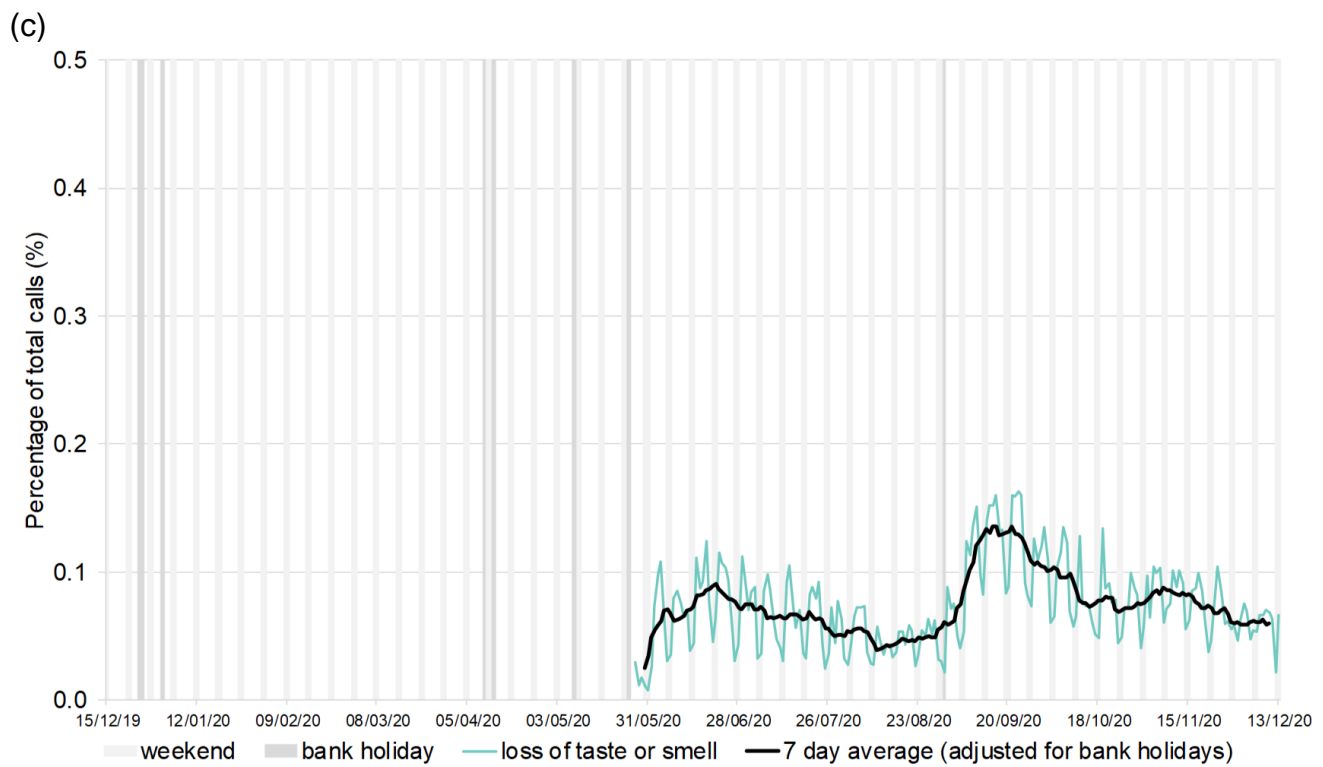
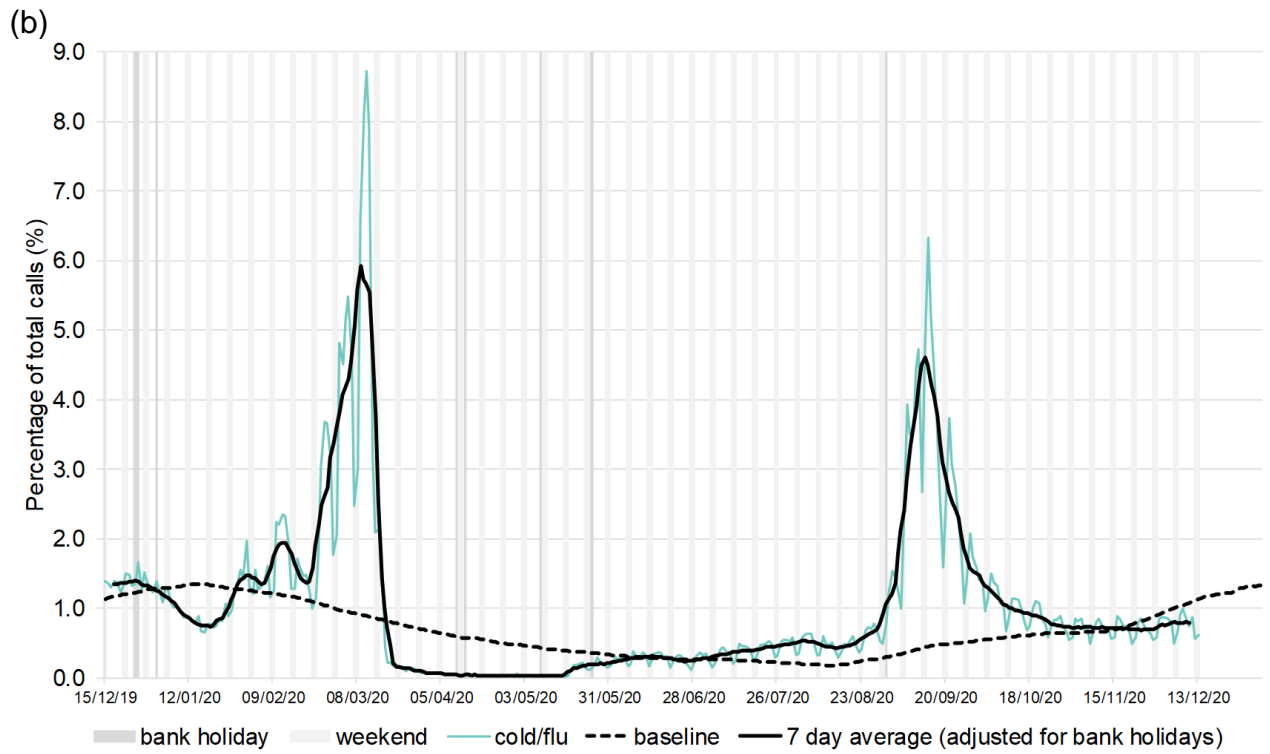
Please note that NHS 111 callers (from 11 May 2020) and NHS 111 online users (from 11 June 2020), who are assessed as having probable COVID-19 symptoms are now triaged using symptom specific pathways e.g. cold/flu, which are included in routine syndromic indicators.

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

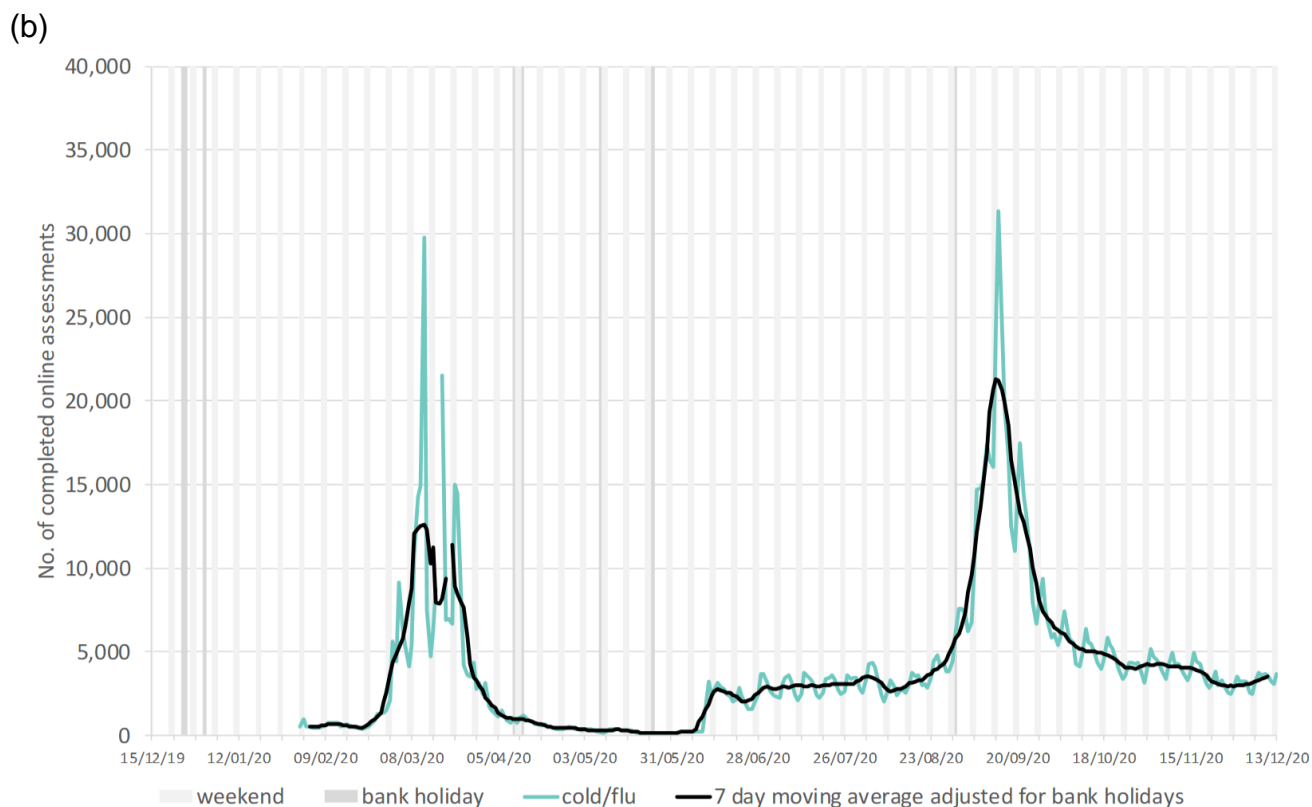
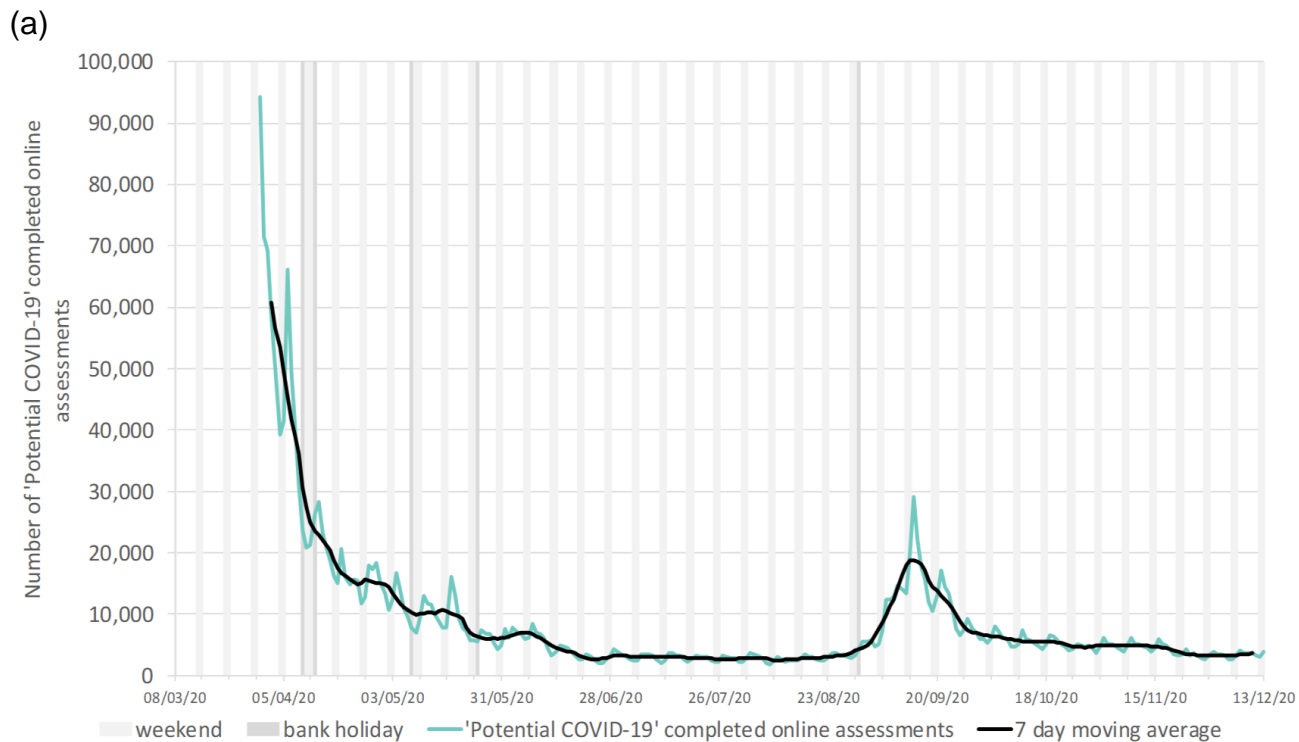
**Figure 27: NHS 111 telephony indicators (and 7-day moving average) for (a) daily potential COVID-19 calls, (b) daily cold/flu calls and (c) daily loss of taste or smell calls, as a percentage of total calls for all ages, England**

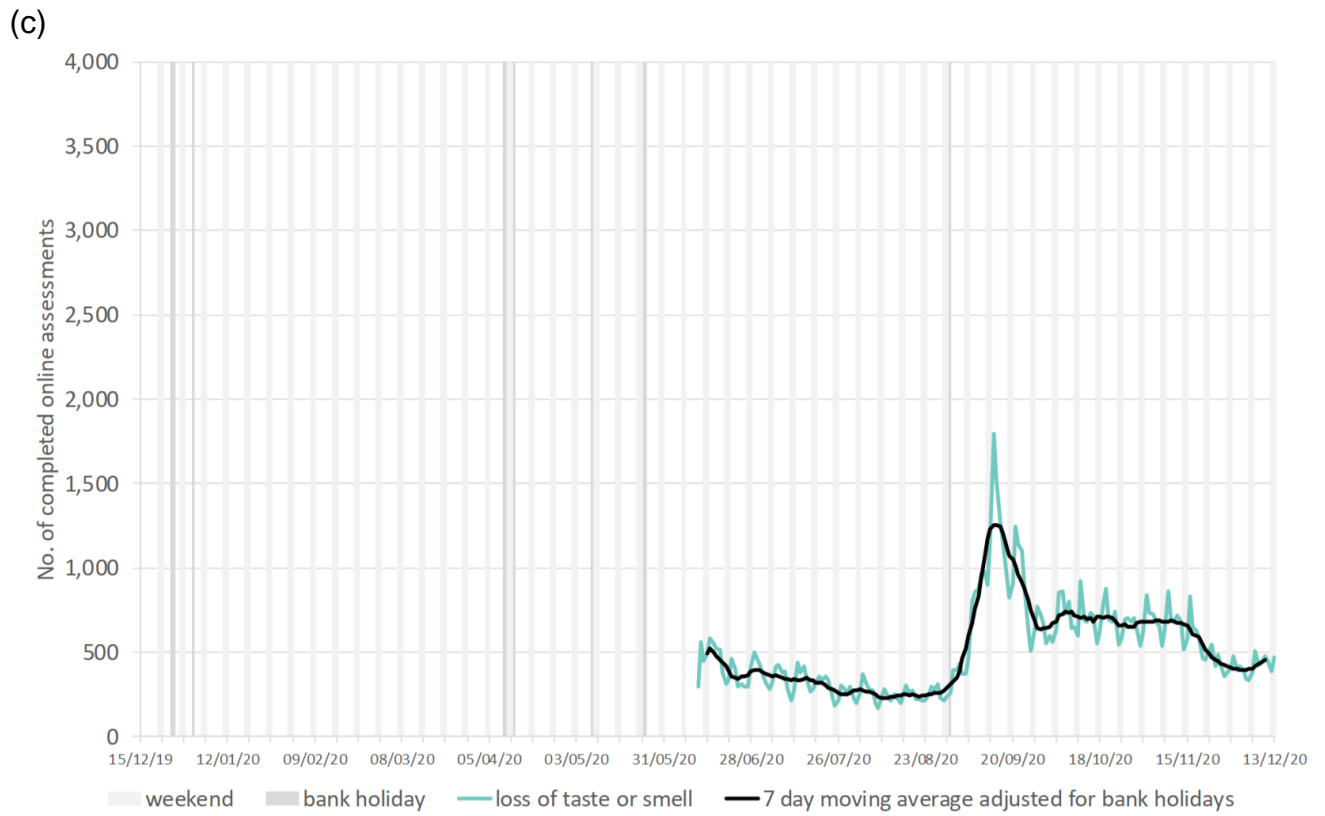






**Figure 28: NHS 111 completed online assessments (and 7-day moving average) for (a) daily potential COVID-19 online assessments, (b) daily cold/flu online assessments and (c) daily loss of taste or smell online assessments, as the number of completed online assessments for all ages, England**



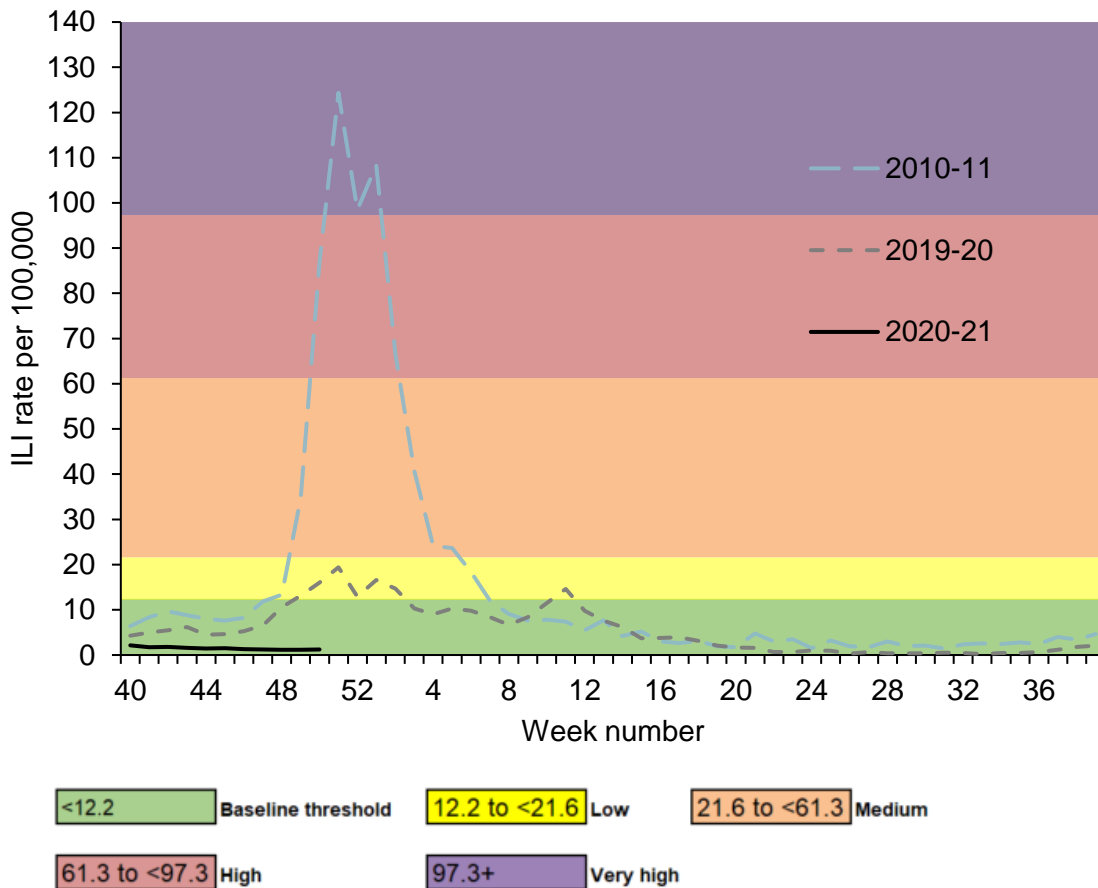


# Primary care surveillance

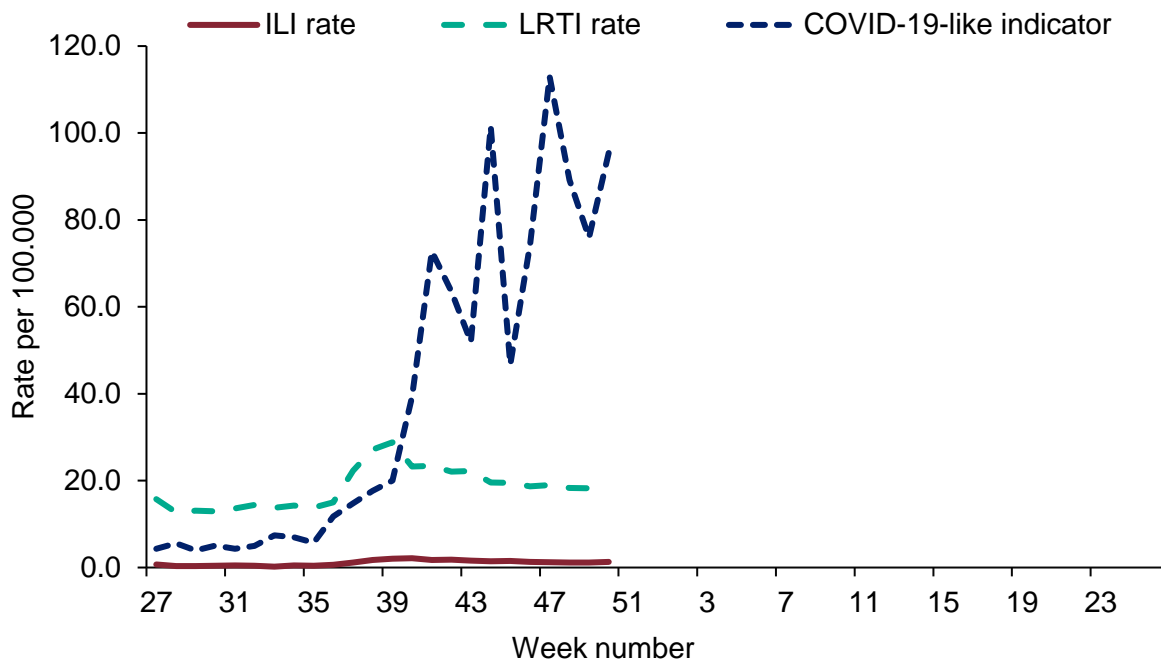
## RCGP (England)

