



# PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

27 December 2019 – Week 52 report (up to week 51 data)

This report is published weekly on the [PHE website](#). For further information on the surveillance schemes mentioned in this report, please see the [PHE website](#) and the [related links](#) at the end of this document.

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## Summary – Week 51 (ending 22 December 2019)

- During week 51, allowing for Christmas reporting breaks, influenza activity has continued to increase for several indicators.
- The impact of flu on healthcare services is **moderate intensity** levels for hospitalisations and ICU/HDU influenza admissions. The Department of Health & Social Care has issued an **alert** on the prescription of antiviral medicines by GPs.
- The available updated data in this report should be interpreted with caution due to delays in reporting during the Christmas period.

### Community

- 126 new acute respiratory outbreaks have been reported in the past 5 days. 57 outbreaks were reported from care homes where 22 tested positive for influenza A. 19 outbreaks were reported from hospitals where 15 tested positive for influenza A. 47 outbreaks were reported from schools with no test results available. The remaining 3 outbreaks were from the Other settings category, where two tested positive for influenza A.

### Primary Care

- In week 50, the rate of influenza-like illness (ILI) continues to be **Above baseline** threshold levels. The overall weekly ILI GP consultation rate was 16.0 per 100,000 registered population in participating GP practices for England, an increase from 13.1 per 100,000 in the previous week.
- In the devolved administrations, ILI rate were at low levels in Northern Ireland for week 51. Data was not available for England, Scotland and Wales for week 51.

GP ILI  
Consultations  
England



### Secondary Care

- Hospitalisation rate observed for laboratory confirmed influenza continues to be **at moderate intensity levels**, with a rate of 7.23 per 100,000 trust catchment population for England (14 NHS Trusts) compared to 6.47 per 100,000 in the previous week.
- ICU/HDU admission rate observed for laboratory confirmed influenza was **at moderate intensity levels**, with a rate of 0.41 per 100,000 trust catchment population for England (120/143 NHS Trusts) compared to 0.33 per 100,000 the previous week.
- There were five laboratory confirmed influenza (all influenza A(not subtyped) admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



### All-cause mortality

- In week 50 2019, no statistically significant excess all-cause mortality by week of death was seen overall and by age group in England. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed in Wales and Northern Ireland for week 50 and for Scotland in week 48 2019.

### Microbiological surveillance

- **Primary care:** 29 samples tested positive for influenza (1 influenza A(H1N1)pdm09, 26 influenza A(H3) and 2 influenza A(not subtyped), through the UK GP sentinel swabbing schemes in week 51 2019, with an overall influenza positivity of 55.8%
- **Secondary care:** There were 321 influenza detections recorded through the DataMart scheme (12 influenza A(H1N1)pdm09, 230 influenza A(H3), 77 influenza A(not subtyped) and 2 influenza B). The overall influenza percent positivity was 18.9% and **Above baseline** threshold level.
- **Virus Characterisation:** 265 influenza A(H3N2) viruses have been genetically and/or antigenically characterised since week 40. 183 of 226 genetically characterised belong to the same subclade as the H3N2 component in this season's vaccine. Eleven A(H1N1)pdm09 viruses have been antigenically characterised and are similar to the A(H1N1)pdm09 strain in this season's vaccine.

Secondary  
Care



### Vaccination

- **Weekly uptake:** Up to week 50 2019, in 79.4% of GP practices reporting for the main collection, the provisional proportion of people in England who had received the 2019/20 influenza vaccine in targeted groups was: 38.5% in under 65 years in a clinical risk group, 39.5% in pregnant women and 69.3% in 65+ year olds. In 78.4% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 32.5% in 2 year olds and 31.7% in 3 year olds.
- Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 61.5% were vaccinated by 30 November 2019, compared to 61.0% vaccinated in the previous season by 30 November 2018.
- Provisional data from the second monthly collection of influenza vaccine uptake for children of school years reception to year 6 shows 46.4% in school year reception age, 45.8% in school year 1 age, 45.0% in school year 2 age, 43.7% in school year 3 age, 43.2% in school year 4 age, 41.3% in school year 5 and 39.7% in school year 6 age were vaccinated by 30 November 2019.

### International situation

- In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continued to increase in most countries. In the temperate zones of the southern hemisphere, influenza activity returned to interseasonal levels. Worldwide, seasonal influenza A(H3N2) viruses accounted for the majority of detections.

Key	
Arrows (vs previous week):	Colour (intensity according to MEM threshold):
↑ Increase	● Below Baseline
↓ Decrease	● Above Baseline/Low
↔ Stable/No trend	● Medium
	● High
	● Very High

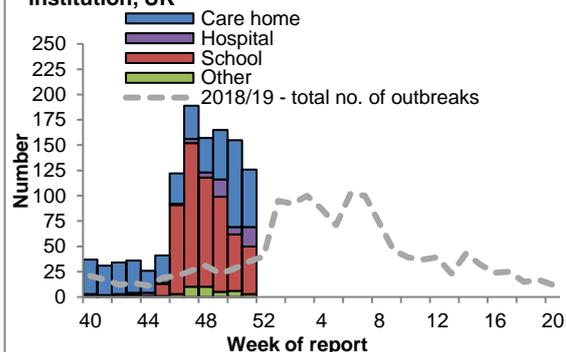
126 new acute respiratory outbreaks were reported in the past 5 days, with 39 confirmed with influenza.

- Acute respiratory disease outbreaks

- 126 new acute respiratory outbreaks have been reported in the past 5 days. 57 outbreaks were reported from care homes where 19 tested positive for influenza A(not subtyped), 2 for influenza A(H1N1)pdm09, one for influenza A(H3), one for RSV and one for a co-infection of RSV and human metapneumovirus (hMPV). 19 outbreaks were reported from hospitals where 15 tested positive for influenza A(not subtyped). 47 outbreaks were reported from schools with no test results. The remaining 3 outbreaks were from the Other settings category where two tested positive for influenza A(not subtyped).

