



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

23 January 2020 – Week 04 report (up to week 03 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 03 (ending 19 January 2020)

- During week 03, influenza activity continues to decrease with several indicators now below baseline levels.
- The impact of flu on healthcare services is now at **low 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.

Community

- 36 new acute respiratory outbreaks have been reported in the past 7 days. 30 outbreaks were reported from care homes where 5 tested positive for influenza A. Five outbreaks were reported from hospitals where 4 tested positive for influenza A. The remaining outbreak was from the Other settings category and tested positive for influenza B.

Primary Care

- The overall weekly influenza-like illness (ILI) rate decreased to 10.3 per 100,000 registered population in participating GP practices for England and is now **Below baseline** threshold levels. This is a decrease from 14.7 per 100,000 in the previous week.
- In the devolved administrations, ILI rates were at baseline levels in Scotland and Northern Ireland; and at low levels in Wales for week 03.

GP ILI
Consultations
England



Secondary Care

- Hospitalisation rate observed for laboratory confirmed influenza was at **low impact levels**, with a rate of 1.44 per 100,000 trust catchment population for England (18 NHS Trusts) compared to 2.43 per 100,000 in the previous week.
- ICU/HDU admission rate observed for laboratory confirmed influenza was at **low impact levels**, with a rate of 0.13 per 100,000 trust catchment population for England (134/143 NHS Trusts) compared to 0.21 per 100,000 the previous week.
- There were three new laboratory confirmed influenza (1 influenza A(H1N1)pdm09, 1 influenza A(H3N2) and 1 influenza A(unknown subtype) admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 03 2020, 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 03 2020. No excess was noted for Scotland in week 01 2020.

Microbiological surveillance

- **Primary care:** 20 samples tested positive for influenza (7 influenza A(H1N1)pdm09, 8 influenza A(H3), 2 influenza A(not subtyped) and 3 influenza B), through the UK GP sentinel swabbing schemes in week 03 2020, with an overall influenza positivity of 16.8%.
- **Secondary care:** There were 227 influenza detections recorded through the DataMart scheme (41 influenza A(H1N1)pdm09, 90 influenza A(H3), 75 influenza A(not subtyped) and 21 influenza B). The overall influenza percent positivity was 9.0% and **Below baseline** threshold level.
- **Virus Characterisation:** 818 influenza A(H3N2) viruses have been genetically and/or antigenically characterised since week 40. 654 of 812 genetically characterised belong to the same subclade as the H3N2 component in this season's vaccine. 42 A(H1N1)pdm09 viruses have been characterised and are similar to the A(H1N1)pdm09 strain in this season's vaccine.

Secondary
Care



Vaccination

- **Weekly uptake:** Up to week 03 2020, in 97.9% 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: 42.5% in under 65 years in a clinical risk group, 42.4% in pregnant women and 71.4% in 65+ year olds. In 93.4% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 40.3% in 2 year olds and 40.9% in 3 year olds.
- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 68.5% were vaccinated by 31 December 2019, compared to 65.8% vaccinated in the previous season by 31 December 2018.
- Provisional data from the third monthly collection of influenza vaccine uptake for children of school years reception to year 6 shows 61.6% in school year reception age, 60.9% in school year 1 age, 60.1% in school year 2 age, 58.1% in school year 3 age, 57.3% in school year 4 age, 55.0% in school year 5 and 52.8% in school year 6 age were vaccinated by 31 December 2019.

International situation

- In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators continues to circulate with some countries having peaked. In the temperate zones of the southern hemisphere, influenza activity remained to interseasonal levels. Worldwide, seasonal influenza A 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

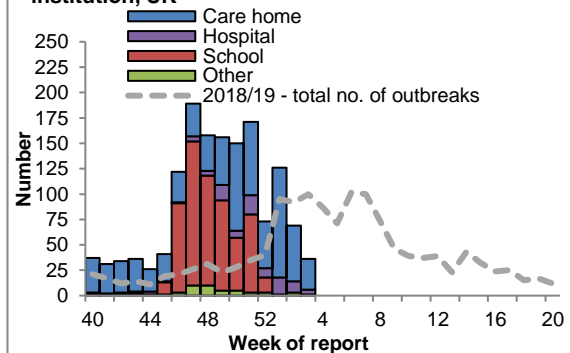
36 new acute respiratory outbreaks were reported in the past 7 days, with 10 confirmed with influenza.

- Acute respiratory disease outbreaks

- 36 new acute respiratory outbreaks have been reported in the past 7 days. 30 outbreaks were reported from care homes where 5 tested positive for influenza A(not subtyped) and 2 for respiratory syncytial virus (RSV). Five outbreaks were reported from hospitals where 3 tested positive for influenza A(not subtyped) and one was positive for a mixed infection of influenza A(H3), parainfluenza and rhinovirus. The remaining outbreak was from the Other settings category and tested positive for influenza B.