The weekly ILI consultation rate through the RCGP surveillance was 1.3 per 100,000 registered population in participating GP practices in week 50 compared to the 1.2 per 100,000 in the previous week. This is below the baseline threshold (12.2 per 100,000) (Figure 29). By age group, the highest rates were seen in the under 1 year olds (3.0 per 100,000). The Lower Respiratory Tract Infections (LRTI) consultation rate was at 18.8 per 100,000 in week 50, which was similar to the rate of 18.2 per 100,000 from the previous week. The COVID-19-like indicator consultation rate decreased slightly at 95.4 per 100,000 in week 50 compared to 75.9 per 100,000 in the previous week (Figure 30).

**Figure 29: RCGP ILI consultation rates, all ages, England**



**Figure 30: RCGP ILI, LRTI and COVID-19-like indicator consultation rates, England**



# UK

Overall, weekly ILI consultations rates were below baseline levels in all UK schemes (Table 4).

By age group, the highest rates were seen in the under 45 to 64 year olds in Scotland (1.5 per 100,000), the 65 to 74 year olds in Wales (1.9 per 100,000) and the 65 to 74 year olds in Northern Ireland (4.5 per 100,000).

**Table 4: GP ILI consultations in the UK for all ages with MEM thresholds applied**

GP ILI consultation rates (all ages)	Week number																
	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4
England (RCGP)	2.1	1.7	1.8	1.6	1.4	1.5	1.3	1.2	1.2	1.2	1.3						
Wales	1.0	1.0	1.0	0.8	0.5	0.5	0.5	0.5	0.5	1.6	1.3						
Scotland	0.5	0.7	0.5	0.5	0.7	0.8	0.9	0.7	0.6	0.5	0.6						
Northern Ireland	1.3	1.5	2.2	1.4	1.6	1.8	1.8	1.9	1.7	1.2	1.5						

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 2009/10), in a standardised approach across Europe. For MEM threshold values for each country, please visit:

<https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#clinical-surveillance-through-primary-care>

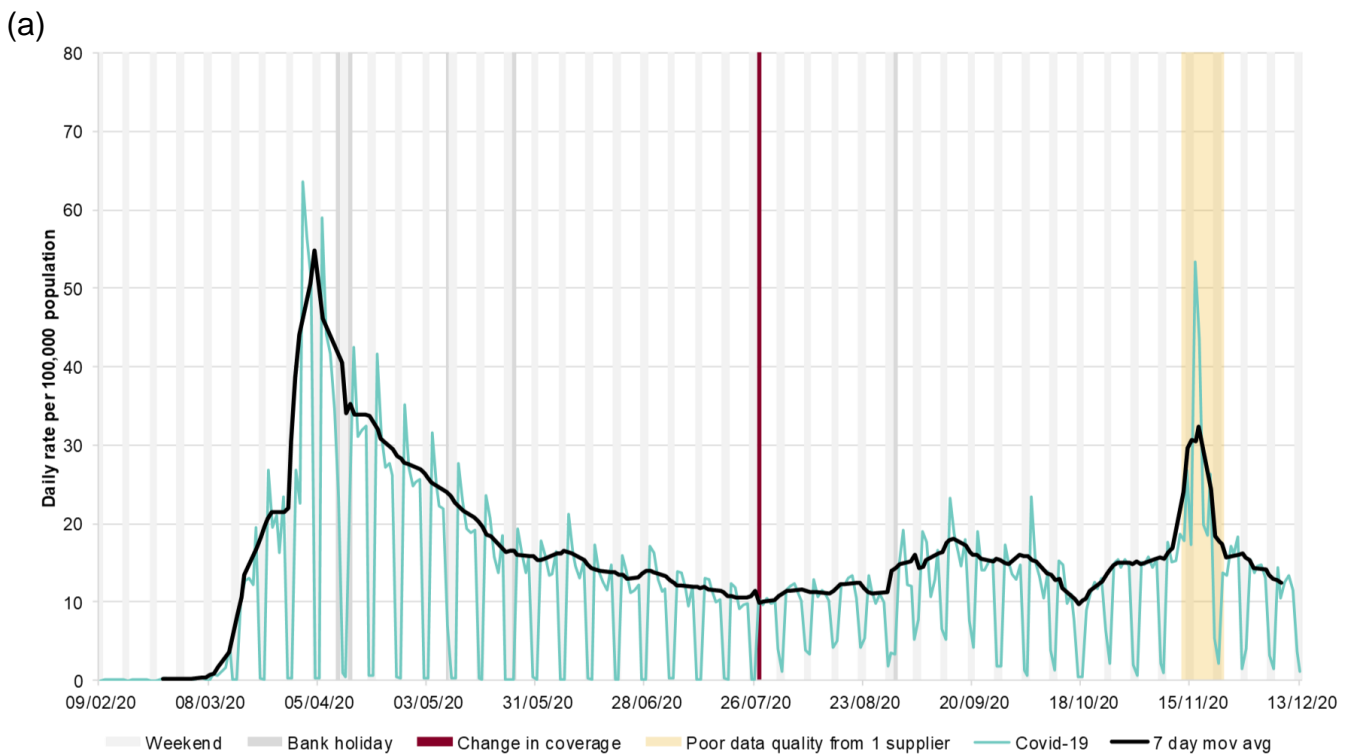
## GP In Hours, Syndromic Surveillance

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

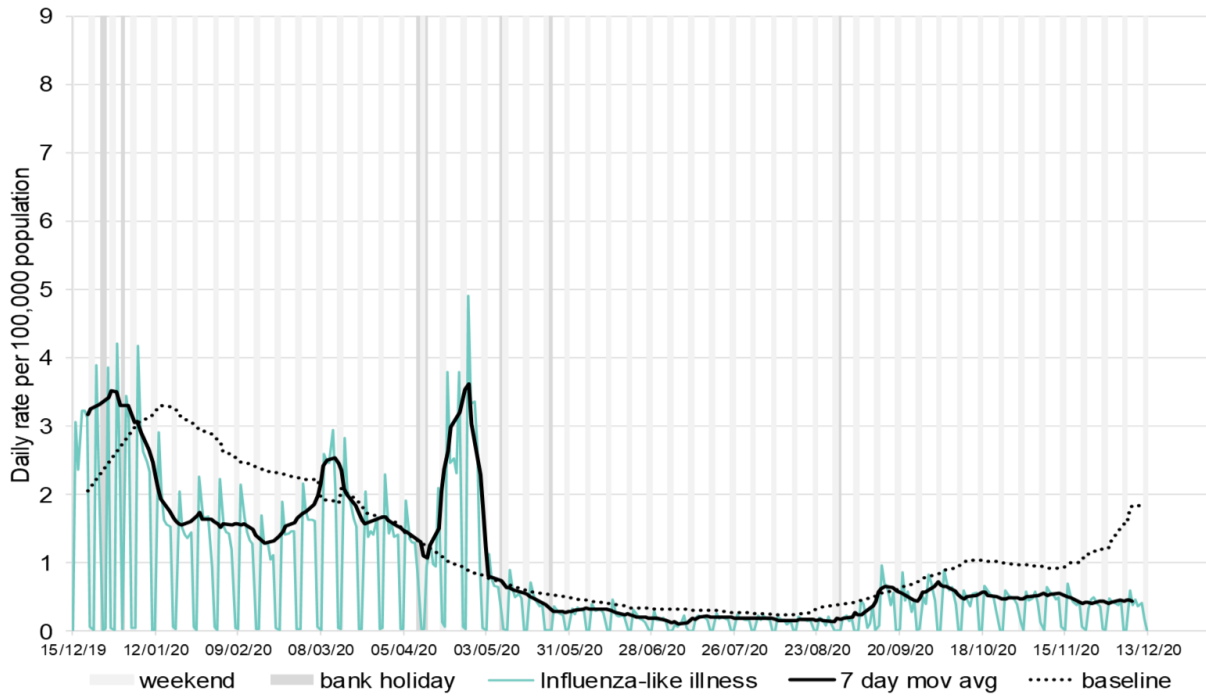
Up to 13 December 2020, GPIH COVID-19 consultations decreased, while ILI consultations remained below baseline (Figure 31). Data quality issues in the reporting of GP consultations for COVID-19 from one syndromic GP data supplier during week 47 caused artificially high rates of COVID-19 attendances as indicated in Figure 31.

Please note GP data should be interpreted with caution due to changes in advice regarding accessing GP surgeries due to COVID-19. Further information about these caveats is available from the [PHE GP In Hours Syndromic Surveillance bulletin](#).

**Figure 31: GPIH clinical indicators for (a) potential COVID-19 GP consultations and (b) influenza-like illness GP consultations, England**



(b)





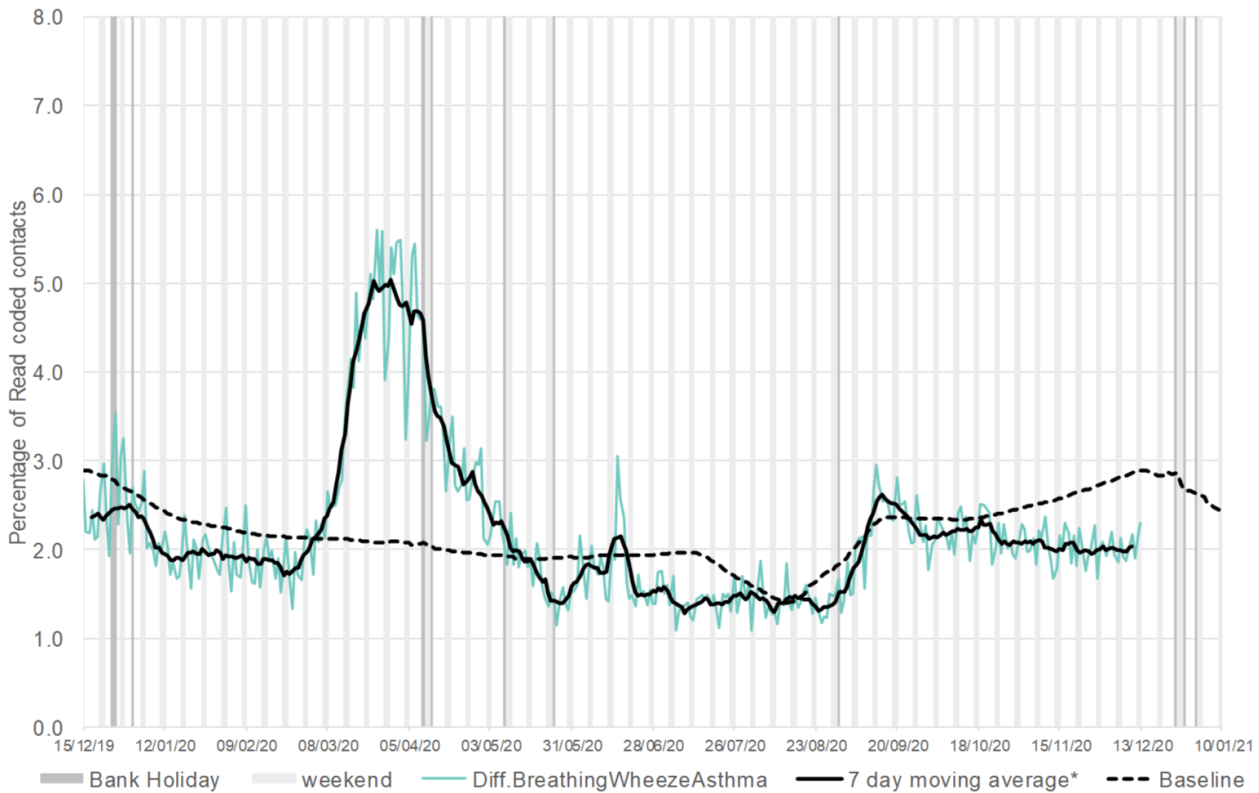
## GP Out of Hours, Syndromic Surveillance

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 cover around 70% of England’s out of hour activity.

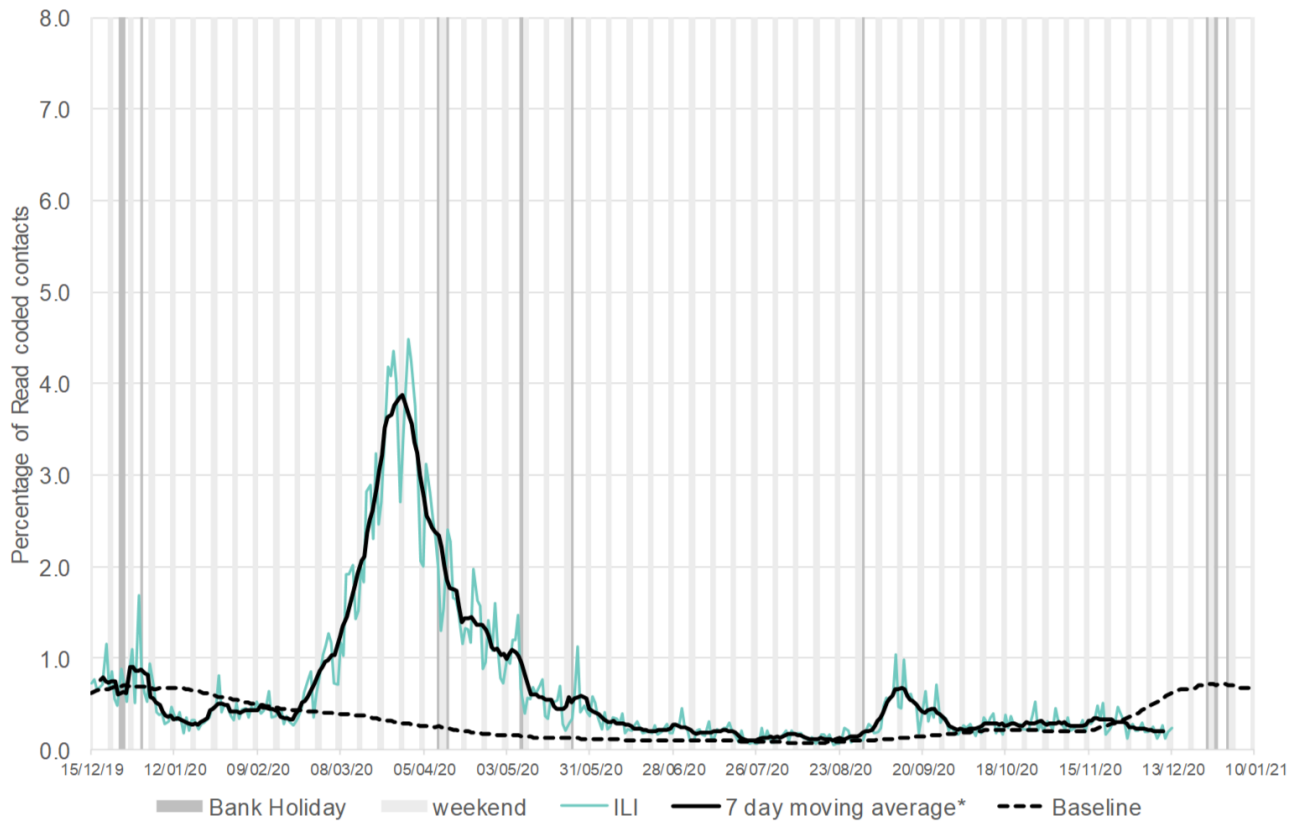
Up to 13 December 2020, GP out-of-hours and unscheduled care consultations for acute respiratory infections and, difficulty breathing/asthma/wheeze remained stable, while ILI decreased slightly, all remain below seasonally expected levels (Figure 32).