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [respscids@phe.gov.uk](mailto:respscids@phe.gov.uk)

**Figure 1: Number of acute respiratory outbreaks by institution, UK**



- 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 2019/20 season, 17 MOSA schools have agreed to participate in the scheme, including a total of 4,000 boarders.

- The overall rate (all boarders) for week 49 was 2.5 per 1,000 boarders compared to 3.2 per 1,000 boarders in the previous week. Since week 40, three outbreaks have been reported with a total of 15 ILI cases.

- 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

- Internet-based surveillance of influenza-like illness in the general population is undertaken through FluSurvey. A project run by PHE to monitor ILI activity in the community.

- The overall ILI rate (all age groups) for week 51 was 29.1 per 1,000 (54/1,854 people reported at least 1 ILI), with the highest rate seen in the <20 year olds (180.6 per 1,000).

- If you would like to become a participant of the FluSurvey project please do so by visiting the <https://flusurvey.net/en/accounts/register/> website for more information.

- FluDetector

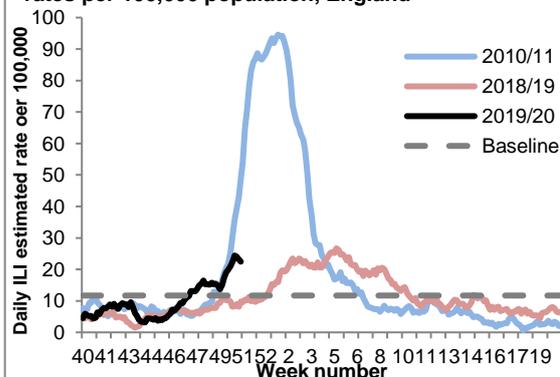
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- 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).

- The daily ILI rate estimates for week 50 increased but were above the baseline threshold of 11.7 per 100,000, with an overall weekly rate of 22.4 per 100,000 compared to 19.2 per 100,000 in week 49 (Figure 2).

-For more information on i-sense and the work carried out on early warning sensing systems for infectious disease visit <https://www.i-sense.org.uk/>

**Figure 2: Daily estimated ILI Google search query rates per 100,000 population, England**

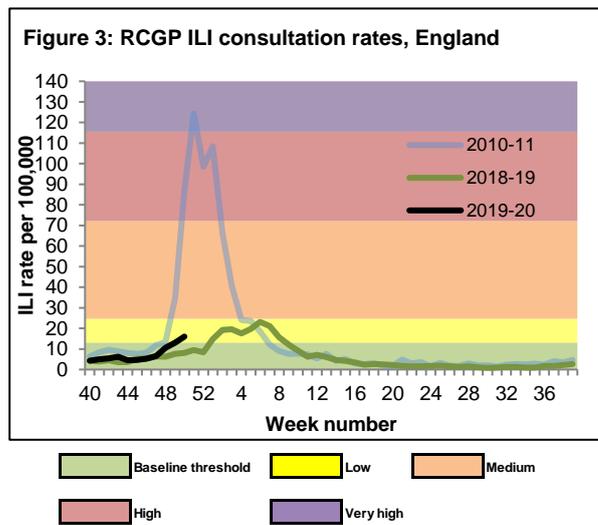


In week 50, the overall weekly influenza-like illness (ILI) GP consultation rate breached the baseline threshold in England. In the devolved administrations, ILI rates were at low levels in Northern Ireland in week 51.

**RCGP (England)**

- The weekly ILI consultation rate through the RCGP surveillance was 16.0 per 100,000 registered population in participating GP practices in week 50 compared to 13.1 per 100,000 in week 49. This is above the baseline threshold (12.7 per 100,000) (Figure 3\*). By age group, the highest rates were seen in the 1-4 year olds (26.5 per 100,000) and in the 5-14 year olds (20.8 per 100,000).

\*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 intensity threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#clinical-surveillance-through-primary-care>



**UK**

- In week 51, overall weekly ILI consultation rates were at low levels in Northern Ireland. Data was not available for England, Scotland and Wales (Table 1).

- By age group, the highest rates were seen in the 65-74 year olds in Northern Ireland (29.1 per 100,000) Rates by age group were not available for England, Scotland and Wales.

**Table 1: 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)	4.3	5.0	5.5	6.2	4.5	4.6	5.3	6.5	10.6	13.1	16.0	-					
Wales	1.7	4.0	4.2	6.2	1.7	4.2	3.7	10.1	10.6	7.4	22.0	-					
Scotland	5.1	6.2	4.4	4.0	7.9	5.0	7.0	11.8	12.3	14.0	19.0	-					
Northern Ireland	3.9	4.8	4.6	5.1	6.5	7.2	6.9	14.2	28.2	29.2	24.8	21.3					

\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 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 System (England)**

The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is 15.5 per 100,000 in week 51 2019 (Figure 4).

GP In Hours consultations for ILI increased and are approaching medium intensity levels. Rates remained highest in the North of England but are decreasing while increasing in the South. Rates have decreased in children aged <1 and 5-14 but are increasing in the other age groups.

During week 51, NHS 111 cold/flu calls increased slightly, remaining at stable at medium intensity levels. Calls decreased in children aged 5-14 years but increased in adults, and decreased in the North but increased across other regions. Calls for cough and difficulty breathing decreased in children aged <5 years in line with decreasing seasonal RSV.