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and 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 03 was 0.5 per 1,000 boarders compared to 0.0 per 1,000 boarders in week 02. 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 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 03 was 21.2 per 1,000 (40/1,889 people reported at least 1 ILI), with the highest rate seen in the 45+ year olds (22.1 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

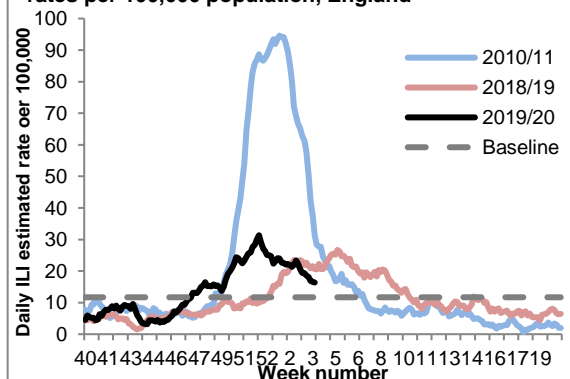
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- 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 03 decreased but remained above the baseline threshold of 11.7 per 100,000, with an overall weekly rate of 16.3 per 100,000 compared to 20.6 per 100,000 in week 02 (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



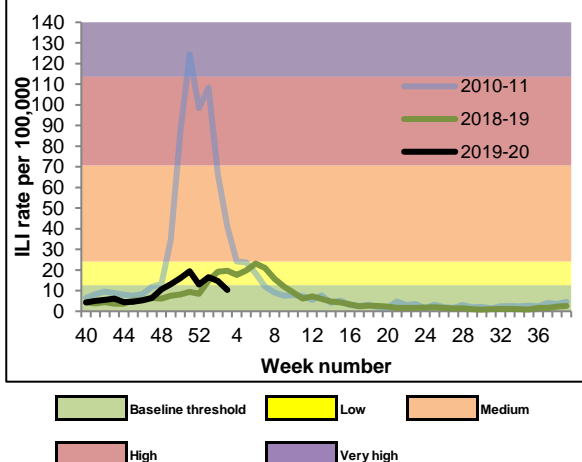
In week 03, the overall weekly influenza-like illness (ILI) GP consultation rate decreased and is now below baseline threshold in England. In the devolved administrations, ILI rates were at baseline levels in Scotland and Northern Ireland; and at low levels in Wales for week 03.

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was 10.3 per 100,000 registered population in participating GP practices in week 03 compared to 14.7 per 100,000 in week 02. This is below the baseline threshold (12.7 per 100,000) (Figure 3*). By age group, the highest rates were seen in the 75+ year olds (12.1 per 100,000) and in the 15-44 year olds (12.0 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>

Figure 3: RCGP ILI consultation rates, England



UK

- In week 03, overall weekly ILI consultation rates were at baseline levels in Scotland and Northern Ireland, and at low levels in Wales (Table 1).

- By age group, the highest rates were seen in the 45-64 year olds in Scotland and Northern Ireland (14.7 and 11.8 per 100,000 respectively). Rates by age group were not available for 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	19.4	12.9	16.6	14.7	10.3	
Wales	1.7	4.0	4.2	6.2	1.7	4.2	3.7	10.1	10.6	8.5	24.4	23.8	37.1	34.5	22.3	14.3	
Scotland	5.1	6.2	4.4	4.0	7.9	5.0	7.0	11.8	11.7	13.9	19.6	21.4	16.0	13.0	21.9	11.5	
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	10.4	15.9	13.4	7.6	

*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 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 9.6 per 100,000 in week 03 2020 (Figure 4). GP In Hours consultations for ILI decreased and are now at low intensity levels in week 03 2020.

During week 03, NHS 111 cold/flu calls decreased further and have returned to baseline levels.

GP out-of-hours contacts for ILI decreased further but remain at low intensity levels in week 03.

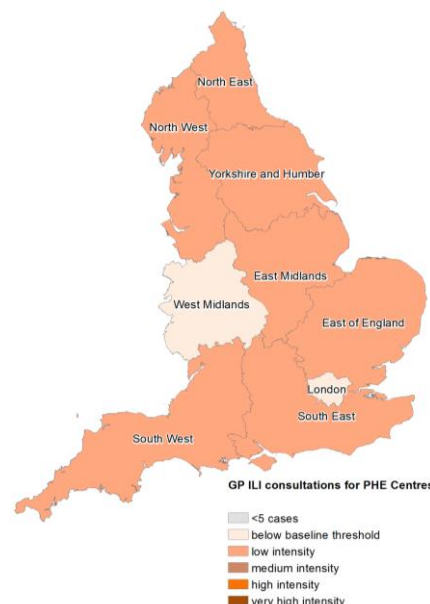
Emergency Department (ED) attendances for respiratory indicators also decreased in week 03.