**Figure 32: GPOOH daily contacts (%) for (a) difficulty breathing/wheeze/asthma, (b) influenza-like illness and (c) acute respiratory infections, England**

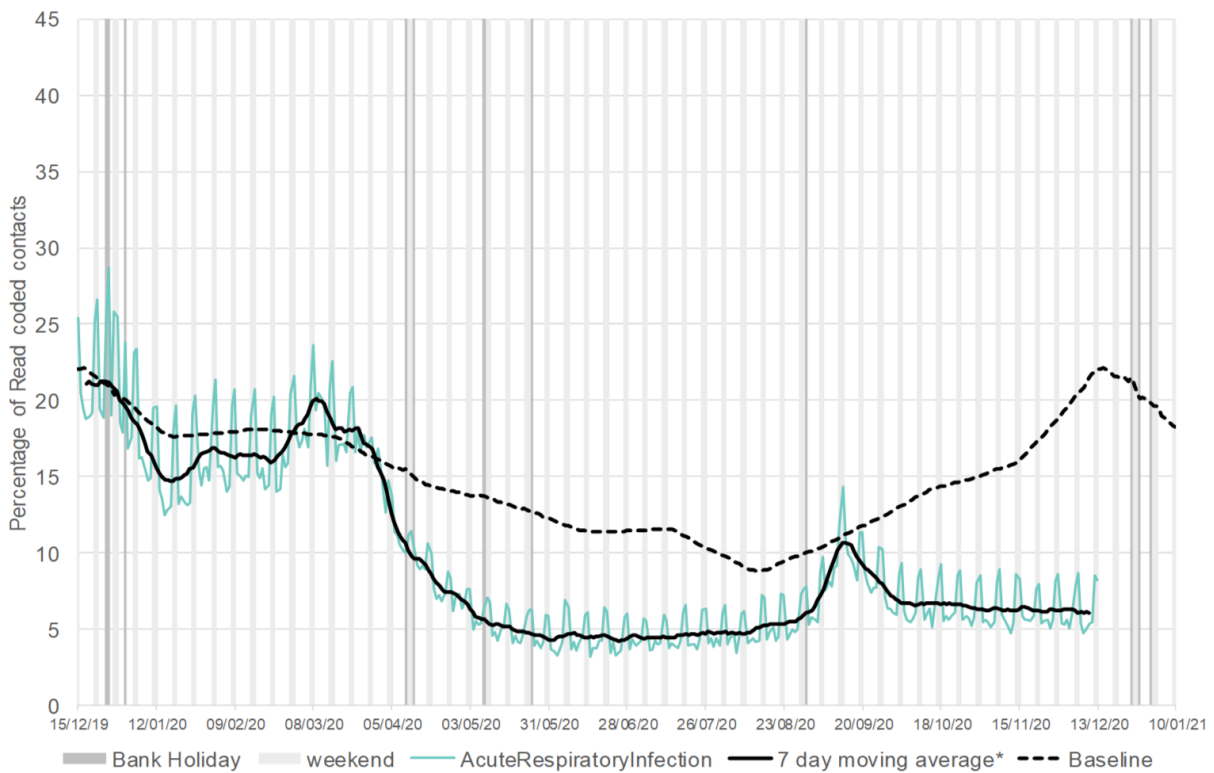
(a)



(b)



(c)

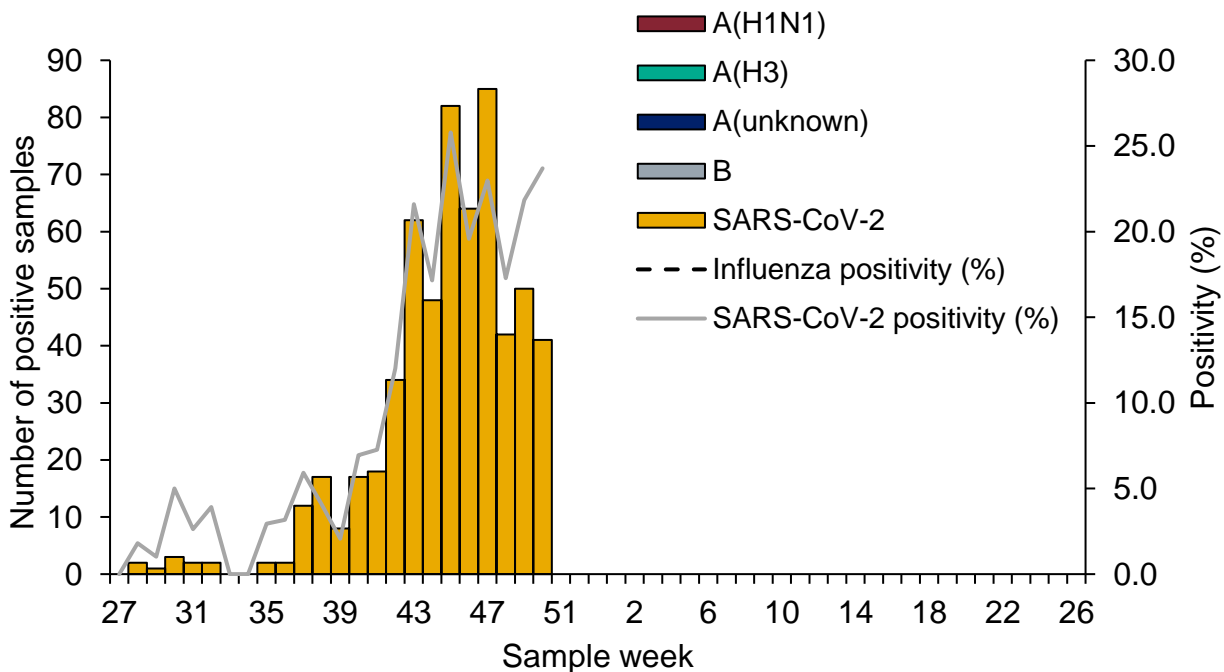


## Sentinel swabbing scheme in the UK

In week 50 2020, 41 samples tested positive for SARS-CoV-2 with an overall positivity of 23.7% (41/173) compared to 21.8% (50/229) in the previous week, through the UK GP sentinel swabbing schemes (Figure 33).

Samples up to week 41 were only tested for SARS-CoV-2.

**Figure 33: Number of influenza and COVID-19 positive samples and weekly positivity (%), UK GP sentinel swabbing scheme**



\*For the most recent week, more samples are expected to be tested therefore the graph in Figure 33 should be interpreted with caution

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

## 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/HDU) in NHS acute trusts across England. This has replaced the 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 and influenza 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.

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

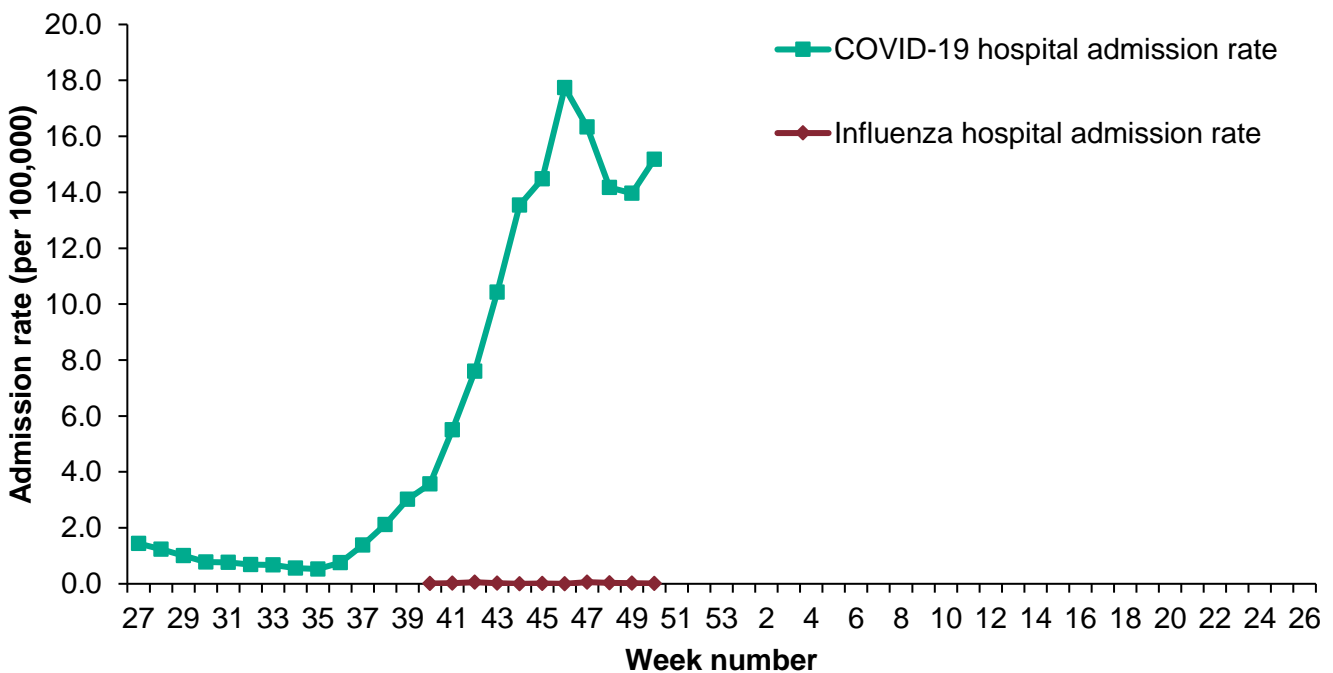
## Hospitalisations, SARI Watch

In week 50, the weekly hospital admission rate for COVID-19 increased whilst the hospital admission rate remained low for influenza.

The hospitalisation rate for COVID-19 was at 15.18 per 100,000 in week 50 compared to 13.97 per 100,000 in the previous week. The hospitalisation rate for influenza was at 0.01 per 100,000 in week 50 compared to 0.02 per 100,000 in the previous week; and there were one new confirmed influenza (1 influenza A(unknown subtype)) hospital admissions reported.

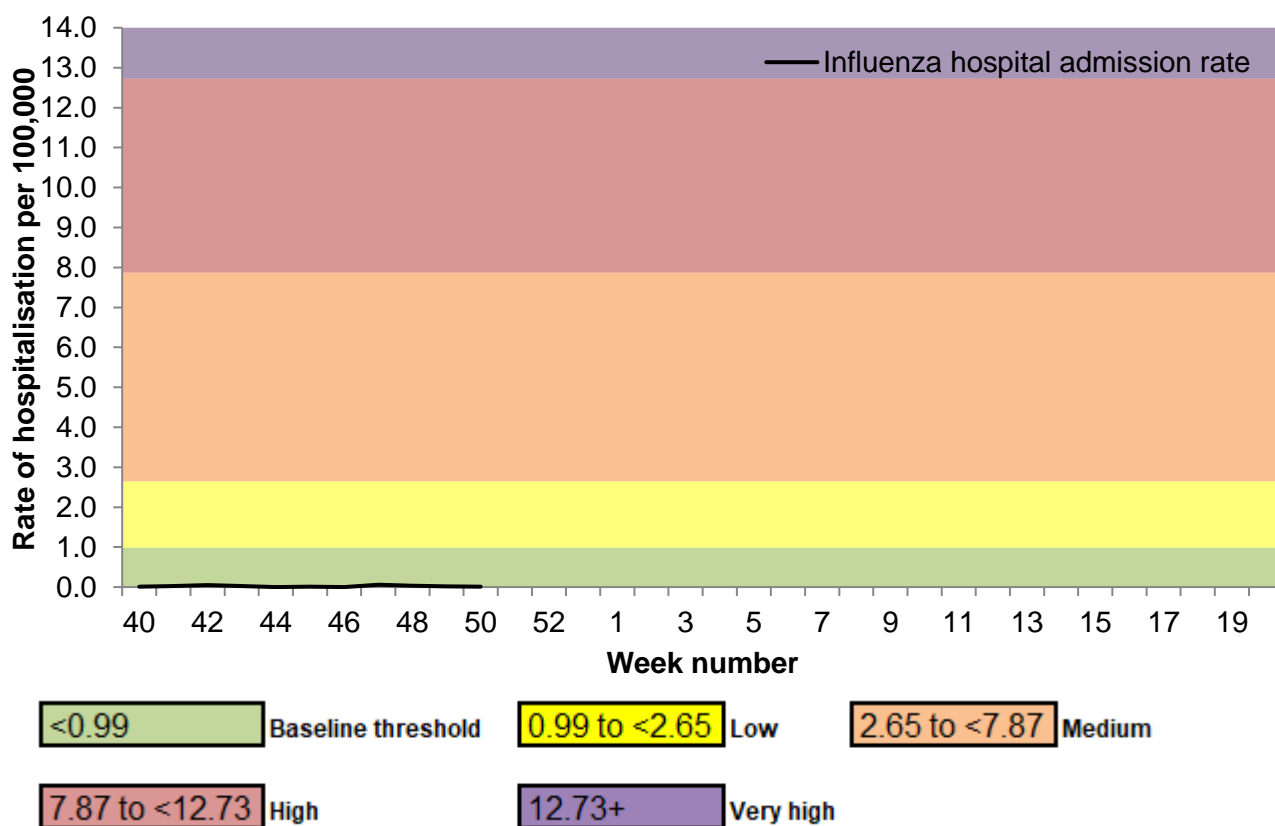
By PHE centre, the highest hospital admission rate for COVID-19 was observed in the North East and in the North West for influenza. By age groups, the highest hospital admission rate for confirmed COVID-19 was in the 85+ year olds and for influenza in the 5 to 14 year olds.

**Figure 34: Weekly overall hospital admission rates per 100,000 of new COVID-19 and influenza positive cases reported through SARI Watch, England**



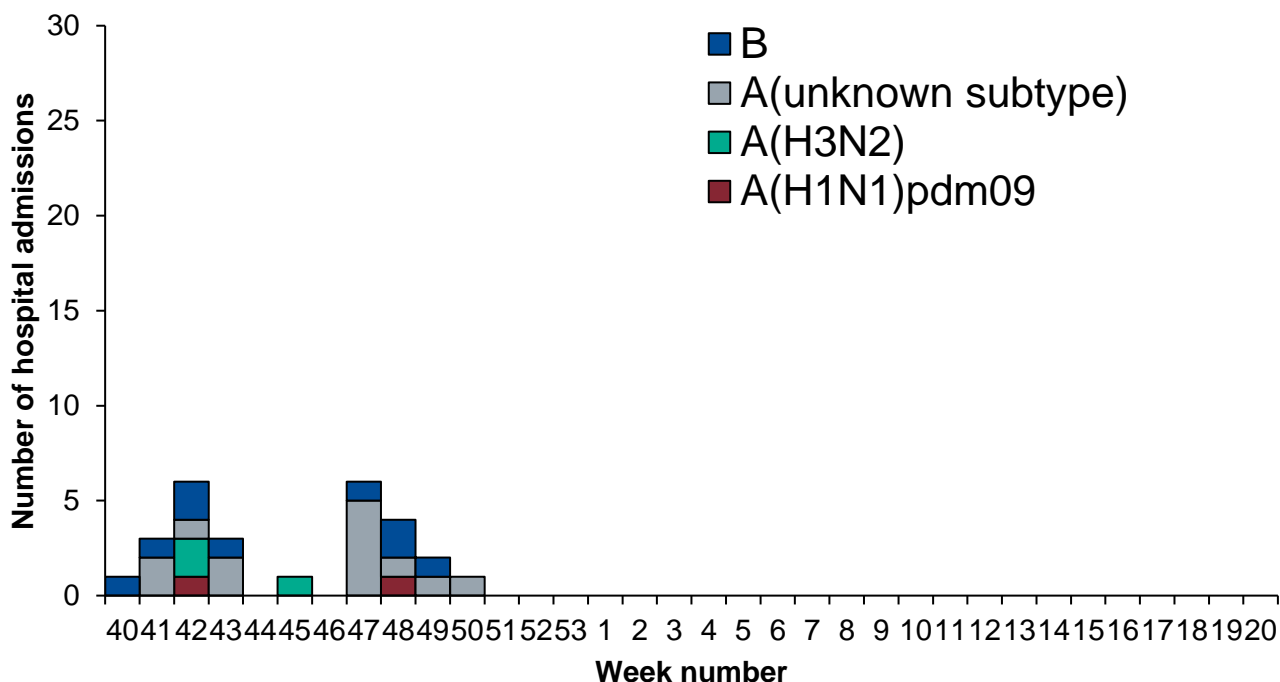
- \* influenza hospital admission rate is reported from week 40 2020 onwards
- \* influenza hospital admission rate based on 25 sentinel NHS trusts for week 50
- \* COVID-19 hospital admission rate based on 119 NHS trusts for week 50

**Figure 35: Weekly overall influenza hospital admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England**

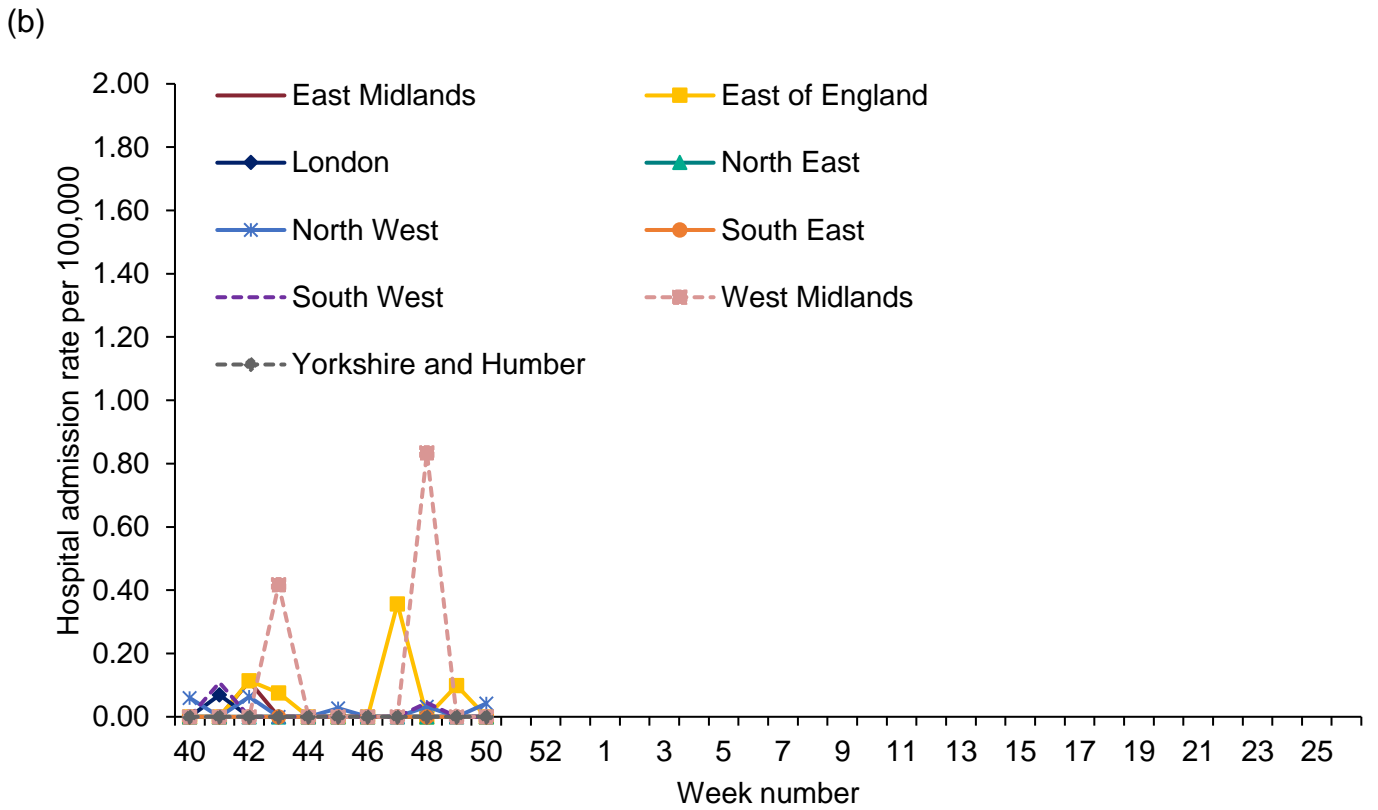
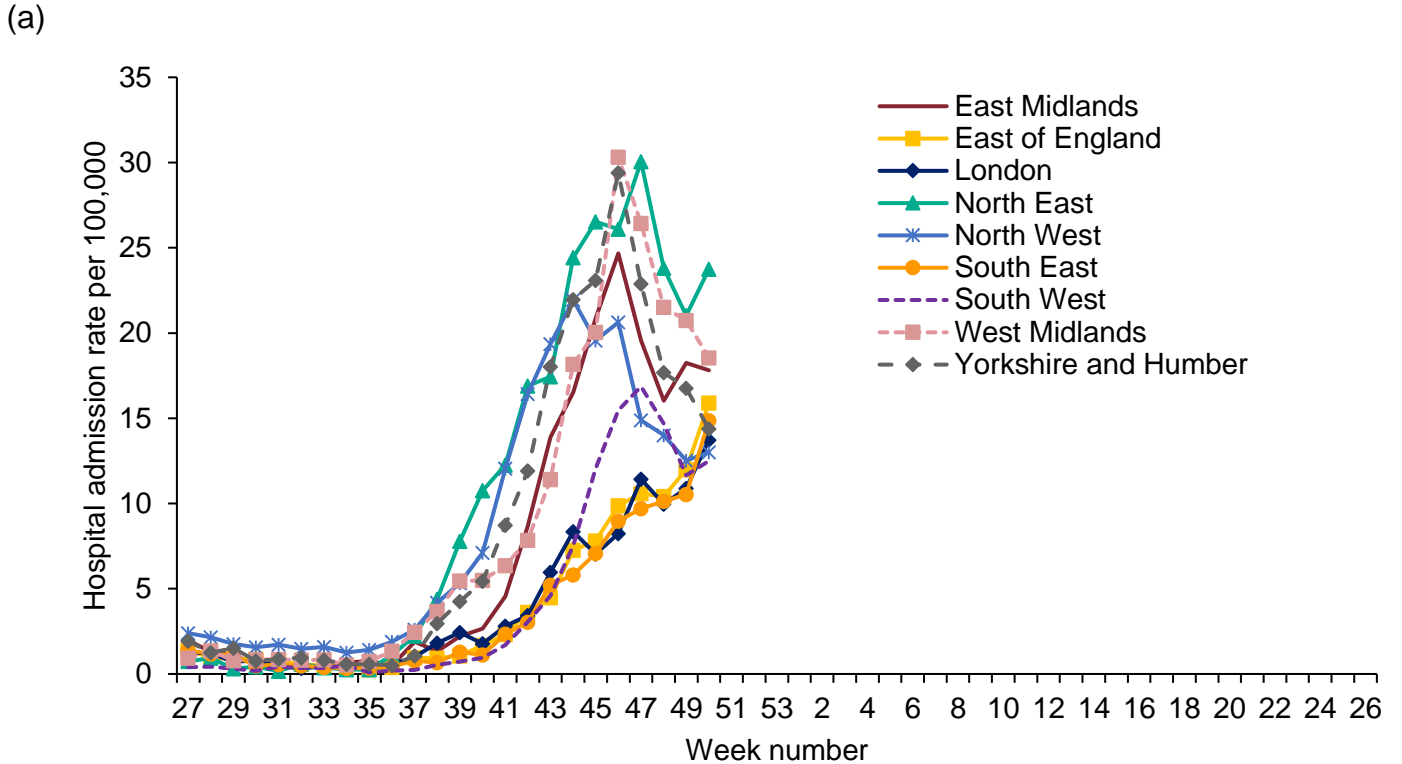