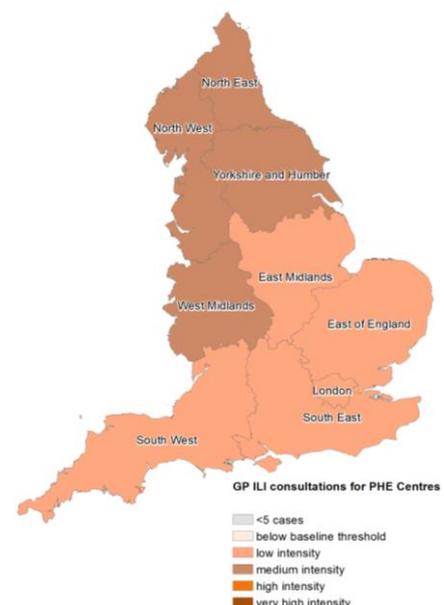
GP out-of-hours contacts for influenza-like illness increased during week 51, though remained at medium intensity levels.

Figure 4 represents a map of GP ILI consultation rates in week 51 across England by PHE centres, with influenza-like illness surveillance MEM thresholds applied.

ILI thresholds were calculated separately for each of the nine PHE Centres to allow for differences between areas e.g. background ILI rates are historically higher in London than other areas of England and based upon previous influenza seasons from 2012/13 on wards. ILI thresholds should be interpreted with caution and reference made to other GP surveillance systems incorporating more historical data.

-For further information, please see the syndromic surveillance [webpage](#).

**Figure 4: Map of GP ILI consultation rates in week 51**

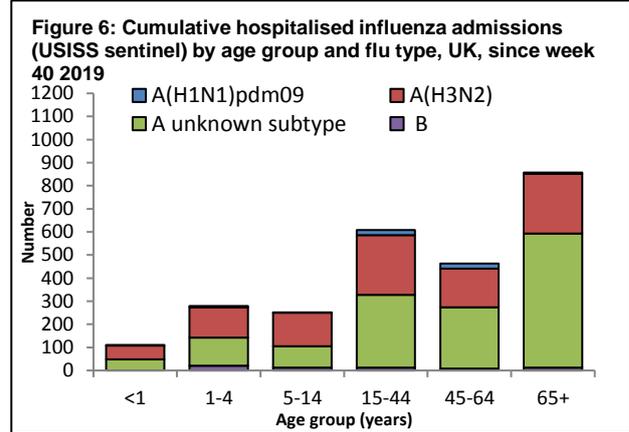
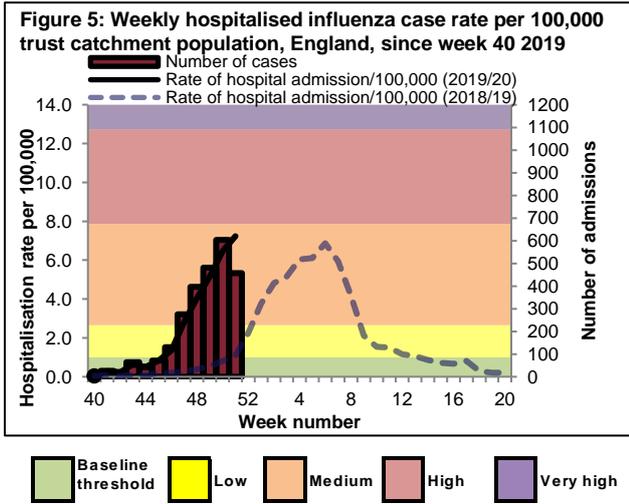


In week 51 2019, there were 457 hospitalised confirmed influenza cases (7 influenza A(H1N1)pdm09, 95 influenza A(H3N2), 338 influenza A(not subtyped) and 17 influenza B) reported through the USISS sentinel hospital network across England (14 Trusts). There were 187 new admissions to ICU/HDU with confirmed influenza (9 influenza A(H1N1)pdm09, 38 influenza A(H3N2), 136 influenza A(not subtyped) and 4 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (120/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 51)

In week 51, there were 457 hospitalised laboratory confirmed influenza cases (7 influenza A(H1N1)pdm09), 95 influenza A(H3N2), 338 influenza A(not subtyped) and 17 influenza B) reported from 14 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 7.23 per 100,000 trust catchment population (Figures 5 and 6) compared to 6.47 per 100,000 in week 50. This remains at medium intensity levels.

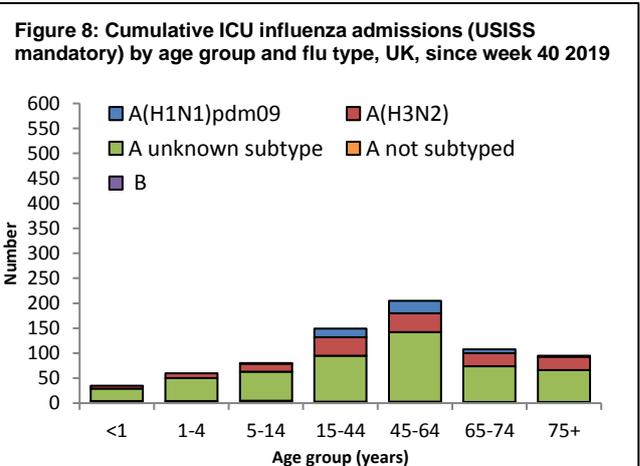
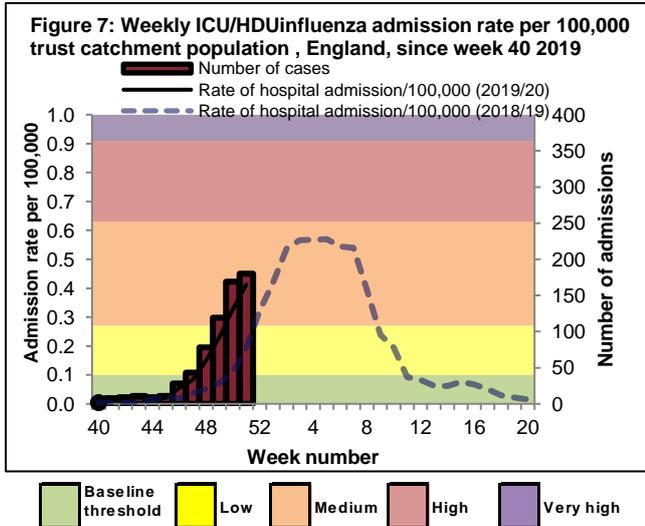
A total of 2,569 hospitalised confirmed influenza admissions (59 influenza A(H1N1)pdm09, 1,020 influenza A(H3N2), 1,423 influenza A(not subtyped), and 67 influenza B) have been reported in England since week 40 2019 via the sentinel scheme.



- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 51)

In week 51, there were 187 new admissions to ICU/HDU with confirmed influenza (9 influenza A(H1N1)pdm09), 38 influenza A(H3N2), 136 influenza A(not subtyped) and 4 influenza B) reported across the UK (120/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.41 per 100,000 (Figures 7 and 8) compared to 0.33 per 100,000 in week 50. This is above the medium impact threshold of 0.27 per 100,000. Eight influenza laboratory confirmed deaths were reported to have occurred in ICU/HDU week 51 in the UK.

A total of 732 new admissions (53 influenza A(H1N1)pdm09), 160 influenza A(H3N2), 496 influenza A(not subtyped) and 23 influenza B) and 31 confirmed deaths have been reported in the UK since week 40 2019.



\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 7 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#disease-severity-and-mortality-data>

- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 51)

- In week 51, there were five new admissions with laboratory confirmed influenza (all were influenza A(not subtyped)) among the 6 Severe Respiratory Failure (SRF) centres in the UK. Since week 40 2019, a total of 10 confirmed influenza admissions (1 influenza A(H1N1)pdm09, 2 influenza A(H3N2) and 7 influenza A(unknown subtype)) have been reported among the 6 centres in the UK.

### All-cause mortality data

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**In week 50 2019, no statistically significant excess all-cause mortality by week of death was observed overall and by age group in England, through the EuroMOMO algorithm. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed in Wales and Northern Ireland in week 50 2019 and for Scotland in week 48.**

- All-cause death registrations, England and Wales

- In week 49 2019, an estimated 10,816 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a slight decrease compared to the 10,958 estimated death registrations in week 48 2019.

- Excess all-cause mortality by age group, England, Wales, Scotland and Northern Ireland

- In week 50 2019 in England, no statistically significant excess mortality by week of death above the upper 2 z-score threshold was seen overall, by age group and sub-nationally (all ages), after correcting ONS disaggregate data for reporting delay with the standardised [EuroMOMO](#) algorithm. This data is provisional due to the time delay in registration; numbers may vary from week to week.

- In the devolved administrations, no statistically significant excess all-cause mortality for all ages observed in Wales and Northern Ireland in week 50 2019 and for Scotland in week 48 (Table 2).

**Table 2: Excess mortality by UK country, for all ages\***

Country	Excess detected in week 50 2019?	Weeks with excess in 2019/20
England	x	NA
Wales	x	42
Northern Ireland	x	48

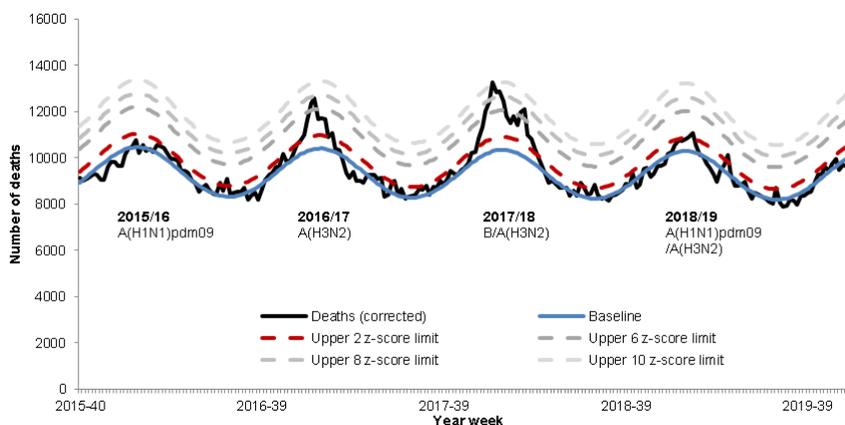
  

Country	Excess detected in week 48 2019?	Weeks with excess in 2019/20
Scotland	x	41,46

\* Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold

\* NA refers to no excess seen

**Figure 9: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating influenza A subtype, England, 2015 to week 50 2019**



\*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

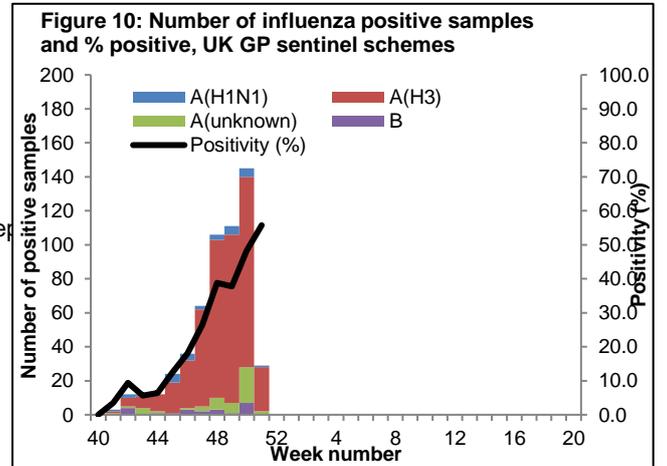
In week 51 2019, 29 samples tested positive for influenza with an overall positivity of 55.8%, through the UK GP sentinel schemes. 321 positive detections were recorded through the DataMart scheme (12 influenza A(H1N1)pdm09, 230 influenza A(H3), 77 influenza A(not subtyped) and 2 influenza B) with a positivity of 18.9%, which remains above the baseline threshold of 9.7%.