Figure 4 represents a map of GP ILI consultation rates in week 03 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 03

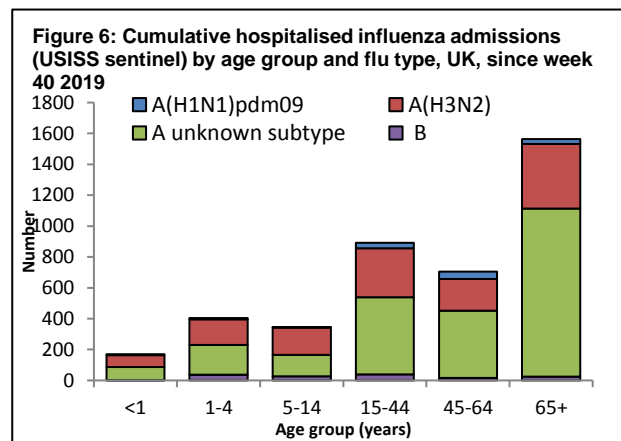
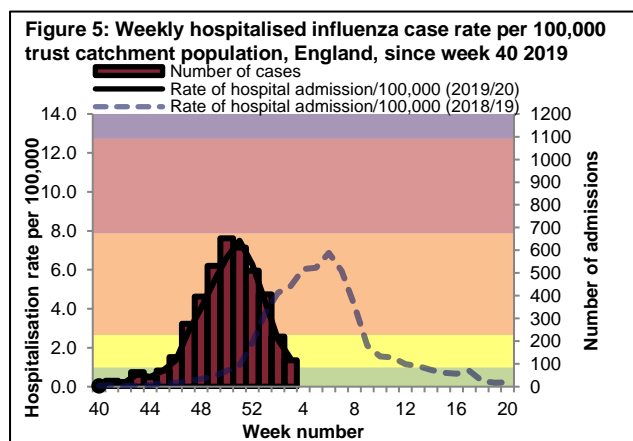


In week 03 2020, there were 116 hospitalised confirmed influenza cases (15 influenza A(H1N1)pdm09, 18 influenza A(H3N2), 63 influenza A(not subtyped) and 20 influenza B) reported through the USISS sentinel hospital network across England (18 Trusts). There were 63 new admissions to ICU/HDU with confirmed influenza (4 influenza A(H1N1)pdm09, 6 influenza A(H3N2), 47 influenza A(not subtyped) and 6 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (134/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 03)

In week 03, there were 116 hospitalised laboratory confirmed influenza cases (15 influenza A(H1N1)pdm09), 18 influenza A(H3N2), 63 influenza A(not subtyped) and 21 influenza B) reported from 18 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 1.44 per 100,000 trust catchment population (Figures 5 and 6) compared to 2.43 per 100,000 in week 02. This is now within low impact levels.

A total of 4,080 hospitalised confirmed influenza admissions (132 influenza A(H1N1)pdm09, 1,364 influenza A(H3N2), 2,437 influenza A(not subtyped), and 147 influenza B) have been reported in England since week 40 2019 via the sentinel scheme.

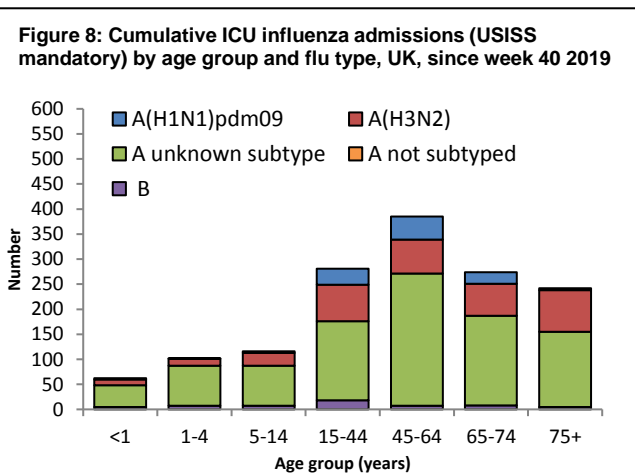
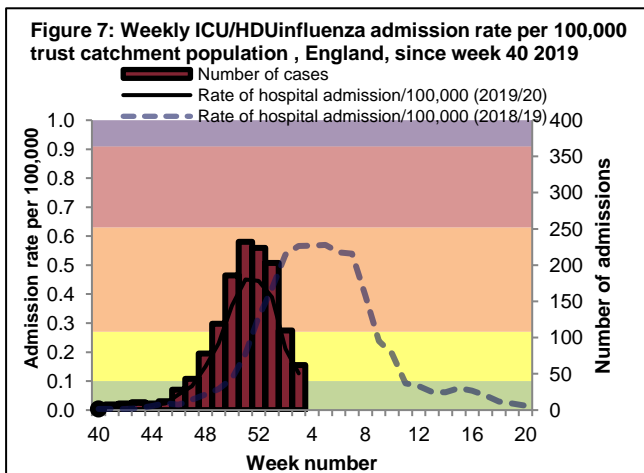