\* the MEM thresholds used are those from the 2019/20 season due to the pandemic

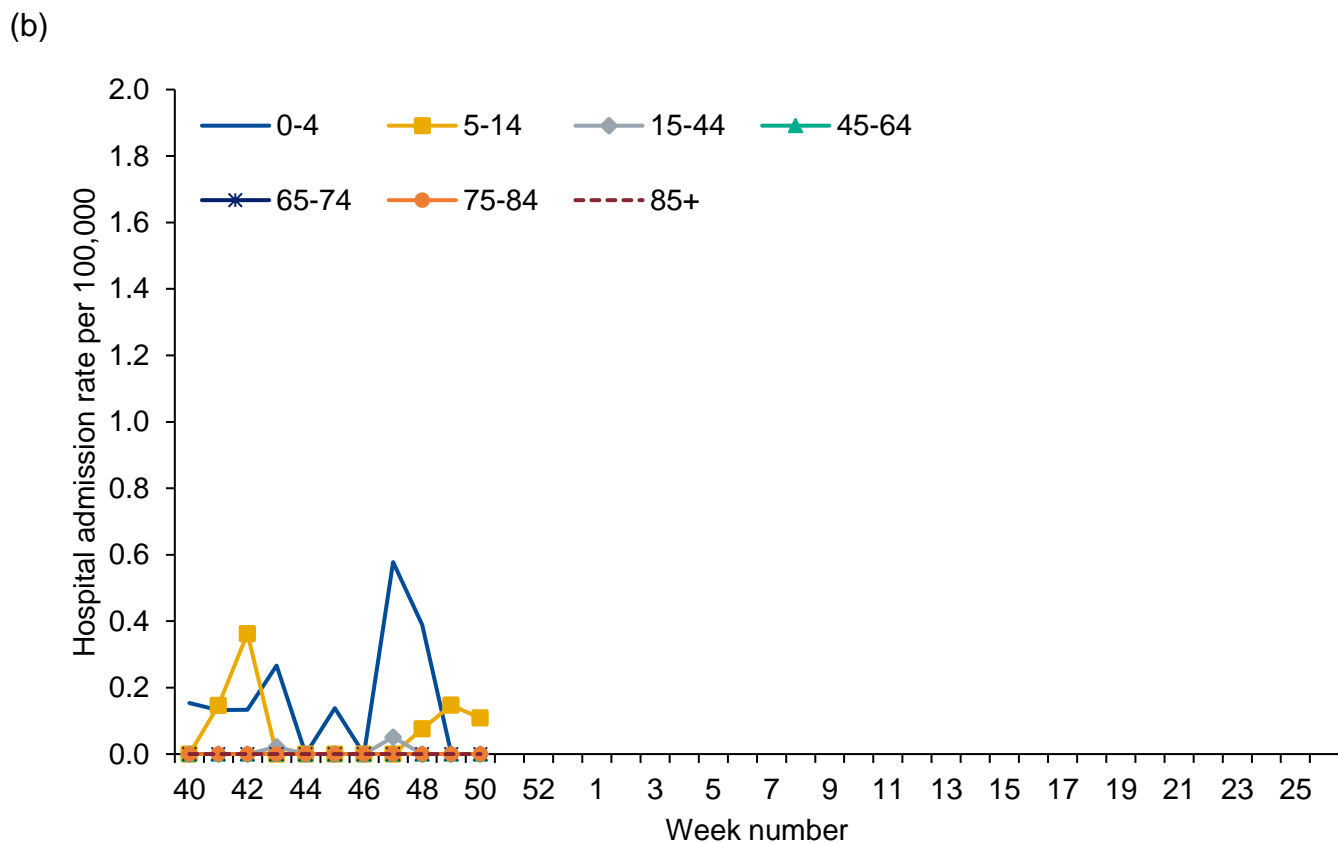
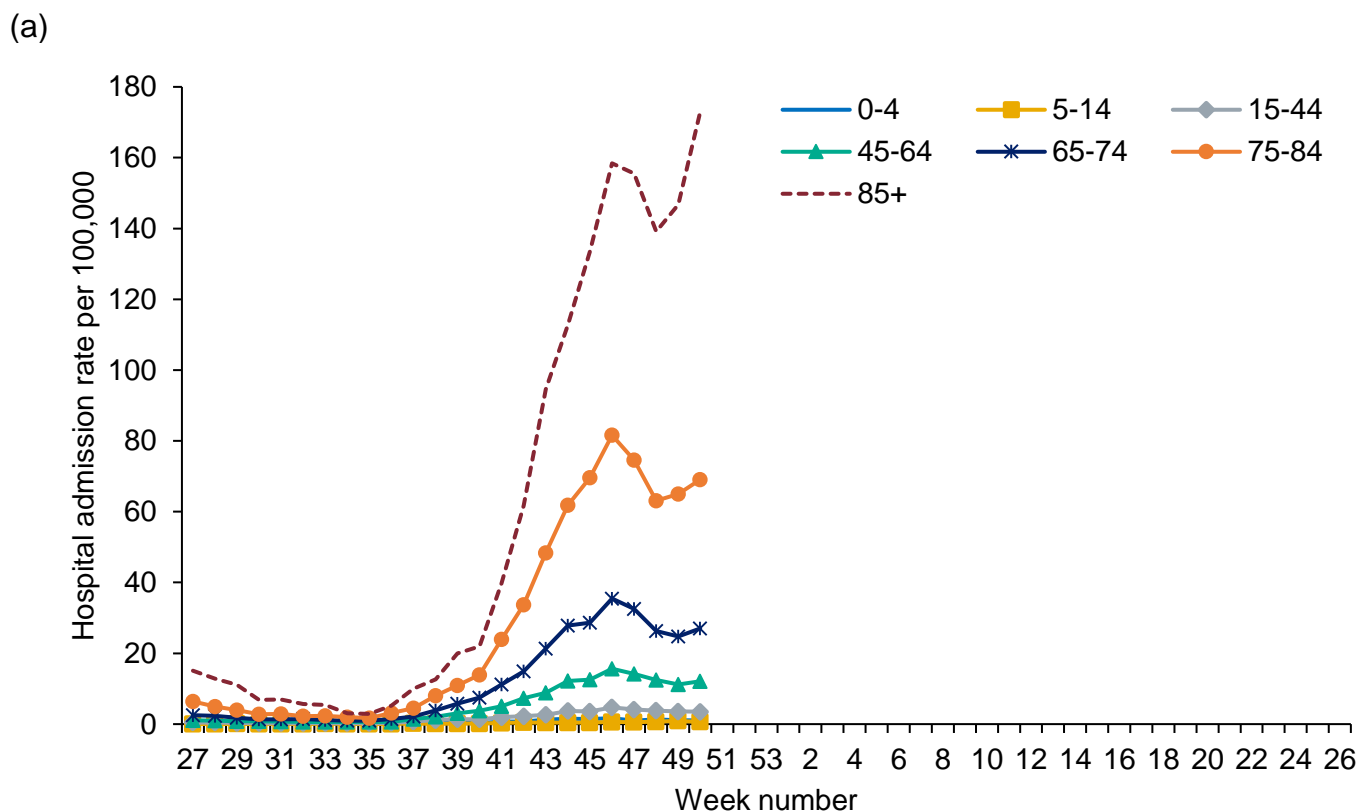
**Figure 36: Weekly influenza hospital admissions by influenza type, SARI Watch, England**



**Figure 37: Weekly hospital admission rate by PHE Centre for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch**



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





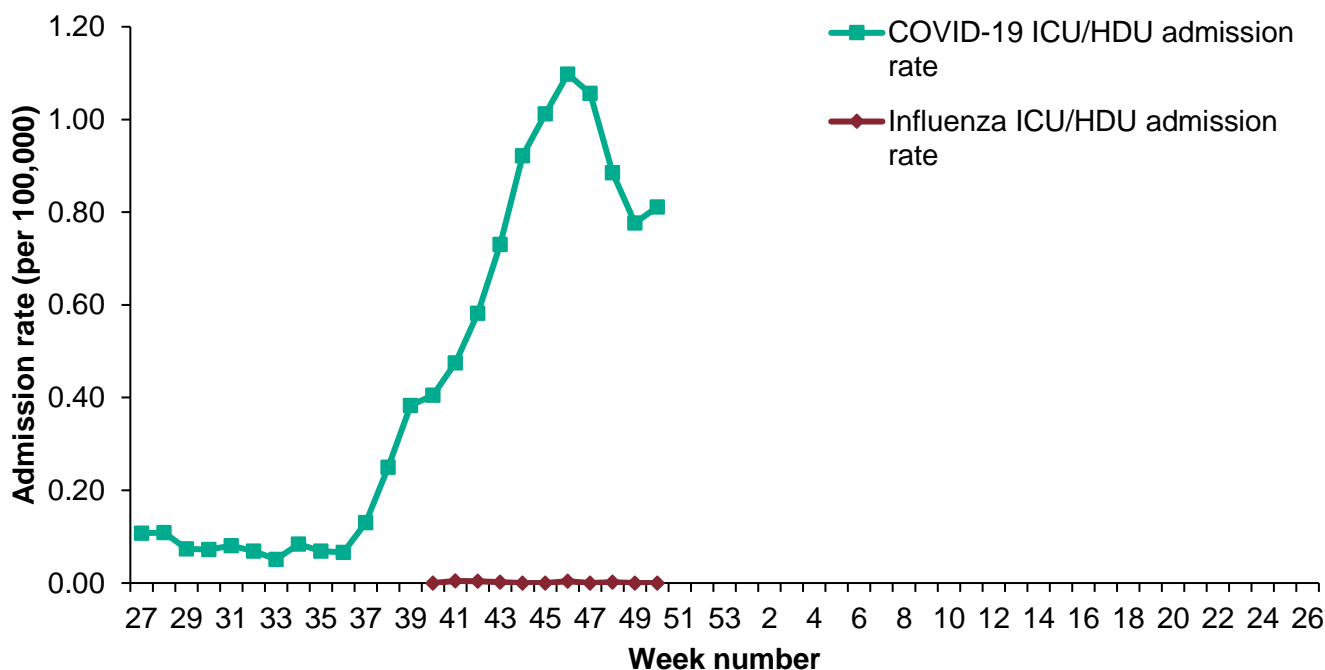
## ICU/HDU admissions, SARI Watch

In week 50, the weekly ICU/HDU admission rates for COVID-19 increased whilst the ICU/HDU admission rate remained low for influenza.

The ICU/HDU rate for COVID-19 was at 0.81 per 100,000 in week 50 (based on data reported from 114 NHS Trusts) compared to at 0.78 per 100,000 in the previous week. There was no new influenza admission to ICU/HDU in week 50.

By PHE Centre, the highest ICU/HDU admission rates for COVID-19 were observed in the East Midlands. By age groups, the highest ICU/HDU admission rates for COVID-19 were observed in the 65 to 74 year olds.

**Figure 39: Weekly overall ICU/HDU admission rates per 100,000 of new COVID-19 and influenza positive cases reported through SARI Watch, England**

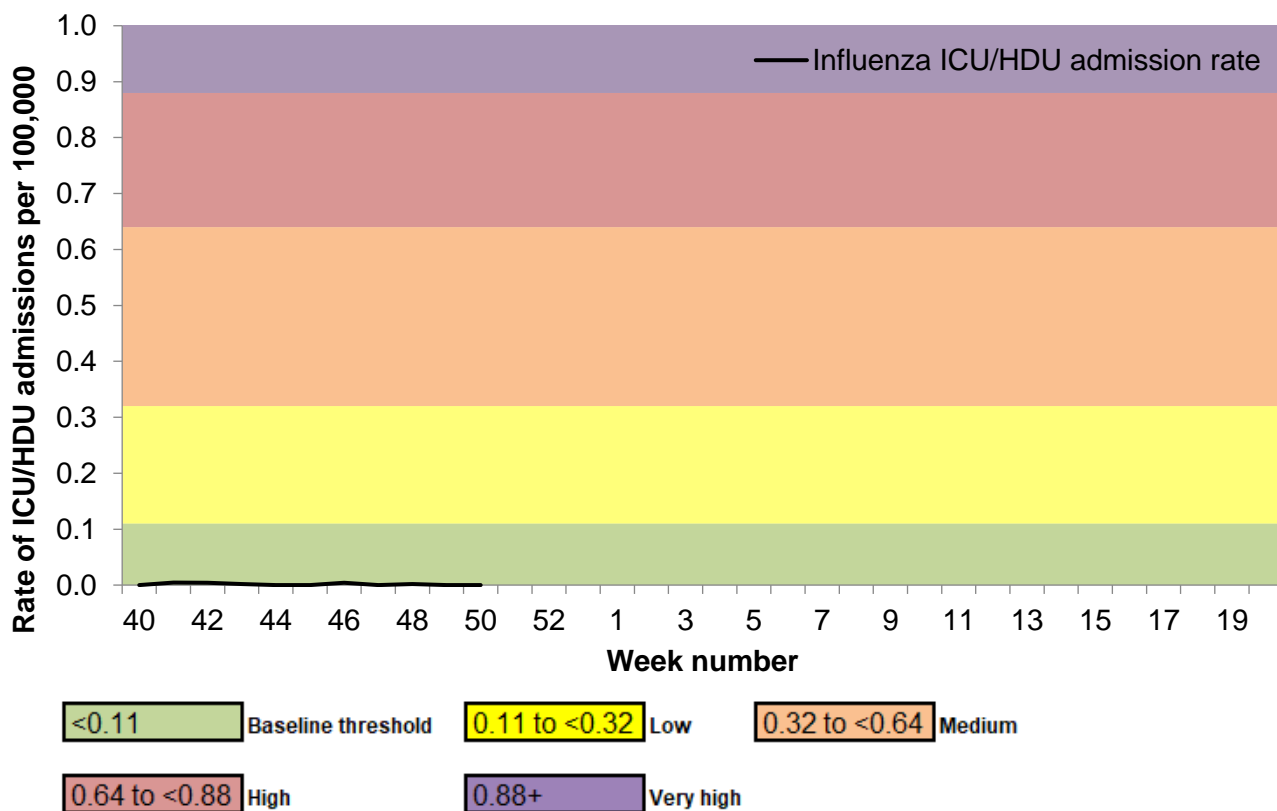


\* influenza ICU/HDU admission rate is reported from week 40 2020 onwards

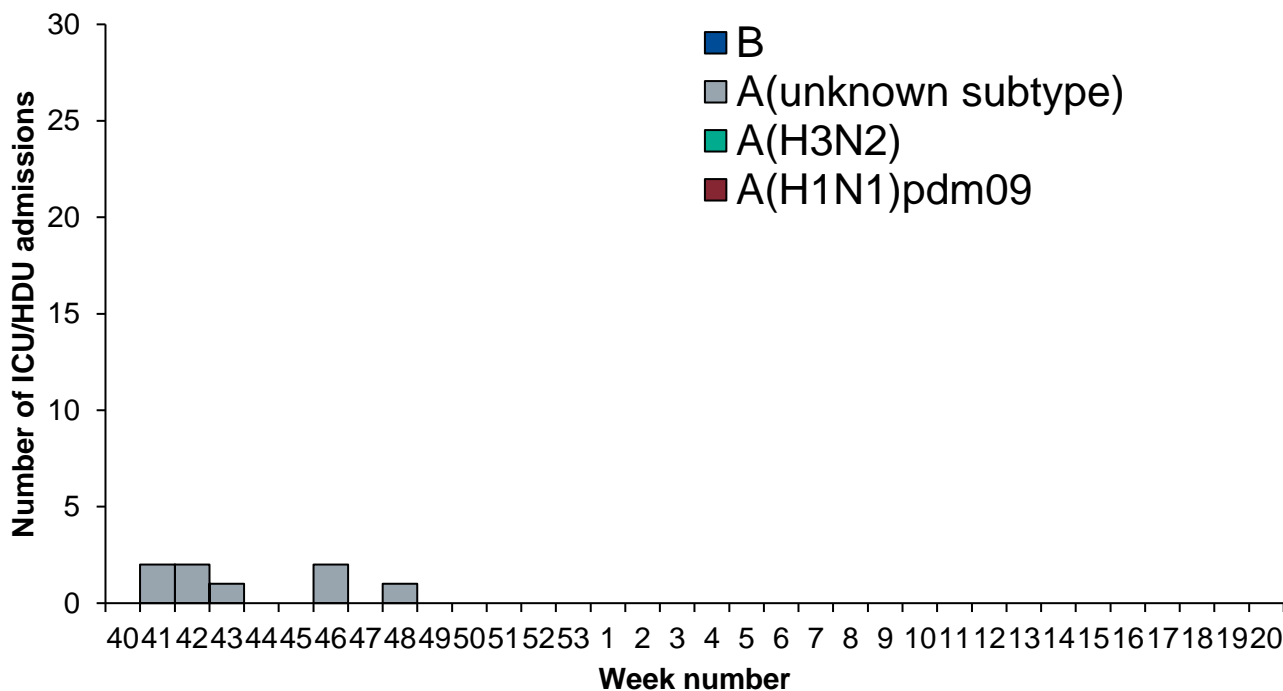
\* influenza ICU/HDU admission rate based on 107 NHS trusts for week 50