- Sentinel swabbing schemes in England (RCGP) and the Devolved Administrations

In week 51 2019, 29 samples tested positive for influenza (1 influenza A(H1N1)pdm09, 26 influenza A(H3) and 2 influenza A(not subtyped), with an overall positivity of 55.8% compared to 48.3% in the previous week, through the UK GP sentinel swabbing schemes (Figure 10).

These data should be interpreted with caution due to delays in reporting during the Christmas period.

Since week 40, a total of 455 samples (20 influenza A(H1N1)pdm09, 405 influenza A(H3N2), 47 influenza A(not subtyped), 12 influenza B, one co-infection of influenza A(H3N2) and B, three co-infections of influenza A(H1N1)pdm09 and B, two co-infections of influenza A(H1N1)pdm09, influenza A(H3) and influenza B and two co-infections of influenza A(not subtyped) and B) tested positive for influenza through this scheme.

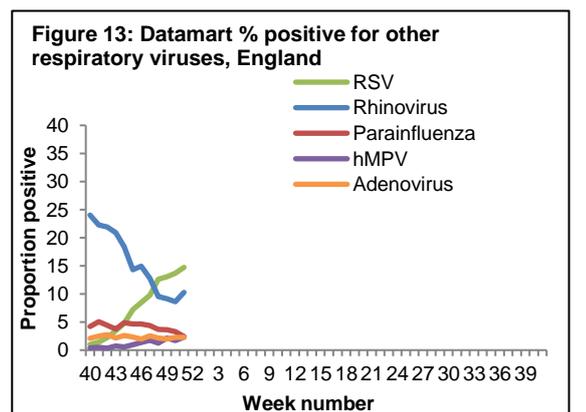
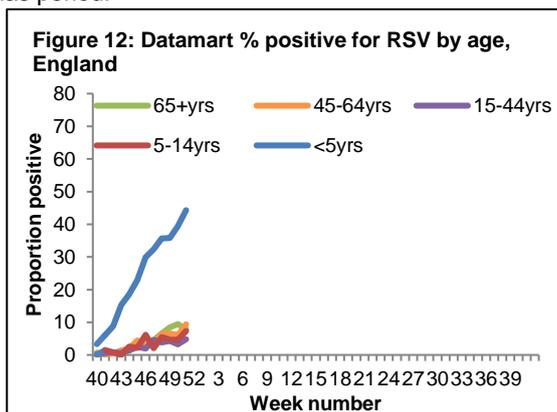
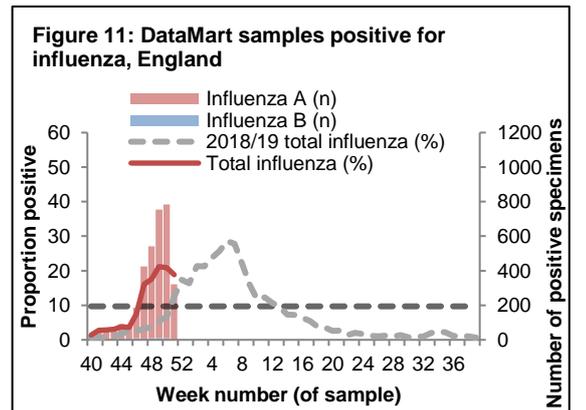


- Respiratory DataMart System (England)

In week 51 2019, out of the 1,701 respiratory specimens reported through the Respiratory DataMart System, 321 samples were positive for influenza (12 influenza A(H1N1)pdm09, 230 influenza A(H3), 77 influenza A(not subtyped) and 2 influenza B) (Figure 11), with an overall positivity of 18.9%, which is above the MEM baseline threshold for this season of 9.7%.

RSV positivity continued to increase from 13.7% in week 50 to 14.7% in week 51. The highest positivity for RSV by age group was seen in the <5 year olds at 44.3% in week 51 compared to 39.3% in the previous week. Rhinovirus and hMPV positivity increased slightly at 10.3% and 2.3% respectively in week 51. Adenovirus and parainfluenza positivity remained low at 2.3% and 2.4% respectively in week 51 2019 (Figure 13).

These data should be interpreted with caution due to delays in reporting during the Christmas period.



\*The Moving Epidemic Method 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 in a standardised approach across Europe. The threshold to indicate a likelihood of influenza community circulation for Datamart % positive as calculated through the Moving Epidemic Method is 9.7% in 2019/20.

- 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

The PHE Respiratory Virus Unit has characterised 265 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of 226 of these shows that 183 belong to the genetic clade 3C.3a, and 43 fall into a cluster within the 3C.2a1 subclade, designated 3C.2a1b. The Northern Hemisphere 2019/20 influenza A(H3N2) vaccine strain belongs in genetic subclade 3C.3a. One hundred and forty-four A(H3N2) viruses have been antigenically characterised and are similar to the A/Kansas/14/2017-like Northern Hemisphere 2019/20 (H3N2) vaccine strain. Difficulties remain with detection and typing of A(H3N2) viruses by HI assays due to observed receptor binding changes, particularly with viruses from the 3C.2a1 subclade and these are under-represented in the antigenic characterisation data.

A total of 14 A(H1N1)pdm09 viruses have been characterised to date. Eleven A(H1N1)pdm09 viruses have been genetically characterised, all fall in clade 6B.1A, as does the A(H1N1)pdm09 N. Hemisphere 2019/20 vaccine strain. Nine A(H1N1)pdm09 viruses have been antigenically characterised and are similar to the A/Brisbane/02/2018-like N. Hemisphere 2019/20 A(H1N1)pdm09 vaccine strain.

Four influenza B viruses have been characterised to date, where sequencing of the haemagglutinin (HA) gene shows this virus belongs in genetic clade 1A of the B/Victoria lineage, clustering in a subgroup within this clade characterised by deletion of three amino acids in the HA. The N. Hemisphere 2019/20 B/Victoria-lineage quadrivalent and trivalent vaccine component virus (a B/Colorado/06/2017-like virus) belongs in genetic clade 1A, clustering in a subgroup with two deletions in the HA. Different lineages may dominate during the season, and a close watch will be kept on the proportion of different viruses circulating to assist with the evaluation of vaccine effectiveness.