Legend for Figure 5: Baseline threshold (light green), Low (yellow), Medium (orange), High (red), Very high (purple)

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 03)

In week 03, there were 63 new admissions to ICU/HDU with confirmed influenza (4 influenza A(H1N1)pdm09), 6 influenza A(H3N2), 47 influenza A(not subtyped) and 6 influenza B) reported across the UK (134/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.13 per 100,000 (Figures 7 and 8) compared to 0.21 per 100,000 in week 02. This is in the low impact threshold of 0.27 per 100,000. Four influenza laboratory confirmed deaths were reported to have occurred in ICU/HDU week 03 in the UK.

A total of 1,462 new admissions (111 influenza A(H1N1)pdm09), 340 influenza A(H3N2), 954 influenza A(not subtyped) and 57 influenza B) and 70 confirmed deaths have been reported in the UK since week 40 2019.



Legend for Figure 7: Baseline threshold (light green), Low (yellow), Medium (orange), High (red), Very high (purple)

*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 03)

- In week 03, there were three new admissions with laboratory confirmed influenza (1 influenza A(H1N1)pdm09, 1 influenza A(H3N2) and 1 influenza A(not subtyped)) among the 6 Severe Respiratory Failure (SRF) centres in the UK.

Since week 40 2019, a total of 23 confirmed influenza admissions (4 influenza A(H1N1)pdm09, 7 influenza A(H3N2), 10 influenza A(not subtyped) and 2 influenza B) have been reported among the 6 centres in the UK.

All-cause mortality data

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In week 03 2020, 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 03 2020. No excess was noted for Scotland in week 01 2020.

- All-cause death registrations, England and Wales

- In week 02 2020, an estimated 14,058 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is an increase compared to the 12,254 estimated death registrations in week 01 2020.

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

- In week 03 2020 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 03 2020. No excess was noted for Scotland in week 01 2020 (Table 2).

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

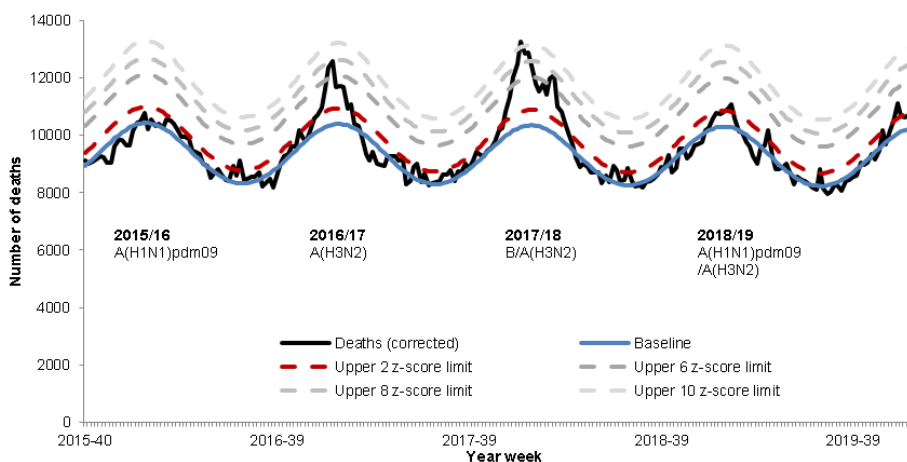
Country	Excess detected in week 03 2020?	Weeks with excess in 2019/20
England	x	47, 50-52
Wales	x	51
Northern Ireland	x	49-51

Country	Excess detected in week 01 2020?	Weeks with excess in 2019/20
Scotland	x	41,46, 49-51

* 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 03 2020



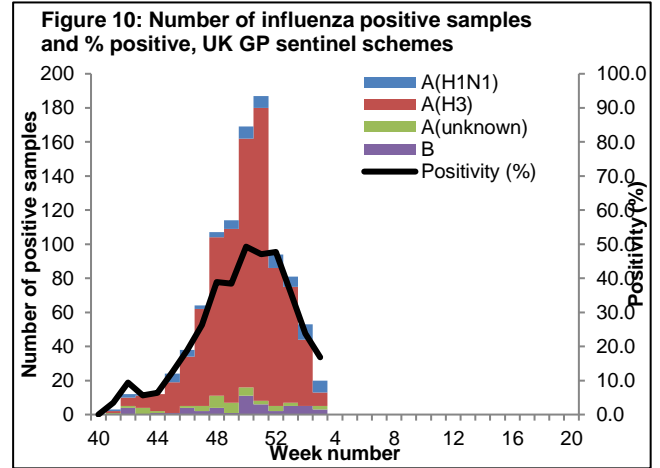
*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 03 2020, 20 samples tested positive for influenza (7 influenza A(H1N1)pdm09, 8 influenza A(H3), 2 influenza A(not subtyped) and 3 influenza B) with an overall positivity of 16.8%, through the UK GP sentinel schemes. 227 positive detections were recorded through the DataMart scheme (41 influenza A(H1N1)pdm09, 90 influenza A(H3), 75 influenza A(not subtyped) and 21 influenza B) with a positivity of 9.0%, which is now below the baseline threshold of 9.7%.