\* COVID-19 ICU/HDU admission rate based on 114 NHS trusts for week 50

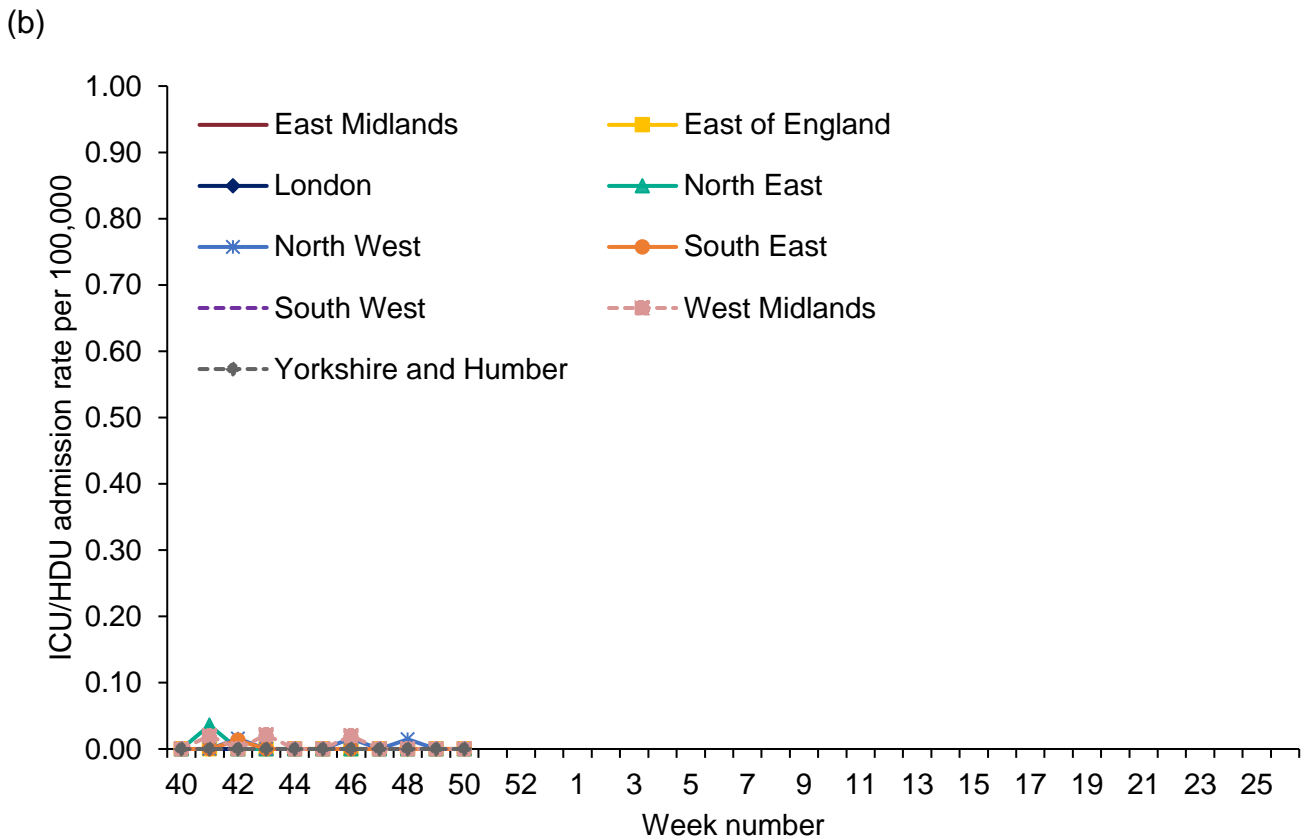
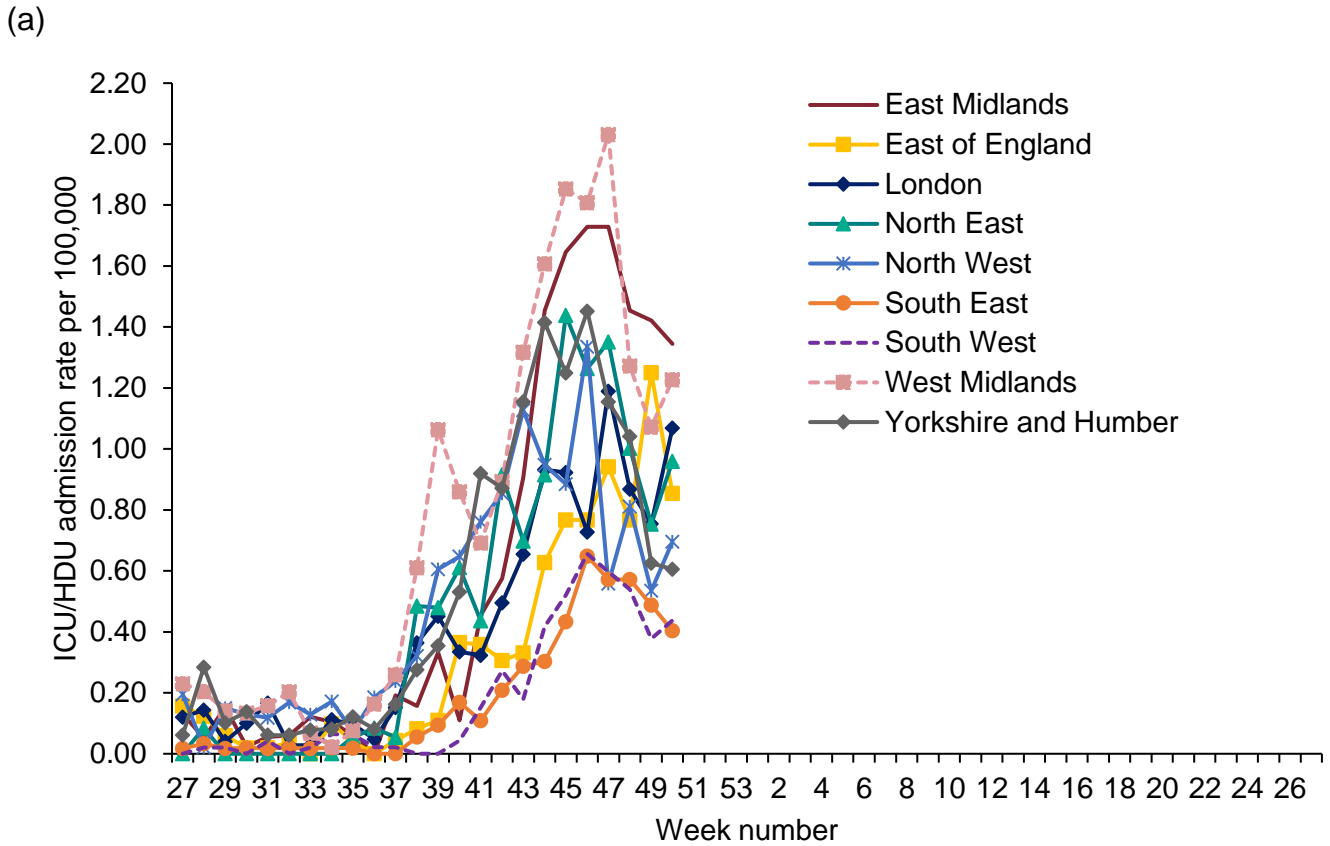
**Figure 40: Weekly overall influenza ICU/HDU admission rates per 100,000 trust catchment population with MEM thresholds, SARI Watch, England**



**Figure 41: Weekly influenza ICU/HDU admissions by influenza type, SARI Watch, England**

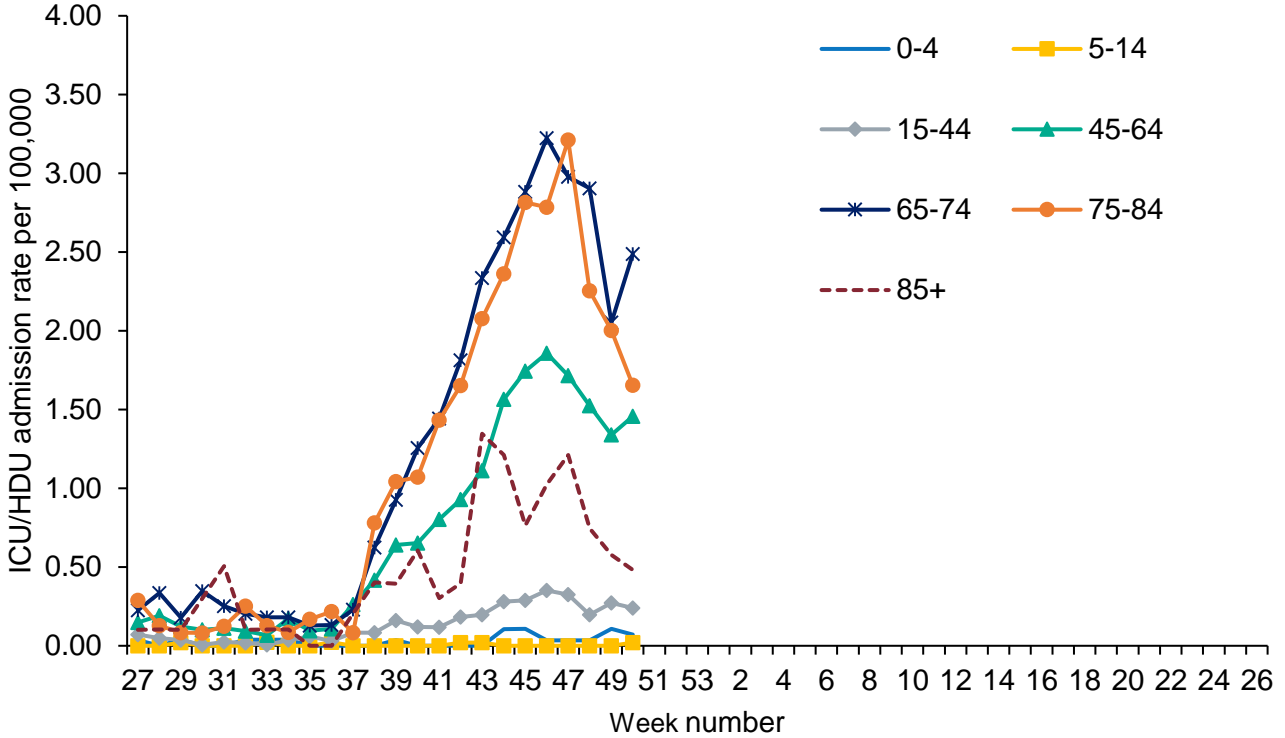


**Figure 42: Weekly ICU/HDU admission rate by PHE Centre for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch**

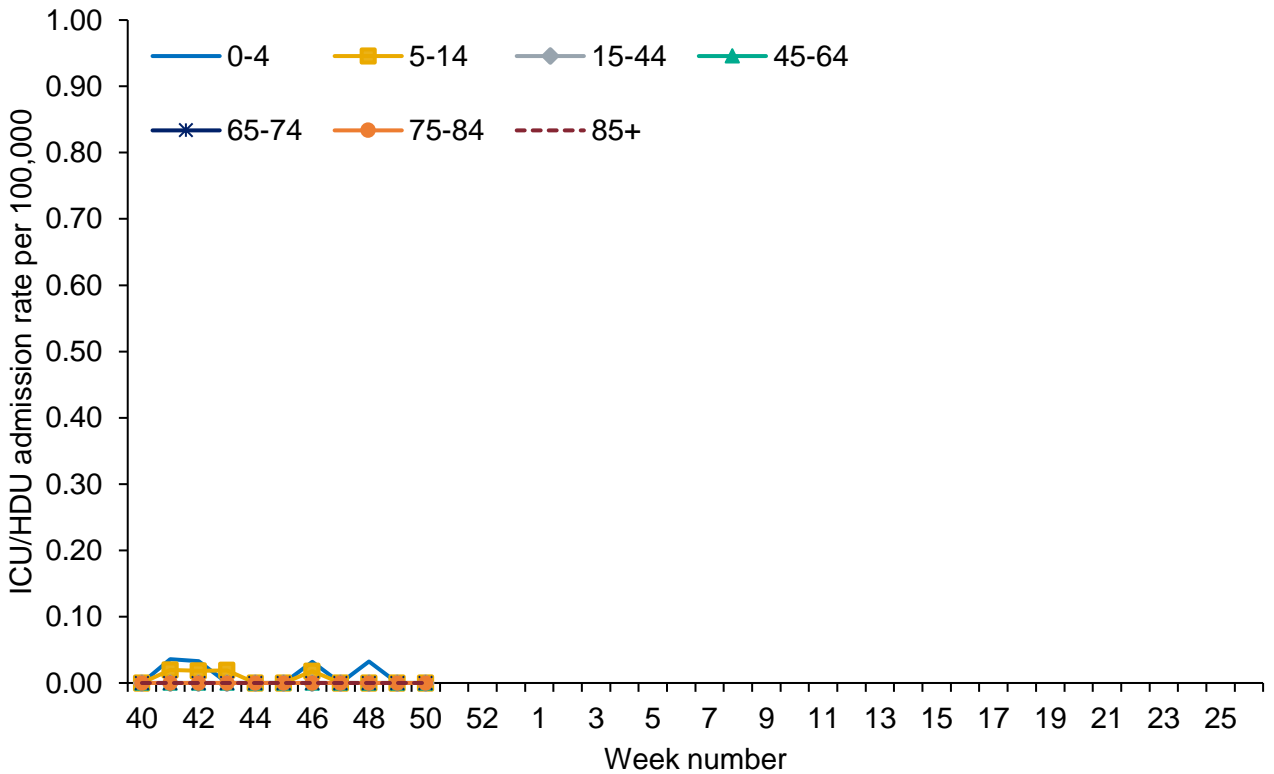


**Figure 43: Weekly ICU/HDU admission rate by age group for new (a) COVID-19 positive cases and (b) influenza reported through SARI Watch**

(a)



(b)

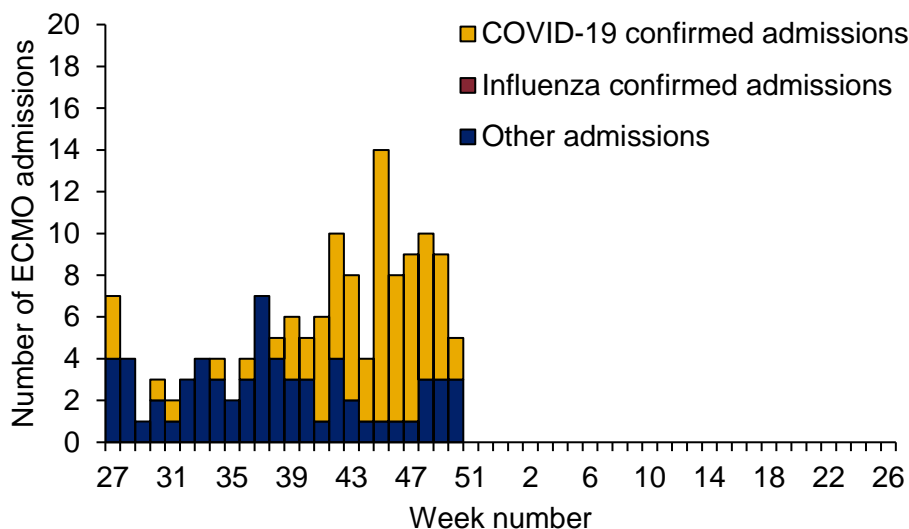


## ECMO, SARI Watch

From week 27 2020, a total of 76 laboratory confirmed COVID-19 admissions have been reported from the 6 Severe Respiratory Failure (SRF) centres in the UK.

There were 2 new laboratory confirmed COVID-19 admissions reported in week 49 (Figure 43).

**Figure 44: Laboratory confirmed ECMO admissions (COVID-19, influenza and non-COVID-19 confirmed) to Severe Respiratory Failure centres in the UK**



\*From the week 45 report (this report), data on ECMO admissions is being presented for the UK (including retrospective data from week 27 onwards).

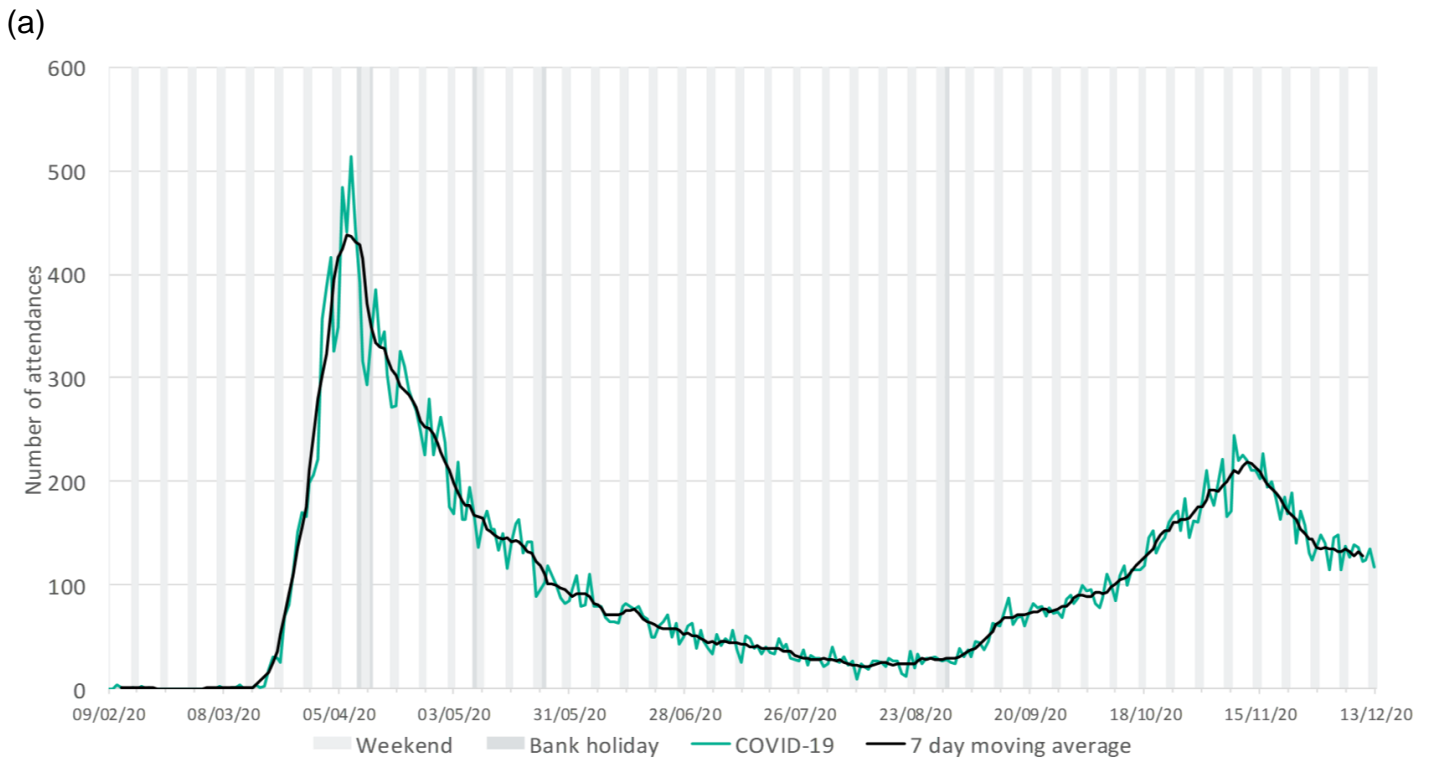
## Emergency Department attendances, Syndromic surveillance

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

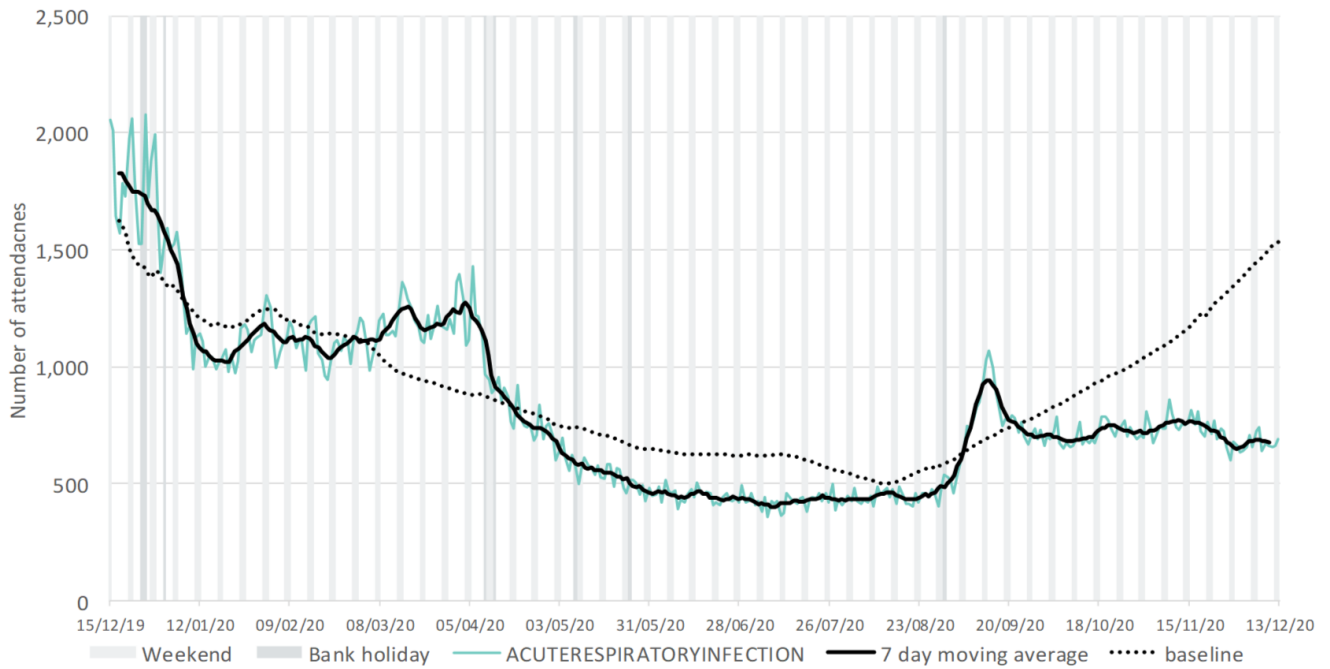
Up to 13 December 2020, the daily number of ED attendances for all ages as reported by 77 EDs, for COVID-19-like attendances decreased but at a slower rate compared to previous weeks and attendances for acute respiratory infections remained stable (Figure 45).