Table 3: Viruses characterised by PHE Reference Laboratory, 2019/20

Virus type/subtype	No. viruses characterised			
	Genetic and antigenic	Genetic only	Antigenic only	Total
<b>A(H1N1)pdm09</b>	6	5	3	14
A(H3N2) 3C.2a1	0	43	0	43
A(H3N2) 3C.3a	105	78	39	222
<b>A(H3N2) total</b>	105	121	39	265
<b>B/Yamagata-lineage</b>	0	0	0	0
<b>B/Victoria-lineage</b>	0	4	0	4

- 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.

Since week 40 2019, 12 influenza A (H1N1) viruses and 103 influenza A (H3N2) viruses were tested for their susceptibility for both antiviral agents, oseltamivir and zanamivir, and all but two influenza A(H3N2) viruses are sensitive.

- Antimicrobial susceptibility

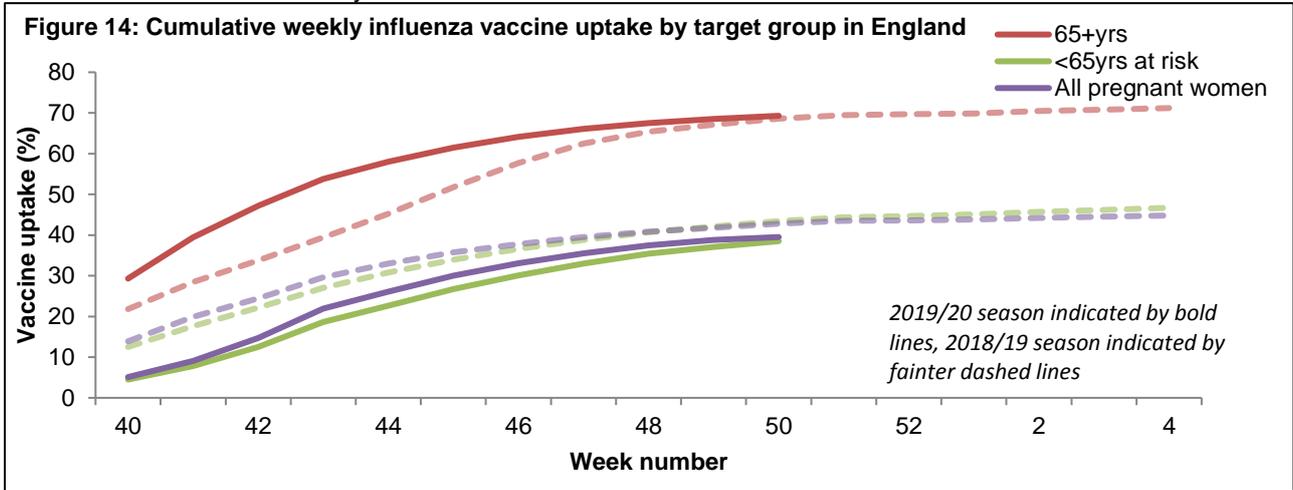
-Table 4 shows in the 12 weeks up to 22 December 2019, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community-acquired pneumonia (CAP) and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

Table 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 22 December 2019, E&W

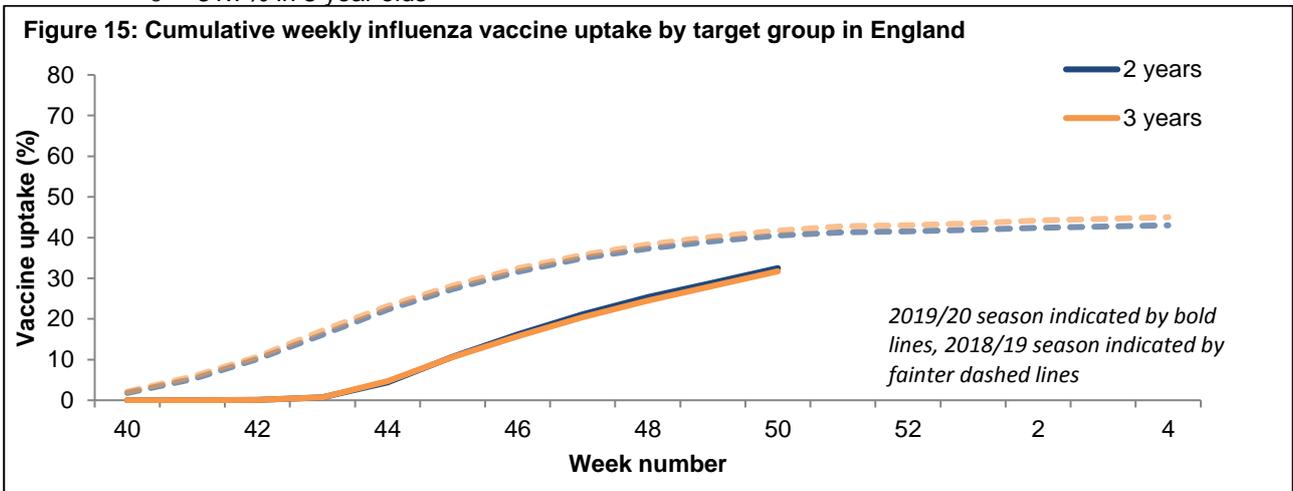
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3984	87
	Macrolides	4355	82
	Tetracycline	4311	83
<i>H. influenzae</i>	Amoxicillin/ampicillin	14511	68
	Co-amoxiclav	15965	82
	Macrolides	2871	7
	Tetracycline	16106	98
<i>S. aureus</i>	Methicillin	7066	92
	Macrolides	7899	66
MRSA	Clindamycin	417	42
	Tetracycline	517	80
MSSA	Clindamycin	4737	72
	Tetracycline	6159	93