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

In week 03 2020, 20 samples tested positive for influenza (7 influenza A(H1N1)pdm09, 8 influenza A(H3), 2 influenza A(not subtyped) and 3 influenza B) with an overall positivity of 16.8% compared to 23.8% in the previous week, through the UK GP sentinel swabbing schemes (Figure 10).

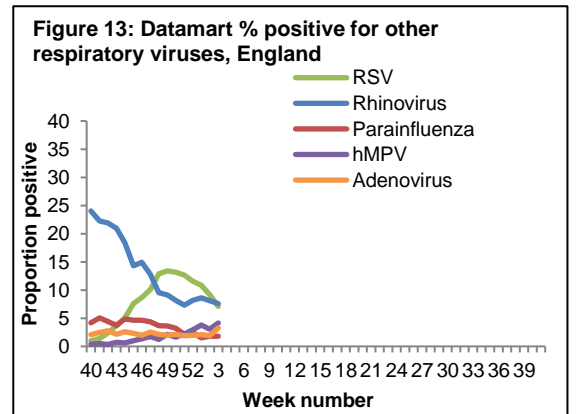
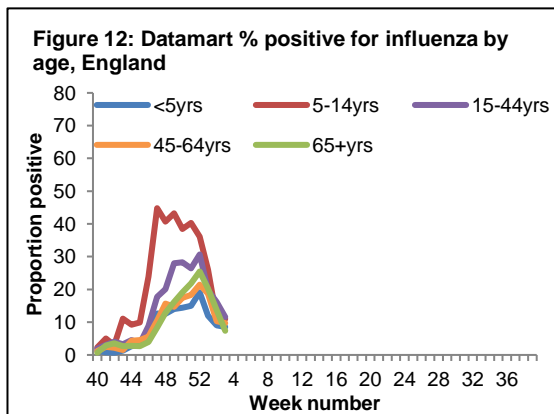
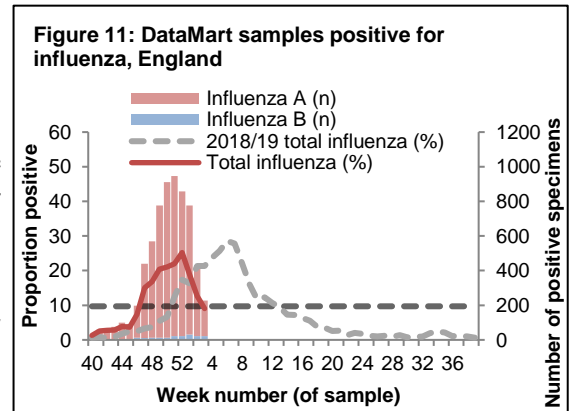
Since week 40, a total of 963 samples (60 influenza A(H1N1)pdm09, 827 influenza A(H3N2), 38 influenza A(not subtyped), 38 influenza B, five co-infection of influenza A(H3) and B, three co-infections of influenza A(H1N1)pdm09 and B, three co-infections of influenza A(H1N1)pdm09, influenza A(H3) and influenza B and one co-infection of influenza A(H1N1)pdm09 and influenza A(H3)) tested positive for influenza through this scheme.



- Respiratory DataMart System (England)

In week 03 2020, out of the 2,515 respiratory specimens reported through the Respiratory DataMart System, 227 samples were positive for influenza (41 influenza A(H1N1)pdm09, 90 influenza A(H3), 75 influenza A(not subtyped) and 21 influenza B) (Figure 11), with an overall positivity of 9.0%, a decrease from 12.7% in the previous week. This is now below the baseline threshold of 9.7% for this season. The highest positivity was seen among the 15-44 year olds at 11.6% in week 03 (Figure 12).

RSV positivity decreased further from 9.2% in week 02 to 7.1% in week 03. Rhinovirus and parainfluenza remained low at 7.6% and 1.8% respectively in week 03. Human metapneumovirus (hMPV) and adenovirus positivity increased slightly at 4.1% and 3.3% in week 03 2020 (Figure 13).