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 [PHE Emergency Department Syndromic Surveillance bulletin](#).

**Figure 45: Daily ED attendances for (a) COVID-19-like and (b) acute respiratory infections, all ages, England**



(b)



# Mortality surveillance

## Cumulative COVID-19 deaths

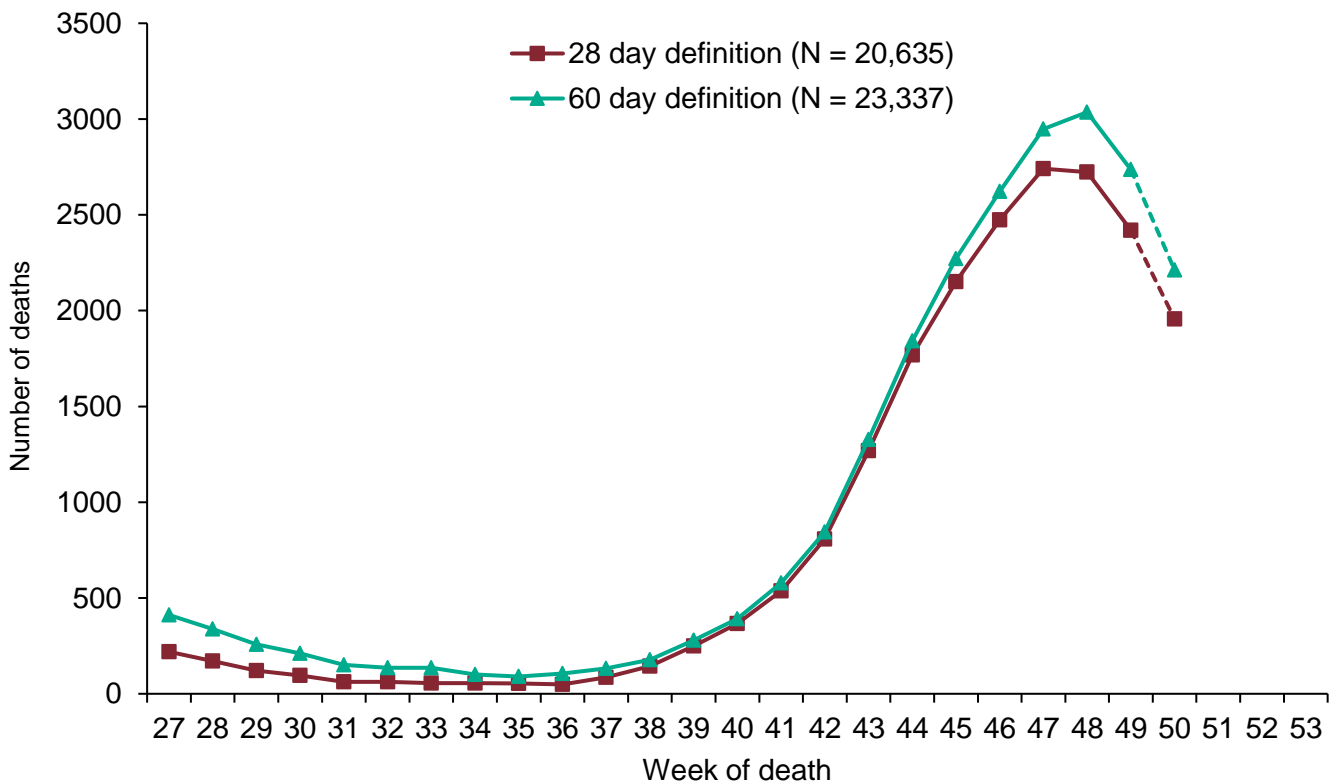
Changes to the definitions of COVID-19 related deaths in England are described in more detail in an [accompanying PHE technical summary](#).

The current definitions used for mortality surveillance of COVID-19 in England are:

- (a) 28 day definition: A death in a person with a laboratory-confirmed positive COVID-19 test and died within (equal to or less than) 28 days of the first positive specimen date
- (b) 60 day definition: A death in a person with a laboratory-confirmed positive COVID-19 test and either: died within 60 days of the first specimen date OR died more than 60 days after the first specimen date only if COVID-19 is mentioned on the death certificate

The introduction of these definitions will affect the numbers which have been presented in past reports and therefore Figure 45 represents these differences by definition.

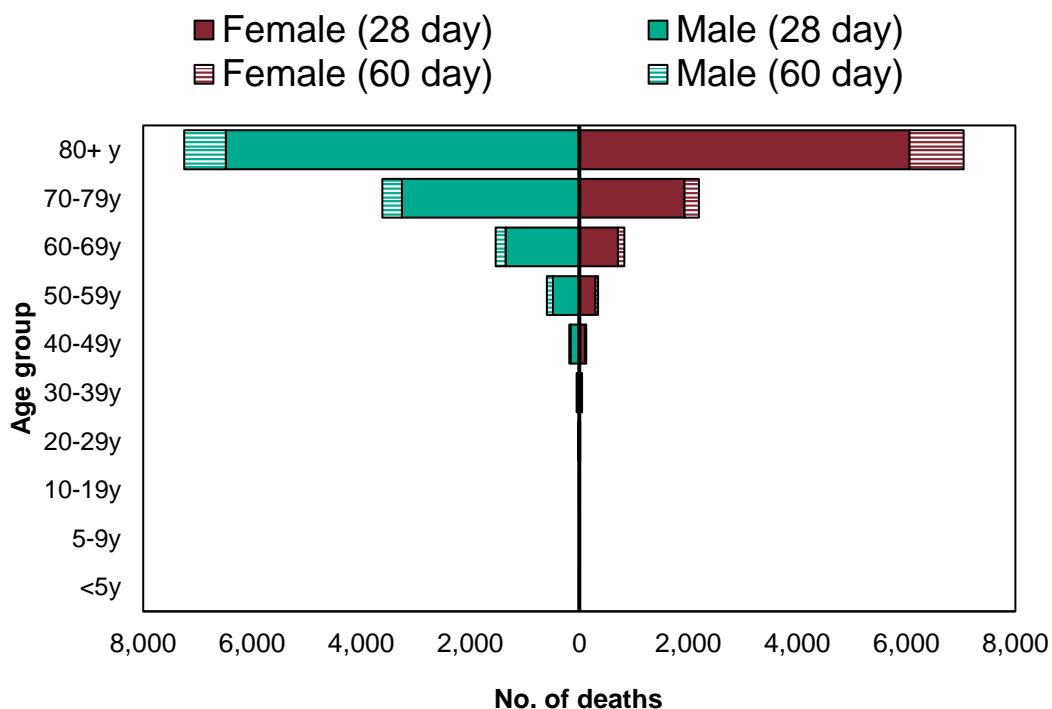
**Figure 46: Number of deaths since week 27 by week of death and time since laboratory confirmation of COVID-19, England**



\*The data are 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 47: Age/sex pyramid of laboratory confirmed COVID-19 deaths, since week 27**



**Table 5: Ethnic group (%) of COVID-19 deaths and time since laboratory confirmation of COVID-19, England**

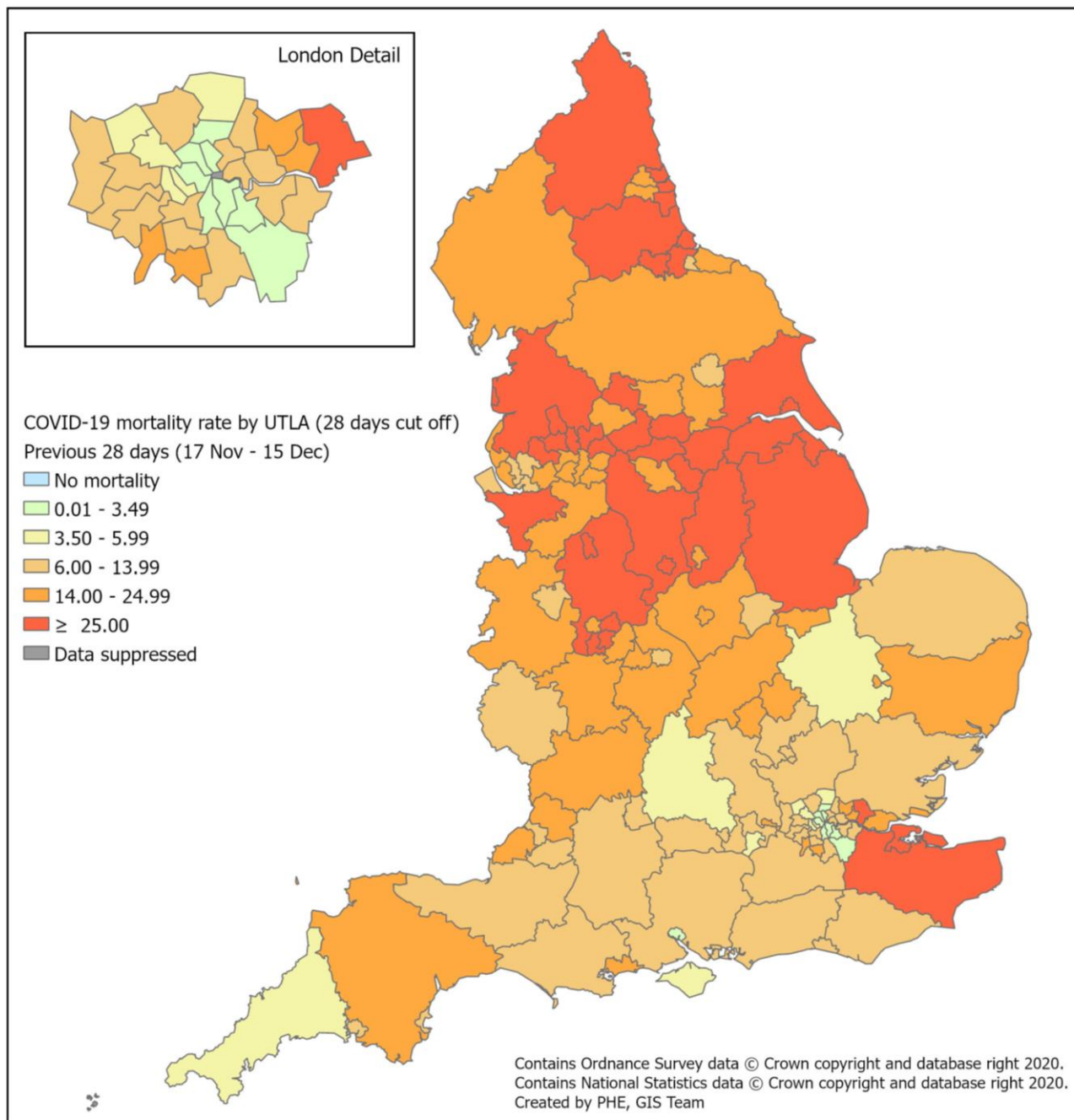
Ethnicity	28 day definition	60 day definition
White	89.9	90.2
Asian / Asian British	7.2	6.9
Black / African / Caribbean / Black British	1.5	1.5
Mixed / Multiple ethnic groups	0.4	0.4
Other ethnic group	1.0	1.1

**Table 6: Cumulative number of COVID-19 deaths since week 27 and time since laboratory confirmation of COVID-19 by PHE Centres**

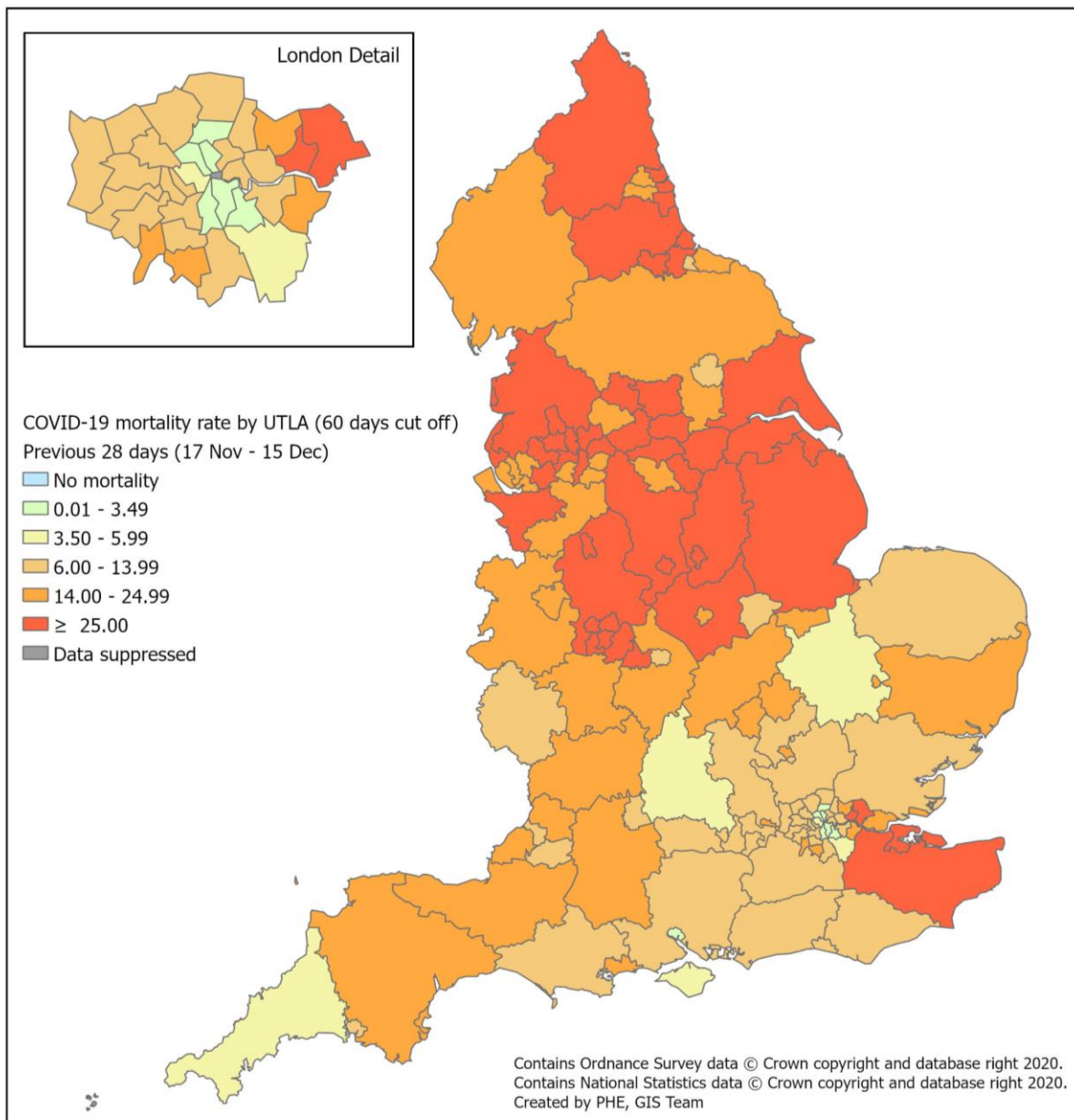
<b>PHE Centres</b>	<b>28 day definition</b>	<b>60 day definition</b>
North East	1,610	1,809
North West	5,034	5,762
Yorkshire & Humber	3,380	3,791
West Midlands	2,618	2,951
East Midlands	2,348	2,629
East of England	1,397	1,666
London	1,372	1,597
South East	1,867	2,225
South West	1,110	1,222

**Figure 48: Cumulative mortality rate of COVID-19 cases per 100,000 population tested under Pillars 1 and 2 for the past four weeks by (a) 28 day definition and (b) 60 day definition**

(a)



(b)



\* Figure 48 has been calculated using mid-2019 ONS population estimates

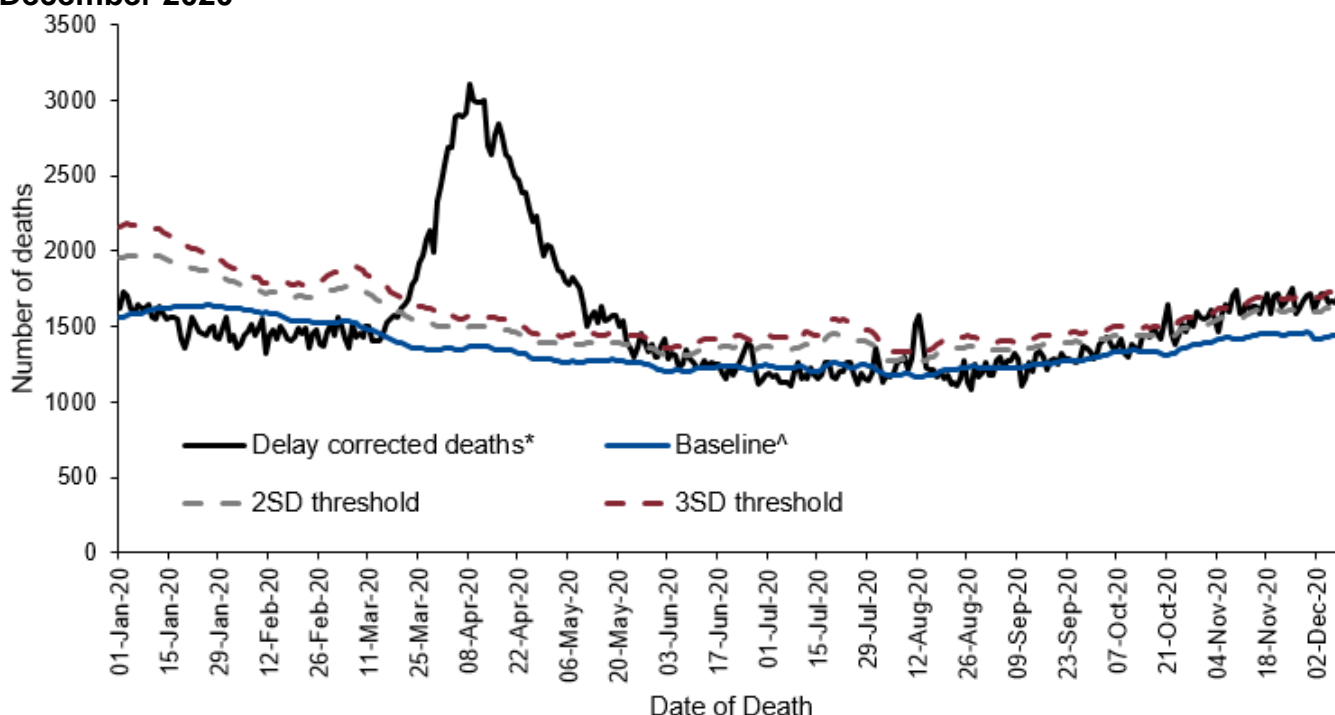
## Daily excess all-cause mortality (England)

Deaths occurring from 1 January to 2 December 2020 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 +/- 7 days with an extrapolated time trend, and with 2 and 3 standard deviation (SD) limits shown (Figure 49).

Weeks in which at least 2 days exceeded the 3SD threshold are shown in Table 7 and the daily difference from the baseline by age and region is given in Figure 49. Note that as these data are by date of death with delay corrections, numbers are subject to change each week, particularly for more recent days.

Significant excess all-cause mortality was observed in week 49 overall, by age group in the 75 to 84 year olds and subnationally in the North West, East Midlands and Yorkshire and Humber. The excess noted in week 33 coincides with a heat wave (Figure 49, 50 and Table 7).