\*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 50 2019 in 79.4% of GP practices reporting weekly to Immform for the main collection, the provisional proportion of people in England who had received the 2019/20 influenza vaccine in targeted groups was as follows (Figure 14):
  - 38.5% in under 65 years in a clinical risk group
  - 39.5% in pregnant women
  - 69.3% in 65+ year olds



- In 2019/20, all 2 and 3 year olds continue to be eligible for influenza vaccination through their GPs. Up to week 50 2019, in 78.4% of GP practices reporting weekly to Immform for the childhood collection, the provisional proportion of children in England who had received the 2019/20 influenza vaccine in targeted groups was as follows (Figure 15):
  - 32.5% in 2 year olds
  - 31.7% in 3 year olds



- Provisional data from the second monthly collection of the influenza vaccine uptake by frontline healthcare workers show 61.5% were vaccinated by 30 November 2019 from 97.5% of all organisations, compared to 61.0% vaccinated in the previous season by 30 November 2018. The report provides uptake at national, NHS England local team and Trust-level.

- Provisional data from the second monthly collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3, 4, 5 and 6 age (from a sample of 98.7% of all Local Authorities in England) show the provisional proportion of children in England who received the 2019/20 influenza vaccine via school, pharmacy or GP practice by 30 November 2019 in targeted groups in Table 5.

Table 5: Provisional cumulative influenza vaccine uptake (%) in children in school years Reception to Year 6, up to 30 November 2019 & 2018, England

School Year	% Vaccine uptake (up to 31 October)	
	2019/20	2018/19
Reception (4-5 years)	46.4	49.6
Year 1 (5-6 years)	45.8	49.4
Year 2 (6-7 years)	45.0	47.7
Year 3 (7-8 years)	43.7	46.8
Year 4 (8-9 years)	43.2	45.2
Year 5 (9-10 years)	41.3	43.7
Year 6 (10-11 years)	39.7	-

- : Year 6 were not part of the programme in 2018/19

## International Situation

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**In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continued to increase in most countries. In the temperate zones of the southern hemisphere, influenza activity returned to interseasonal levels. Worldwide, seasonal influenza A(H3N2) viruses accounted for the majority of detections.**

- [Europe](#) updated on 20 December 2019 (Joint ECDC-WHO Europe Influenza weekly update)

Overall in week 50, influenza activity continued to increase across the region, with the majority of countries reporting influenza A virus detections dominance.

For week 50 2019, of 46 Member States and areas reporting on intensity, 30 reported baseline levels, 13 reported low intensity and 3 reported medium intensity. Of 46 Member States and areas reporting on geographic spread, 8 reported no activity, 19 reported sporadic cases, 6 reported local spread (across the Region), 5 reported regional spread and 8 reported widespread activity.

For week 50/2019, 366 (26%) of 1, 413 sentinel specimens tested positive for an influenza virus; 75% were type A and 25% were type B. Of 241 subtyped A viruses, 51% were A(H3N2) and 49% were A(H1N1)pdm09. Of 27 type B viruses ascribed to a lineage, all were B/Victoria.

For the season to date, more influenza type A (72%) than type B (28%) viruses have been detected. Of 1, 007 subtyped A viruses, 65% were A(H3N2) and 35% were A(H1N1)pdm09. Of 122 influenza type B viruses ascribed to a lineage, 96% were B/Victoria and 4% were B/Yamagata.

Since week 40/2019, more influenza type A (n=576, 94%) than type B (n=34, 6%) viruses were detected among laboratory confirmed ICU influenza cases. Of 177 subtyped influenza A viruses, 28% were A(H1N1)pdm09 and 72% were A(H3N2). None of the influenza B viruses have been ascribed to a lineage. Of 70 cases with known age, 44% were 15–64 years old and 40% were 65 years and older.

Since week 40/2019, more influenza type A (n=625, 94%) than type B (n=40, 6%) viruses have been detected among laboratory confirmed influenza cases in wards other than ICU. Of 224 subtyped influenza A viruses, 86% were A(H3N2) and 14% were A(H1N1)pdm09. None of the influenza B viruses have been ascribed to a lineage. Of 348 cases with known age, 35% were 65 years and older and 29% were 15–64 years old.

For week 50 2019, pooled estimates from the EuroMOMO project of all-cause mortality from 21 countries or areas show all-cause mortality were within expected range for the time of year.

- [United States of America](#) updated on 20 December 2019 (Centre for Disease Control report)

During week 50, influenza activity continues to increase and has been elevated for the past six weeks.

Nationwide during week 50, 3.9% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI), which is above the national baseline of 2.4%.

During week 50, 16.3% of respiratory specimens tested by clinical laboratories were influenza positive.

The overall hospitalisation rate for the season increased to 5.5 per 100,000. This is similar to what has been seen at this time in recent seasons.

Based on National Centre for Health Statistics (NCHS) mortality surveillance data available on 19 December 2019, 5.5% of the deaths occurring during the week ending 07 December 2019 (week 49) were due to P&I. This percentage remains below the epidemic threshold of 6.6% for week 49.

A total of 19 influenza-associated paediatric deaths have been reported to have occurred so far this season. Thirteen deaths were associated with influenza B viruses. Five of these had the lineage determined and all were B/Victoria viruses. Six deaths were associated with influenza A viruses. Four of these had subtyping performed and all were A(H1N1)pdm09 viruses.

- [Canada](#) updated on 20 December 2019 (Public Health Agency report)

At national level, influenza activity continues to increase across multiple indicators in week 50, with influenza A and B circulating in equal proportion in Canada.

In weeks 50, a total of 1,272 laboratory detections of influenza were reported, of which 50.2% (638) were influenza A, with 87/145 subtyped influenza A detections being influenza A(H3N2).