*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 818 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of 812 of these shows that 654 belong to the genetic clade 3C.3a, and 158 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. Three hundred and thirty 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 42 A(H1N1)pdm09 viruses have been genetically characterised to date and all fall in clade 6B.1A, as does the A(H1N1)pdm09 N. Hemisphere 2019/20 vaccine strain. Nineteen 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.

Twenty 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
A(H1N1)pdm09	16	26	3	45
A(H3N2) 3C.2a1	0	158	0	158
A(H3N2) 3C.3a	324	330	6	660
A(H3N2) total	324	488	6	818
B/Yamagata-lineage	0	0	0	0
B/Victoria-lineage	0	20	0	20

- 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, 48 influenza A (H1N1) viruses, 659 influenza A (H3N2) and 17 influenza B viruses were tested for their susceptibility for oseltamivir, all but four influenza A(H3N2) viruses are sensitive. 29 influenza A (H1N1) viruses, 641 influenza A (H3N2) and 16 influenza B viruses were tested for their susceptibility for zanamivir and all were sensitive.

- Antimicrobial susceptibility

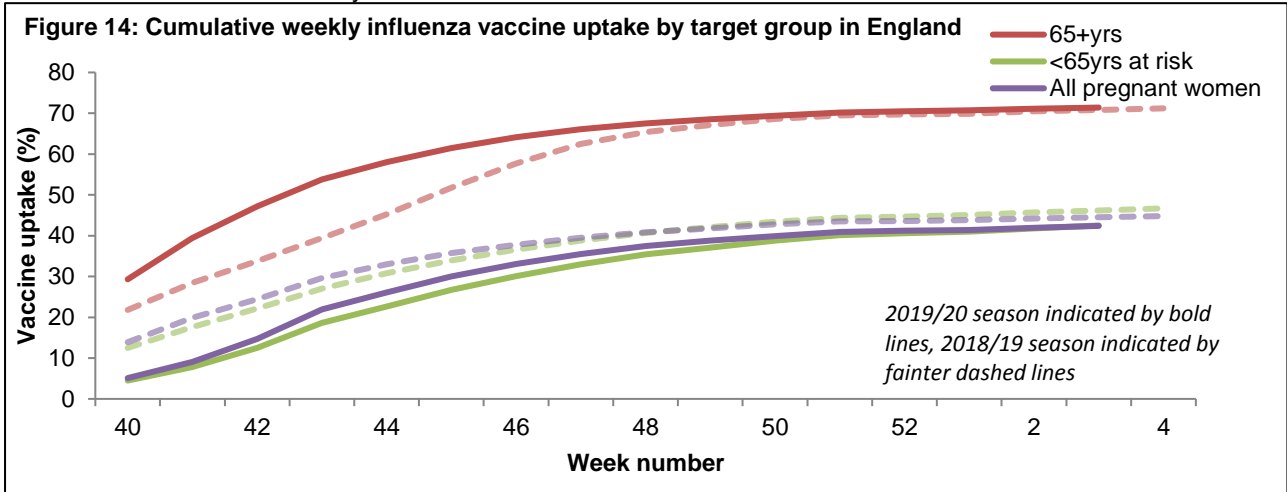
-Table 4 shows in the 12 weeks up to 19 January 2020, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community-acquired pneumonia (CAP) and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

Table 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 19 January 2020, E&W

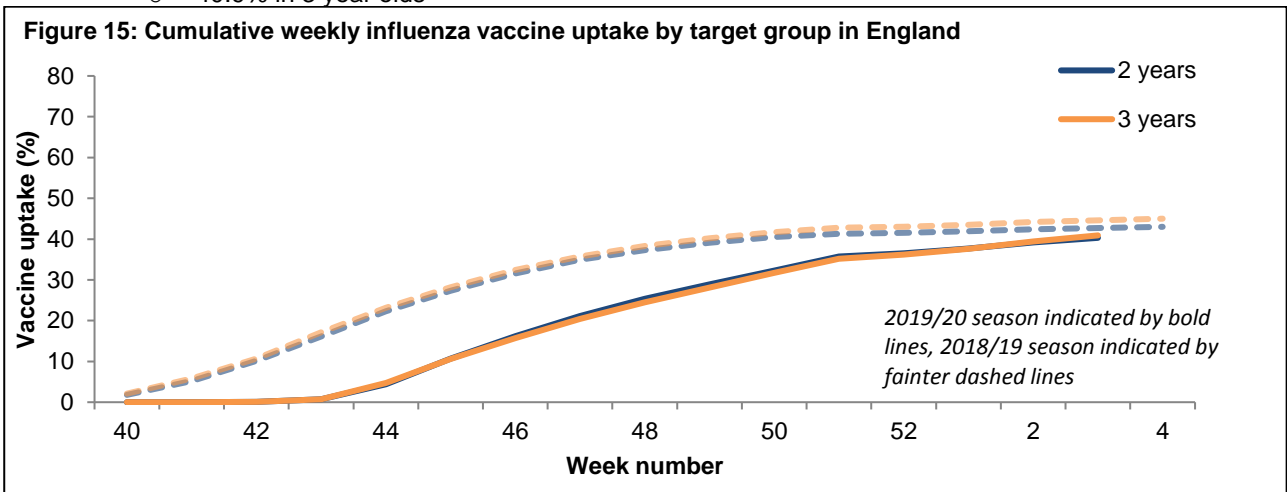
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4351	88
	Macrolides	4724	83
	Tetracycline	4690	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	17164	67
	Co-amoxiclav	18708	82
	Macrolides	3593	6
	Tetracycline	18878	98
<i>S. aureus</i>	Methicillin	7213	92
	Macrolides	8049	66
MRSA	Clindamycin	410	42
	Tetracycline	512	80
MSSA	Clindamycin	4793	72
	Tetracycline	6312	92