**Figure 49: Daily excess all-cause deaths in all ages, England, 1 January 2020 to 9 December 2020**



^ based on same day in previous 5 years +/- 1 week with a linear trend projected or for December to February past 3 low flu years +/-2 weeks, no trend

\* corrected for delay to registration from death

**Table 7: Excess all-cause deaths by (a) age group and (b) PHE centres, England**

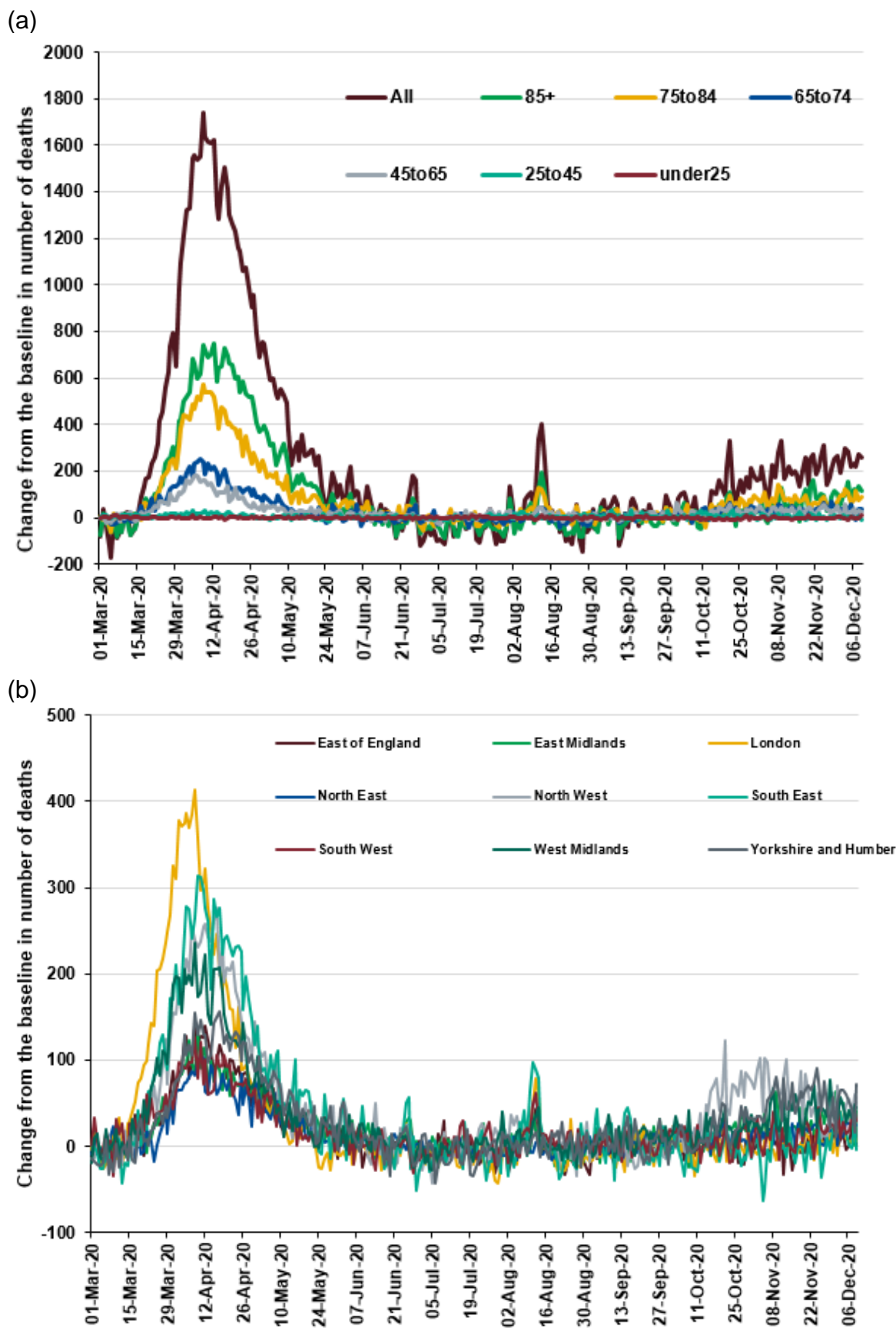
(a)

Age Group	Excess detected in week 49 2020?	Weeks in excess since week 10 2020
All	✓	13 to 21, 33, 43 to 45, 47 to 49
under 25	x	None
25 to 44	x	14 to 16, 32, 38
45 to 64	x	12 to 19
65 to 74	x	13 to 19, 48
75 to 84	✓	13 to 21, 33, 43 to 45, 49
85+	x	13 to 21, 33

(b)

PHE Centres	Excess detected in week 49 2020?	Weeks in excess since week 10 2020
East of England	x	14 to 19
East Midlands	✓	13 to 19, 49
London	x	12 to 19, 33
North East	x	14 to 21
North West	✓	13 to 20, 33, 42 to 47, 49
South East	x	13 to 21, 33
South West	x	13 to 19, 33
West Midlands	x	13 to 20, 45 to 48
Yorkshire and Humber	✓	14 to 21, 23, 43 to 49

**Figure 50: Daily excess all-cause deaths by (a) age group and (b) PHE centres , England, 1 March 2020 to 9 December 2020**



# Microbiological surveillance

## Virus characterisation

PHE 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

In week 50, no influenza viruses were characterised by PHE Respiratory Virus Unit (RVU).

## Antiviral susceptibility

Influenza positive samples are screened for mutations in the virus neuraminidase gene known to confer oseltamivir and/or zanamivir resistance. Additionally, testing of influenza A(H1N1)pdm09, A(H3N2), and influenza B virus isolates for neuraminidase inhibitor susceptibility (oseltamivir and zanamivir) is performed at PHE-RVU using a functional assay. The data summarized below combine the results of both testing methods. The samples tested are routinely obtained for surveillance purposes, but diagnostic testing of patients suspected to be infected with neuraminidase inhibitor-resistant virus is also performed.

In week 50, no influenza viruses were tested for antiviral susceptibility.



## Antimicrobial susceptibility

Table 8 shows in the 12 weeks up to week 50 2020, 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 8: Antimicrobial susceptibility surveillance in lower respiratory tract**

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	855	85
	Macrolides	931	75
	Tetracycline	922	78
<i>H. influenzae</i>	Amoxicillin/ampicillin	3,558	62
	Co-amoxiclav	3,924	73
	Macrolides	803	6
	Tetracycline	4,003	97
<i>S. aureus</i>	Methicillin	2,993	93
	Macrolides	3,280	70
MRSA	Clindamycin	129	40
	Tetracycline	170	75
MSSA	Clindamycin	1,933	76
	Tetracycline	2,694	92

\* Macrolides = erythromycin, azithromycin and clarithromycin

Data source: PHE's SGSS CDR module. Please note that this is different to the data source used during the 2019/20 influenza season when the SGSS AMR module was used, and so the results are not directly comparable.

There has been a reduction in the total number of bacterial positive lower respiratory tract clinical samples reported to PHE since mid-March 2020

## COVID-19 sero-prevalence surveillance

The results from testing samples provided by healthy adult blood donors aged 17 years and older, supplied by the NHS Blood and Transplant (NHS BT collection) between weeks 17-49 are summarised. This programme has previously involved testing approximately 1000 donor samples from two different NHS regions each week. In this week's report, the data presented reflects a change in the sampling strategy as of week 44, with approximately 250 samples from each geographic NHS region being tested each week. Since week 26, an exclusion of donors aged 70 years and older donating throughout lockdown was lifted, and therefore data since then include donors in this older age group.

### Seroprevalence in adults aged 17 years and older (Blood Donors)

The results presented here are based on testing using the Euroimmun assay for blood donor samples collected between weeks 17-49. This report presents seropositivity estimates using a 4-week rolling prevalence for national and regional estimates. Seroprevalence estimates reported are based on seropositivity which are unadjusted for the sensitivity and specificity of the assays used. This is because assay sensitivity will change according to the time since infection in these cohorts due to waning of antibodies.

### National prevalence

Overall population weighted (by age group, sex and NHS region) antibody prevalence using the Euroimmun assay among blood donors aged 17 years and older in England was 6.8% (95% CI 6.2% - 7.5%) for the period 9<sup>th</sup> November– 6<sup>th</sup> December (weeks 46-49). Estimates are based on 7125 samples, of which 486 were positive. This compares with 5.7% (95% CI 5.1% - 6.3%) for the period of 14<sup>th</sup> October – 8<sup>th</sup> November (weeks 42-45).

Changes in seropositivity are likely to reflect the net effect of increases due to recent transmission and decreases due to antibody waning. Demographic changes in the donor population also need to be considered, such as when donors aged 70 years and older were excluded from donating during the first national lockdown.

### Regional prevalence over time

Seropositivity (weighted by age group and sex) vary across the country and over time. Figure 51 shows the overall 4-weekly rolling proportion seropositive in each region over time. Seropositivity estimates are plotted weekly using the mid-point of a rolling 4-weekly period.

In London where estimates have generally been highest, the 4-weekly rolling seropositivity increased from 11.8% (week 16-19) to 13.7% (weeks 20-23). From week 24 seropositivity declined and plateaued with estimates at 7.8% in weeks 30-33. This was then followed by a rise in seropositivity to 10.4% (95% CI 9.1% - 12%) in weeks 34-

37 and has plateaued to 8.9% (95% CI 7.3% - 10.8%) in weeks 46-49. Contributory factors to this fluctuation are likely to include variability in the precise locations of sampling within London and changes in exposure of donors. Increases in seropositivity observed in weeks 34-37 in part may reflect samples being tested from donors who were likely to be returning to donate having donated in earlier parts of the epidemic when incidence was high.

Data from the North West show that seropositivity increased from 6.9% (95% CI 5.7% - 8.3%) in weeks 42-45 to 11.0% (95% CI 9.1% - 13.2%) in weeks 46-49. The North West currently has the highest seropositivity of any English region.

In the East of England seropositivity increased from 4.7% (95% CI 3.7% - 5.9%) in weeks 42-45 to 6.9% (95% CI 5.1% - 9.1%) in the most recent data (weeks 46-49).

Seropositivity in the South East region remained stable at 4.0% (95% CI 3.0% - 5.3%) for weeks 42-45 and 4.1% (95% CI 3.1% - 5.5%) in weeks 46-49.

Seropositivity in the South West region decreased from 4.5% (95% CI 2.5% - 8.0%) in weeks 42-45 to 2.8% (95% CI 1.9 - 4.1%) in weeks 46-49.

Seropositivity in the North East and Yorkshire NHS region increased from 4.9% (95% CI 3.3% - 7.2%) in weeks 42-45 to 7.1% (95% CI 5.5% - 9.0%) in week 46-49.

Data from the Midlands show the proportion seropositive has been stable at 6.4% (95% CI 4.7% - 8.6%) in weeks 46-49. This compares with 6.8% (95% CI 5.3% - 8.8%) in weeks 40-43 and 6.0% (4.3% - 8.3%) in weeks 42-45.

The change in proportion seropositive observed in some regions is likely to be driven by changes in the precise locations of sample collection. However, the most recent increases observed in the North West and North East regions are likely to reflect increased transmission, consistent with other surveillance data. Increases in seropositivity reflect transmission occurring at least two to three weeks previously given the time taken to generate an antibody response following infection.

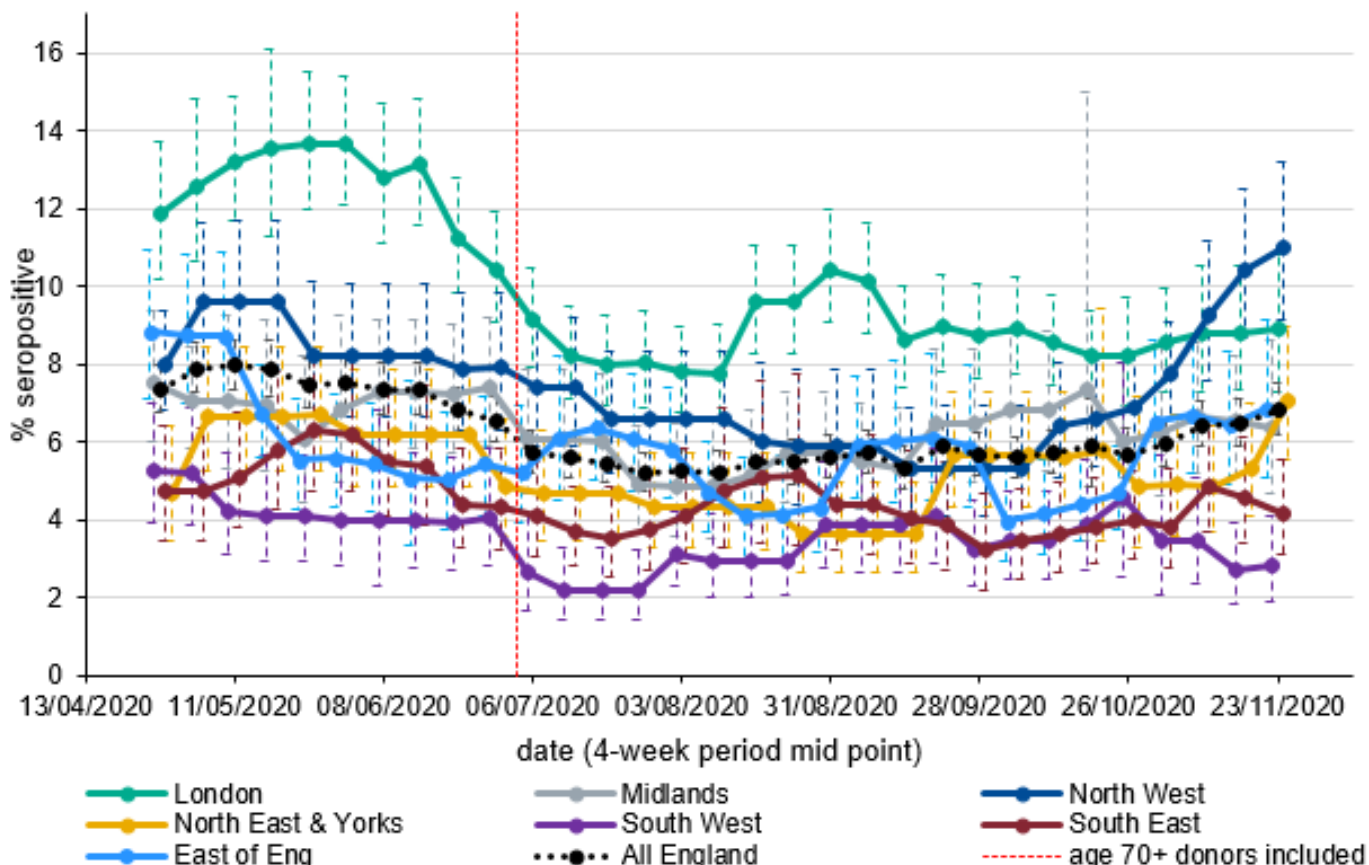
### Prevalence by age group

Population weighted antibody prevalence (unadjusted) estimates have remained highest in donors aged 17-29 and has generally declined with age, with lowest prevalence in donors aged 70-84. Donors aged 70-84 years were only included from week 26 onward as this age group, who were advised to not to donate during the first national lockdown, have been able to return to donor clinics since then (Figure 52).

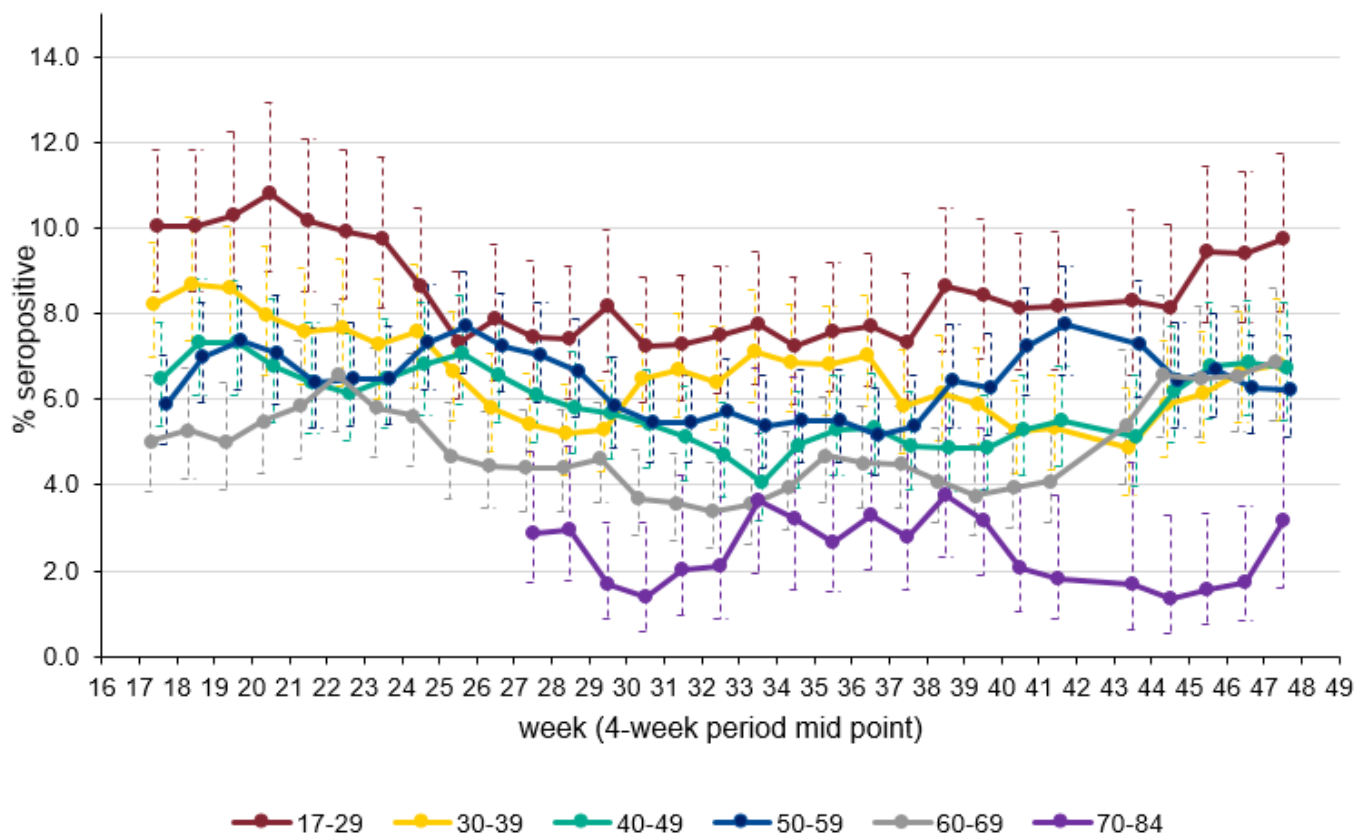
Prevalence for all age groups for weeks 41-44 has been excluded due to a change in sampling strategy from week 44 which resulted in a small number of samples from older age groups in some regions which makes interpretation of trends for this period difficult. Seropositivity has remained highest in the those aged 17-29 and lowest in those aged 70-84 years. However, the largest variation over time are observed in those aged 17-29; prevalence has increased from 8.3% (95% CI 6.6% - 10.4%) in weeks 42-45 to 9.5% (95% CI 7.8% - 11.4%) in weeks 44-47. The most recent data (weeks 46-49) show that seropositivity remained stable at 9.7% (95% CI 8.0% - 11.8%).

There has also been a recent increase in prevalence in donors aged 60-69 from 4.1% (95% CI 3.1% - 5.4%) in weeks 40-43 to 6.9% (95% CI 5.5% - 8.6%) in weeks 46-49. Whilst prevalence in donors aged 70-84 remains the lowest across all age groups, seropositivity in this age group has also increased from 1.7% (95% CI 0.6 – 4.5%) in weeks 42-45 to 3.2% (95% CI 1.6% - 6.2%) in weeks 46-49.