The percentage of tests positive for influenza was 15.6%. This is similar to the average (15.3%) for week 50 over the past five seasons.

In week 50, 1.8% of visits to healthcare professionals were due to ILI, slightly above the average for this time of year (1.5%).

To date this season, 274 influenza-associated hospitalisations have been reported with the majority of cases being aged greater than 65 years and associated with influenza A(H3N2).

To date this season, 104 paediatric hospitalizations have been reported by the IMPACT network; 55% (57) of cases were associated with influenza B and 45 % (47) with influenza A. The largest proportion of hospitalizations (63%) were among children under 5 years of age.

- [Global influenza update](#) updated on 20 December 2019 (based on data up to 08 December 2019) (WHO website)

In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continued to increase in most countries. In the temperate zones of the southern hemisphere, influenza activity returned to interseasonal levels. Worldwide, seasonal influenza A(H3N2) viruses accounted for the majority of detections.

In the countries of North America, ILI and influenza activity continued to increase. All seasonal influenza subtypes co-circulated in Canada and the United States of America (USA), though the proportion of influenza B viruses was higher than in previous years for this period of the influenza season. Influenza B viruses accounted for almost half of the detections in Canada and were the predominant influenza type detected in the USA, followed by influenza A(H1N1)pdm09.

In Europe, influenza activity continued to increase across the region, although most countries are still reporting influenza activity rates at baseline or at low levels. Influenza A viruses were predominant in most countries, however influenza B viruses predominated in the east of the region and in Portugal.

In Central Asia, influenza activity increased with influenza B viruses most frequently detected.

In Northern Africa, activity remained at inter-seasonal levels. Morocco and Tunisia reported influenza B virus detections in recent weeks.

In Western Asia, influenza activity remained elevated overall. Influenza activity continued to increase in Bahrain, Iraq, Israel and Jordan with detections of predominately influenza A(H1N1)pdm09 and a small proportion of B viruses. In Oman and Qatar, influenza activity appeared to decrease with detections of predominantly influenza A(H3N2) and B viruses. Kuwait reported influenza detections at lower levels compared to previous weeks. Increased SARI levels continued to be reported in Saudi Arabia with detections of influenza A(H1N1)pdm09 and B viruses.

In East Asia, influenza activity increased in most countries, but remained low overall.

In the Caribbean countries, influenza activity was reported in some countries in the sub-region. In the tropical countries of South America, influenza activity was low in general.

In Western Africa and Eastern Africa, influenza activity and detections were generally low.

In Middle Africa, Cameroon reported influenza activity with detections of predominantly influenza A(H3N2) viruses during week ending 01 December 2019. SARI activity increased in the Democratic Republic of Congo but only one detection of influenza B/Victoria virus was reported.

In Southern Asia, influenza detections were low across reporting countries except for the Islamic Republic of Iran where influenza activity of predominantly influenza A(H1N1)pdm09 viruses was reported in recent weeks.

In South East Asia, influenza activity was reported in some countries. In recent weeks, influenza activity was elevated in the Lao People's Democratic Republic and the Philippines, with detections of predominantly influenza A(H3N2) and influenza B/Victoria-lineage in the former and influenza A(H3N2) in the latter.

The WHO GISRS laboratories tested more than 86,210 specimens between 25 November 2019 and 08 December 2019. 9,438 were positive for influenza viruses, of which 7,067 (74.9%) were typed as influenza A and 2,371 (25.1%) as influenza B. Of the sub-typed influenza A viruses, 1,216 (30.2%) were influenza A (H1N1)pdm09 and 2,809 (69.8%) were influenza A (H3N2). Of the characterized B viruses, 25 (5.2%) belonged to the B-Yamagata lineage and 458 (94.8%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 25 November 2019 (WHO website)

#### **Influenza A(H5) viruses**

Between [27 September 2019 to 25 November 2019](#), no new laboratory-confirmed human cases of influenza A(H5) virus infection were reported to WHO.

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. Overall, the risk assessment has not changed.

#### **Influenza A(H7N9)**

Between [27 September 2019 and 25 November 2019](#), no new laboratory-confirmed human case of influenza A(H7N9) virus infection were reported to WHO. Two were reported from China and one was reported from India, all three cases were in children.

Publicly available reports from animal health authorities in China indicate no influenza A(H7N9) virus detections in animals among samples collected in July and August of this year. Overall, the risk assessment has not changed.

#### **Influenza A(H9N2)**

Between [27 September and 25 November 2019](#), three new laboratory-confirmed human cases of influenza A(H9N2) virus infection were reported.

For more information on A(H5), A(H7N9), A(H9N2) and A(H1)v viruses, please see the September 2019 report: [Antigenic and genetic characteristics of zoonotic influenza viruses and candidate vaccine viruses developed for potential use in human vaccines.](#)

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 23 December 2019

Up to 23 December 2019, 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. On-going surveillance has identified 1,723 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

From [1 through 30 November 2019](#), the National IHR Focal Point of Saudi Arabia reported 10 additional cases of Middle East respiratory syndrome (MERS-CoV) infection and one associated death.

Globally, since September 2012 and up to 30 November 2019, [WHO](#) has been notified of 2,494 laboratory-confirmed cases of infection with MERS-CoV, including 858 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.

## Acknowledgements

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## Related links

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### Sources of flu data

- [Clinical surveillance through primary care in the UK](#)
- [Outbreak reporting](#)
- [FluSurvey](#)
- [MOSA](#)
- [Real time syndromic surveillance](#)
- MEM threshold [methodology paper](#) and [UK pilot paper](#)

### Disease severity and mortality data

- [USISS](#) system
- [EuroMOMO](#) mortality project

### Vaccination

- Seasonal influenza vaccine programme ([Department of Health Book](#))
- Childhood flu programme information for healthcare practitioners ([Public Health England](#))
- 2019/20 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))