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 03 2020 in 97.9% 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):
 - 42.5% in under 65 years in a clinical risk group
 - 42.4% in pregnant women
 - 71.4% 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 03 2020, in 97.6% 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):
 - 40.3% in 2 year olds
 - 40.9% in 3 year olds



- Provisional data from the third monthly collection of the influenza vaccine uptake by frontline healthcare workers show 68.5% were vaccinated by 31 December 2019 from 99.2% of all organisations, compared to 65.8% vaccinated in the previous season by 31 December 2018. The report provides uptake at national, NHS England local team and Trust-level.

- Provisional data from the third monthly collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3, 4, 5 and 6 age (from a sample of 99.3% 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 31 December 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 31 December 2019 & 2018, England

School Year	% Vaccine uptake (up to 31 December)	
	2019/20	2018/19
Reception (4-5 years)	61.6	62.6
Year 1 (5-6 years)	60.9	62.2
Year 2 (6-7 years)	60.1	60.3
Year 3 (7-8 years)	58.1	59.1
Year 4 (8-9 years)	57.3	56.9
Year 5 (9-10 years)	55.0	55.1
Year 6 (10-11 years)	52.8	-

- : 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 continues to circulate with some countries having peaked. In the temperate zones of the southern hemisphere, influenza activity remained to interseasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

- [Europe](#) updated on 17 January 2020 (Joint ECDC-WHO Europe Influenza weekly update)

Overall in week 02, influenza activity increased compared to the previous week, in particular in the south of the region.

For week 02 2020, of 45 Member States and areas reporting on intensity, 16 reported at baseline levels, 21 reported low intensity, 6 reported medium intensity and 2 reported high intensity. Of 45 Member States and areas reporting on geographic spread, 2 reported no activity, 10 reported sporadic cases, 8 reported local spread (across the Region), 7 reported regional spread and 18 reported widespread activity.

For week 02 2020, 737 (40%) of 1, 856 sentinel specimens tested positive for an influenza virus; 67% were type A and 33% were type B. Of 460 subtyped A viruses, 70% were A(H1N1)pdm09 and 30% were A(H3N2). Of 44 type B viruses ascribed to a lineage, all but two were B/Victoria.

For the season to date, more influenza type A (n=3, 253, 67%) than type B (n=1, 593, 33%) viruses have been detected. Of 3 149 subtyped A viruses, 1 606 (51%) were A(H3N2) and 1 543 (49%) were A(H1N1)pdm09. Of 406 influenza type B viruses ascribed to a lineage, 98% were B/Victoria and 2% were B/Yamagata.

Since week 40 2019, more influenza type A (n=1, 619, 95%) than type B (n=87, 5%) viruses were detected among laboratory confirmed influenza ICU cases. Of 507 subtyped influenza A viruses, 68% were A(H3N2) and 32% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 326 cases with known age, 52% were 15-64 years old and 39% were 65 years and older.

Since week 40 2019, more influenza type A (n=2 743, 94%) than type B (n=166, 6%) viruses were detected among laboratory confirmed influenza cases in wards other than ICU. Of 549 subtyped influenza A viruses, 78% were A(H3N2) and 21% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 2 909 cases with known age, 47% were 65 years and older and 27% were 15-64 years old.

- [United States of America](#) updated on 17 January 2020 (Centre for Disease Control report)

During week 02, key indicators for influenza declined slightly but remain high. Indicators that track severity are not high at this point in the season.

Nationwide during week 02, 4.7% 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 02, 22.9% of respiratory specimens tested by clinical laboratories were influenza positive.

The overall hospitalisation rate for the season increased to 19.9 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 16 January 2020, 6.9% of the deaths occurring during the week ending 4 January 2020 (week 01) were due to P&I. This percentage is below the epidemic threshold of 7.0% for week 01.