**Figure 51: 4-weekly rolling SARS-CoV-2 antibody seroprevalence (% seropositive) in blood donors by region, using Euroimmun test; error bars show 95% confidence intervals**



**Figure 52: Population weighted 4-weekly rolling SARS-CoV-2 antibody seroprevalence (% seropositive) in blood donors by age group, using Euroimmun test; error bars show 95% confidence intervals**



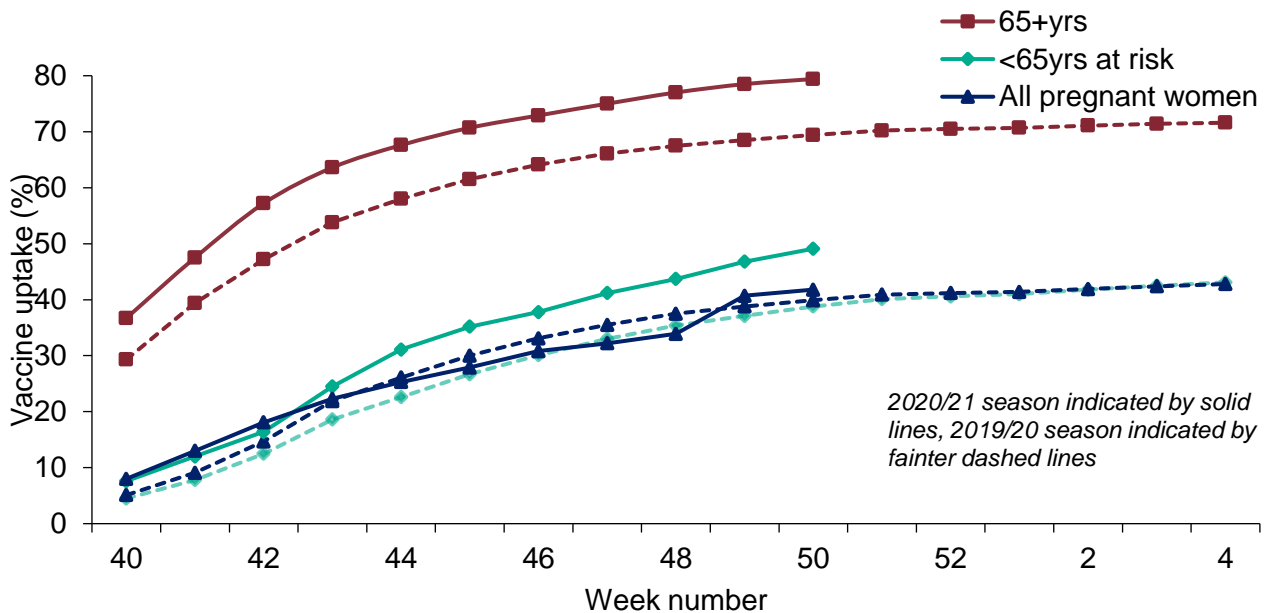
# Influenza vaccination

## Influenza vaccine uptake in GP patients

Up to week 50 2020 in 93.6% of GP practices reporting weekly to Immform for the main collection, the provisional proportion of people in England who had received the 2020/21 influenza vaccine in targeted groups was as follows (Figure 53):

- 49.1% in under 65 years in a clinical risk group
- 41.8% in pregnant women
- 79.4% in 65+ year olds
- 17.7% in those aged 50-64 who are not in a clinical risk group

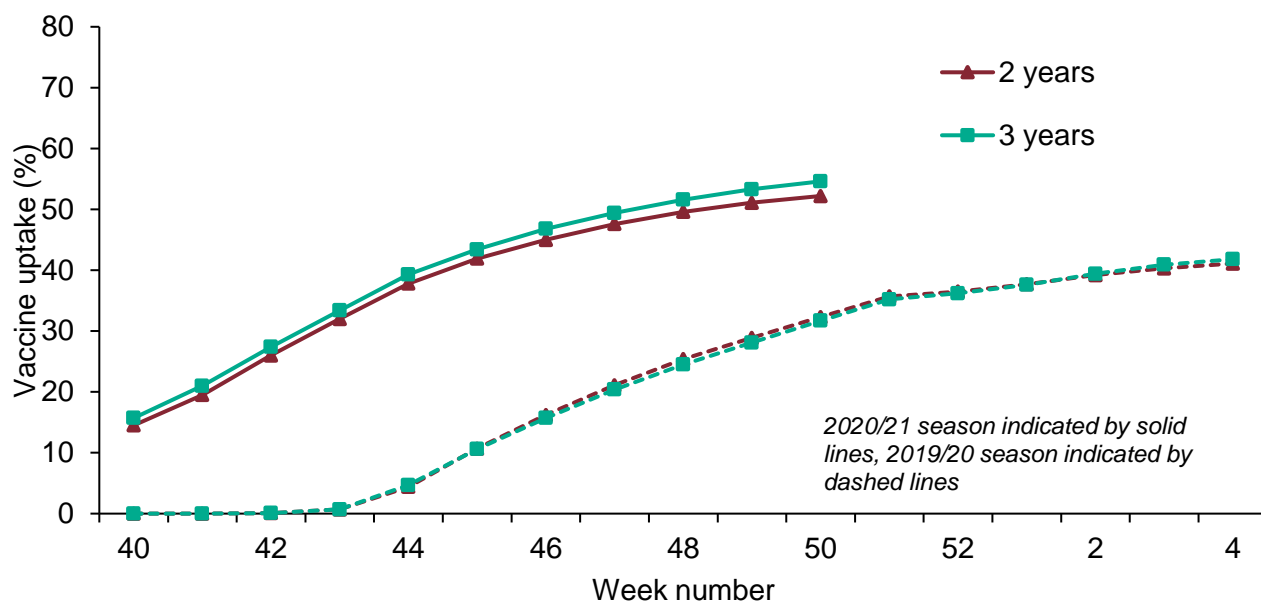
**Figure 53: Cumulative weekly influenza vaccine uptake by target group in England**



In 2020/21, all 2 and 3 year olds continue to be eligible for influenza vaccination through their GPs. Up to week 50 2020, in 93.0% of GP practices reporting weekly to Immform for the childhood collection, the provisional proportion of children in England who had received the 2020/21 influenza vaccine in targeted groups was as follows (Figure 54):

- 52.2% in 2 year olds
- 54.6% in 3 year olds

**Figure 54: Cumulative weekly influenza vaccine uptake in 2 and 3 year olds, in England**



On 26 November 2020, **monthly data** which cover vaccinations that were given between 1 September and 31 October 2020 was published and for the first time includes ethnicity for at-risk groups and pregnant women.

## Influenza vaccine uptake in school age children

**Provisional data** from the first monthly collection of influenza vaccine uptake for children of school years Reception to Year 7 (from a sample of 99.3% of all Local Authorities in England) show the provisional proportion of children in England who received the 2020/21 influenza vaccine via school, pharmacy or GP practice by 31 October 2020 in targeted groups in Table 9.

**Table 9: Provisional cumulative influenza vaccine uptake in children in school years Reception to Year 7, up to 31 October 2020 and 2019, England**

School Year	% Vaccine uptake (up to 31 October)	
	2020/21	2019/20
Reception (4-5 years)	19.1	17.9
Year 1 (5-6 years)	19.4	17.6
Year 2 (6-7 years)	19.3	17.3
Year 3 (7-8 years)	19.3	16.6
Year 4 (8-9 years)	18.8	16.4
Year 5 (9-10 years)	18.6	15.8
Year 6 (10-11 years)	18.1	15.2
Year 7 (11-12 years)	25.9	-

\* Year 7 were not part of the programme in 2019/20

## Influenza vaccine uptake in healthcare workers

**Provisional data** from the first monthly collection of the influenza vaccine uptake by frontline healthcare workers show 51.6% were vaccinated by 31 October 2020 from 95.0% of all organisations, compared to 43.6% vaccinated in the previous season by 31 October 2019. The report provides uptake at national, NHS region, Sustainability and Transformation Partnerships (STP) and Trust-level.



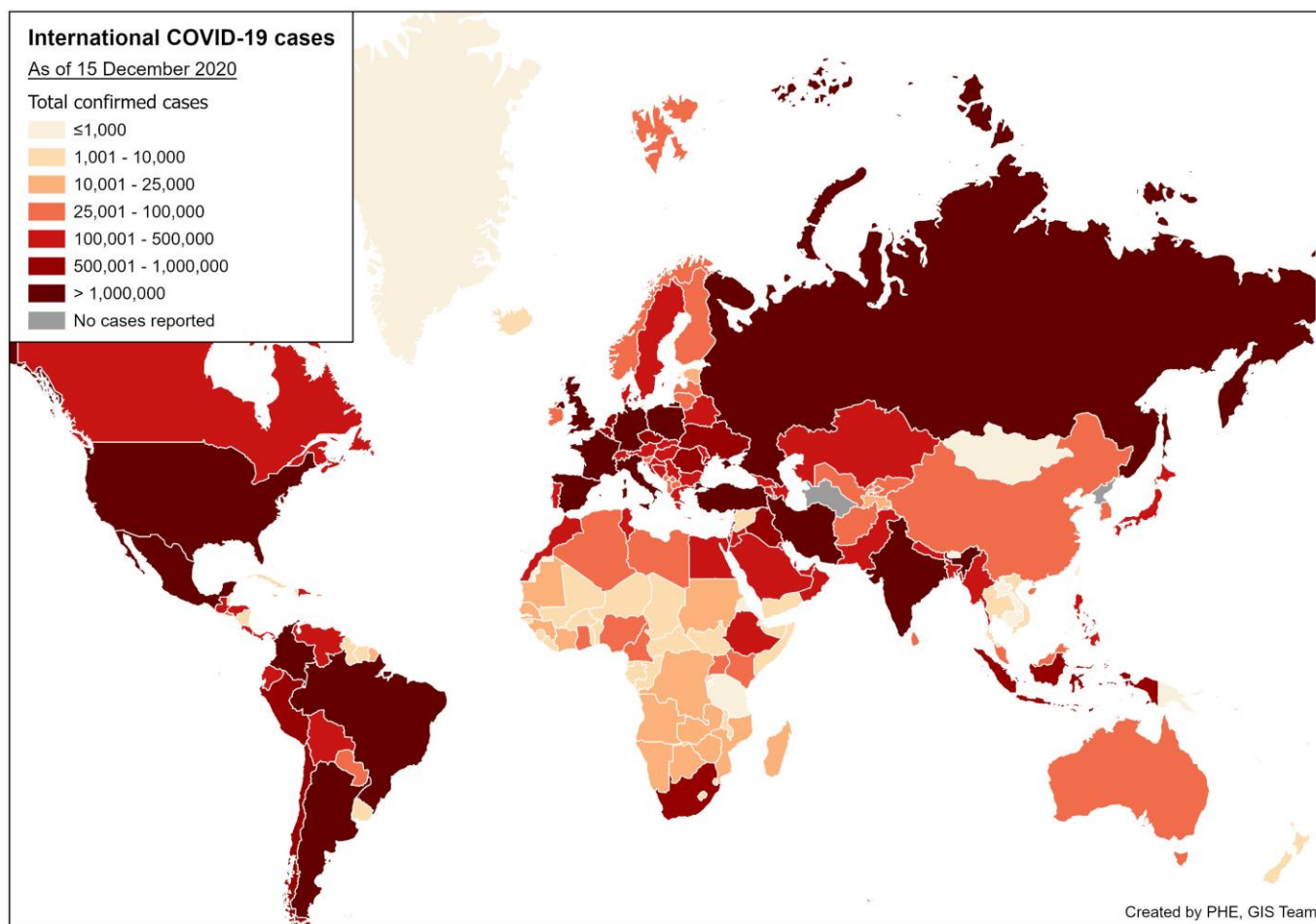
# International update

## Global COVID-19 update

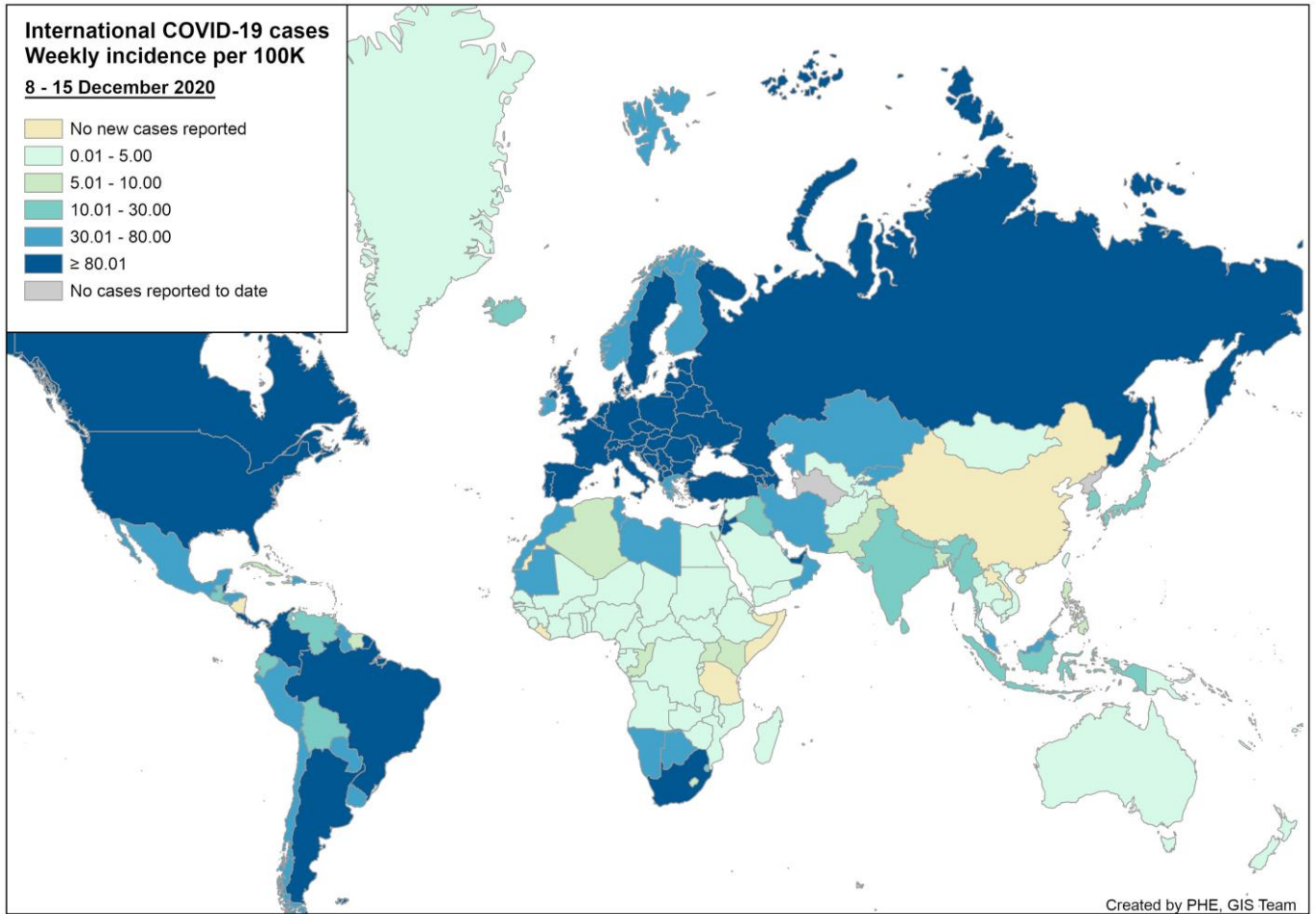
Globally, up to 15 December 2020, 72,988,563 cases of COVID-19 infection have been reported worldwide, including 1,619,543 COVID-19 related deaths.

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

**Figure 55: Global map of cumulative COVID-19 cases**



**Figure 56: Global map of weekly COVID-19 case incidence rate per 100,000, week 50 2020**



## Global influenza update

Updated on 14 December 2020 (based on data up to 22 November 2020) ([WHO website](#))

In the temperate zone of the northern hemisphere, influenza activity remained below inter-seasonal levels, though sporadic detections of influenza A and B viruses were reported in some countries. In the temperate zones of the southern hemisphere, influenza activity was reported at inter-seasonal level. Worldwide, influenza A and B viruses were detected in similar proportions.

In the countries of North America, influenza activity indicators, including the percent of tests positive for influenza, were at very low levels.

In Europe, influenza activity remained at inter-seasonal levels though sporadic detections of influenza A and B viruses were reported across reporting countries.

In Central Asia, there were no influenza detections for this reporting period.

In Western Asia, influenza activity remained at inter-seasonal level and ILI activity remained low overall.

In East Asia, influenza illness indicators and influenza activity remained at inter-seasonal levels in most reporting countries.

In the Caribbean and Central American countries, sporadic influenza B detections were reported in some reporting countries.

In tropical South America, there were no influenza detections in this reporting period.

In tropical Africa, influenza activity was reported in some countries of Western Africa.

In Southern Asia, influenza detections continued to be reported in Afghanistan and India.

In South East Asia, influenza detections of predominately influenza A(H3N2) continued to be reported in Cambodia, Lao People's Democratic Republic (PDR) and Thailand.

In Oceania, ILI and other influenza activity indicators remained very low, despite continued testing.

The WHO GISRS laboratories tested more than 192,375 specimens between 9 November 2020 and 22 November 2020. A total of 327 specimens were positive for influenza viruses, of which 162 (49.5%) were typed as influenza A and 165 (50.5%) as

influenza B. Of the sub-typed influenza A viruses, 11 (20%) were influenza A(H1N1)pdm09 and 44 (80%) were influenza A(H3N2). Of the characterized B viruses, 2 (10.5%) belonged to the B-Yamagata lineage and 17 (89.5%) to the B-Victoria lineage.

## Influenza in Europe

Updated on 14 December 2020 ([Joint ECDC-WHO Europe Influenza weekly update](#))

For week 49 2020, influenza activity remained at interseasonal levels throughout Europe.

Of 35 countries and areas that reported on the intensity of activity indicator, 30 reported activity at baseline levels, and 5 (Azerbaijan, Serbia, Slovakia, the United Kingdom (England) and Ukraine) reported low intensity for week 49 2020. Of 35 countries and areas that reported on geographic spread, 29 reported no activity, 5 reported sporadic spread (Azerbaijan, Portugal, Slovakia, the United Kingdom (England and Scotland)) and 1 reported local spread (Estonia) for week 49 2020.

For week 49 2020, of 1 002 sentinel specimens tested for influenza viruses, none were positive. Since the start of the season, of 8 729 sentinel-source specimens that have been tested for influenza viruses, five were positive: 2 type A and 3 type B viruses.

There were no hospitalized laboratory-confirmed influenza cases in ICUs reported for week 49 2020. Since the start of the season, there have been 10 hospitalized laboratory-confirmed influenza cases in ICUs.

There were no laboratory-confirmed influenza cases in wards outside ICUs reported for week 49 2020.

## Influenza in the Northern Hemisphere

Influenza activity remains low in the United States of America and in Canada.

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

Latest update on 9 November 2020 ([WHO website](#))

Influenza A(H5) viruses:

According to reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes continue to be detected in birds in Africa, Europe and Asia.

Influenza A(H7N9) viruses:

There have been no publicly available reports from animal health authorities in China or other countries on influenza A(H7N9) virus detections in animals in recent months.

Influenza A(H9N2) viruses:

Since the last update on 10 July 2020, one new laboratory-confirmed human case of influenza A(H9N2) virus infection was reported from China to WHO on 28 August 2020.

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

Latest update on 8 December 2020 ([WHO website](#))

Up to 8 December 2020, a total of five cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (three imported and two linked cases) have been confirmed in the UK through the on-going surveillance since September 2012.

From **1 April to 31 May 2020**, the National IHR Focal Point of Saudi Arabia reported 9 new cases of MERS-CoV infection, including five deaths.

Globally, since September 2012, **WHO** has been notified of 2,562 laboratory-confirmed cases of infection with MERS-CoV, including 881 related deaths. Further information on management and guidance of possible cases is available [online](#). The latest ECDC MERS-CoV risk assessment can be found [here](#), where it is highlighted 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](#)

[Sources of influenza surveillance data](#)

[Sources of COVID-19 surveillance data](#)

PHE 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 <http://www.legislation.gov.uk/uksi/2002/1438/regulation/3/made>. 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 Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

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