39 influenza-associated paediatric deaths occurring during the 2019-2020 season have been reported to CDC. 28 deaths were associated with influenza B viruses. Five of these had the lineage determined and all were B/Victoria viruses. 11 deaths were associated with influenza A viruses. Six of these had subtyping performed and all were A(H1N1)pdm09 viruses.

- [Canada](#) updated on 17 January 2020 (Public Health Agency report)

In week 02, influenza activity decreased across multiple indicators and appears to have reached its peak. Influenza A(H3N2), A(H1N1) and B continue to co-circulate with A remain the most predominant type.

The percentage of tests positive for influenza decreased from 26% in week 01 to 25% in week 02. This is higher than the average (23%) for week 02 over the past five seasons.

In week 02, the percentage of visits to healthcare professionals due to influenza-like illness (ILI) was 1.8% which is below the average for this time of year.

To date this season, 802 influenza-associated hospitalisations have been reported with the majority of cases being aged greater than 65 years and children under 5 years and associated with influenza A(H3N2).

To date this season, 479 paediatric hospitalizations have been reported by the IMPACT network; 53% (254) of cases were associated with influenza B and 47% (225) with influenza A. The largest proportion of hospitalisations (65%) were among children under 5 years of age.

- [Global influenza update](#) updated on 20 January 2020 (based on data up to 05 January 2020) (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 remained to interseasonal levels. Worldwide, seasonal influenza A viruses accounted for the majority of detections.

In Central Asia, influenza activity remained elevated with influenza B viruses predominant in all reporting countries. ILI activity increased in Kyrgyzstan and decreased in the other reporting countries.

In Northern Africa, influenza activity was low overall, though 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 Iraq, Israel, Turkey and Yemen, with detections of predominately influenza A(H1N1)pdm09. In the West Bank and Gaza Strip, influenza and severe acute respiratory infection (SARI) activity increased during this period with all subtypes reported. In Bahrain and Qatar, influenza activity remained elevated with all seasonal influenza subtypes co-circulating. Detections of predominantly influenza B/Victoria lineage continued to be reported in Georgia and Lebanon. In Oman and Saudi Arabia, influenza activity appeared to decrease with detections of influenza A and B viruses.

In East Asia, ILI and influenza activity continued to increase overall.

In the Caribbean and Central American countries, influenza activity was low in general, except for Mexico where influenza activity continued to increase with co-circulation of influenza A(H1N1)pdm09 and A(H3N2) viruses.

In the tropical countries of South America, increased influenza activity was reported in recent weeks in Ecuador with influenza A(H1N1)pdm09 most frequently detected.

In Western Africa and Eastern Africa, influenza activity and detections were low across reporting countries.

In Southern Asia, influenza detections were low across reporting countries except for Afghanistan where influenza activity of predominantly influenza A(H1N1)pdm09 viruses increased in recent weeks.

In South East Asia, influenza activity was reported in some countries. Influenza activity continued to be reported in Lao People's Democratic Republic and Malaysia with co-circulation of all seasonal influenza

subtypes in the former and influenza A(H1N1)pdm09 most frequently detected in the latter. Influenza activity of predominantly influenza A(H1N1)pdm09 viruses increased in Singapore.

The WHO GISRS laboratories tested more than 174,604 specimens between 23 December 2019 and 05 January 2020. 44,847 were positive for influenza viruses, of which 27,946 (62.3%) were typed as influenza A and 16,901 (37.7%) as influenza B. Of the sub-typed influenza A viruses, 5,081 (31.6%) were influenza A (H1N1)pdm09 and 11,005 (68.4%) were influenza A (H3N2). Of the characterized B viruses, 23 (0.6%) belonged to the B-Yamagata lineage and 3,753 (99.4%) 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 22 January 2020

Up to 22 January 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. On-going surveillance has identified 1,747 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

On [29 December 2019](#), the National IHR Focal Point of the United Arab Emirates (UAE) reported one laboratory-confirmed case of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) to WHO.

On [5 December 2019](#), the National IHR Focal Point for Qatar reported three laboratory-confirmed cases of Middle East respiratory syndrome (MERS-CoV) infection to WHO.

Globally, since September 2012 and up to 29 December 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.

- [Other respiratory viruses](#) latest update on 21 January 2020

On [20 January 2020](#), National IHR Focal Point (NFP) for Republic of Korea reported the first case of novel coronavirus in the Republic of Korea

On [15 January 2020](#), the Ministry of Health, Labour and Welfare, Japan (MHLW) reported an imported case of laboratory-confirmed 2019-novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China.

On [13 January 2020](#), the Thailand's Ministry of Public Health (MoPH) reported the first imported case of lab-confirmed novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China.

On [31 December 2019](#), the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. As of 3 January 2020, a total of 44 patients with pneumonia of unknown etiology have been reported to WHO by the national authorities in China

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](#))