



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

27 February 2020 – Week 09 report (up to week 08 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 08 (ending 23 February 2020)

- During week 08, influenza activity decreased or remained stable across all indicators.
- The impact of flu on healthcare services is **below baseline levels** for hospitalisations and **at baseline levels** for ICU/HDU influenza admissions. The Department of Health & Social Care has issued an [alert](#) on the prescription of antiviral medicines by GPs.

Community

- 22 new acute respiratory outbreaks have been reported in the past 7 days. 15 outbreaks were reported from care homes where two tested positive for influenza A and one for influenza B. 5 outbreaks were from hospitals where 4 tested positive for influenza A. The remaining 2 outbreaks were from the Other settings category where one tested positive for influenza A.

Primary Care

- The overall weekly influenza-like illness (ILI) rate was 6.7 per 100,000 registered population in participating GP practices for England and is **below baseline** threshold levels. This is a decrease from 8.4 per 100,000 in the previous week.
- In the devolved administrations, ILI rates were at baseline levels in Scotland, Northern Ireland and Wales for week 08.

GP ILI
Consultations
England



Secondary Care

- Hospitalisation rate observed for laboratory confirmed influenza was **below baseline** levels, with a rate of 0.87 per 100,000 trust catchment population for England (18 NHS Trusts) compared to 0.96 per 100,000 in the previous week.
- ICU/HDU admission rate observed for laboratory confirmed influenza was **at baseline levels**, with a rate of 0.10 per 100,000 trust catchment population for England (141/143 NHS Trusts) compared to 0.07 per 100,000 the previous week.
- There were two new laboratory confirmed influenza (influenza A(not subtyped)) admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 08 2020, no statistically significant excess all-cause mortality by week of death was seen overall in England. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed in Wales and Northern Ireland in week 08 and for Scotland in week 06 2020.

Microbiological surveillance

- **Primary care:** 12 samples tested positive for influenza (5 influenza A(H1N1)pdm09, 3 influenza A(not subtyped) and 4 influenza B), through the UK GP sentinel swabbing schemes in week 08 2020, with an overall influenza positivity of 40.0%.
- **Secondary care:** There were 137 influenza detections recorded through the DataMart scheme (33 influenza A(H1N1)pdm09, 20 influenza A(H3), 49 influenza A(not subtyped) and 35 influenza B). The overall influenza percent positivity was 5.3% and **Below baseline** threshold level.
- **Virus Characterisation:** 924 influenza A(H3N2) viruses have been genetically and/or antigenically characterised since week 40. 730 of 913 genetically characterised belong to the same subclade as the H3N2 component in this season's vaccine. 61 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:** The last weekly data for the season was published on 30 January 2020 and includes data up to week 04 2020 (week ending 26 January 2020,
- Provisional data from the fourth monthly collection of influenza vaccine uptake by for all GP patients in 99.7% of GP practices reporting for the main collection in targeted groups was: 43.6% in under 65 years in a clinical risk group, 43.1% in pregnant women and 71.9% in 65+ year olds by 31 January 2020. In 99.7% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 41.7% in 2 year olds and 42.6% in 3 year olds by 31 January 2020.
- Provisional data from the fourth monthly collection of influenza vaccine uptake by frontline healthcare workers show 72.4% were vaccinated by 31 January 2020, compared to 68.6% vaccinated in the previous season by 31 January 2020.
- Provisional data from the fourth monthly collection of influenza vaccine uptake for children of school years' reception to year 6 shows 64.2% in school year reception age, 63.5% in school year 1 age, 62.6% in school year 2 age, 60.6% in school year 3 age, 59.6% in school year 4 age, 57.2% in school year 5 and 55.1% in school year 6 age were vaccinated by 31 January 2020.

International situation

- In the temperate zone of the northern hemisphere, influenza activity continued with some regions such as North America, East and Western Asia experiencing elevated activity with influenza A(H1N1) pdm09 and/or B predominating. In Europe, influenza activity continued but appears to have decreased in the Northern European 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.

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

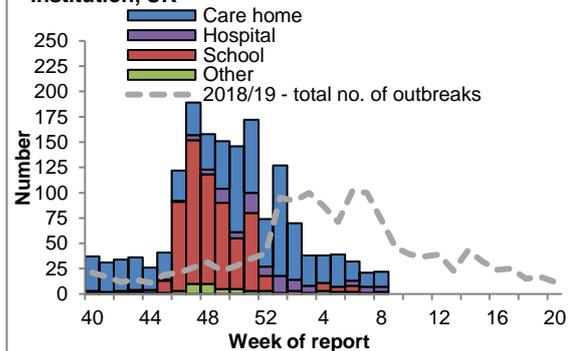
22 new acute respiratory outbreaks were reported in the past 7 days, with 8 confirmed with influenza.

- Acute respiratory disease outbreaks

- 22 new acute respiratory outbreaks have been reported in the past 7 days. 15 outbreaks were reported from care homes where two tested positive for influenza A(not subtyped), one for influenza B and another for haemophilus influenza. 5 outbreaks were from hospitals where 4 tested positive for influenza A(not subtyped). The remaining 2 outbreaks were from the Other settings category where one 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

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 06 was 0.8 per 1,000 boarders compared to 0.3 per 1,000 boarders in week 05. 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 08 was 15.4 per 1,000 (29/1,883 people reported at least 1 ILI), with the highest rate seen in the < 20 year olds (42.9 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

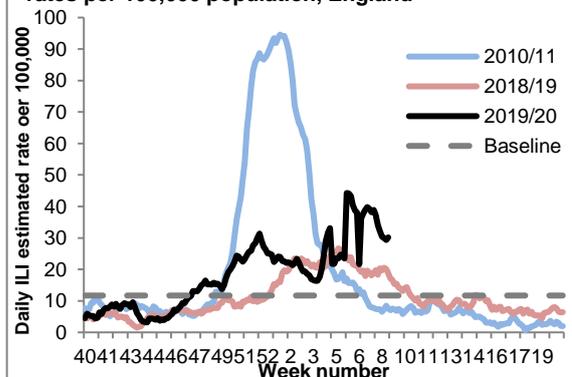
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- 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 08 decreased and remained above the baseline threshold of 11.7 per 100,000, with an overall weekly rate of 30.2 per 100,000 compared to 38.9 per 100,000 in week 07 (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



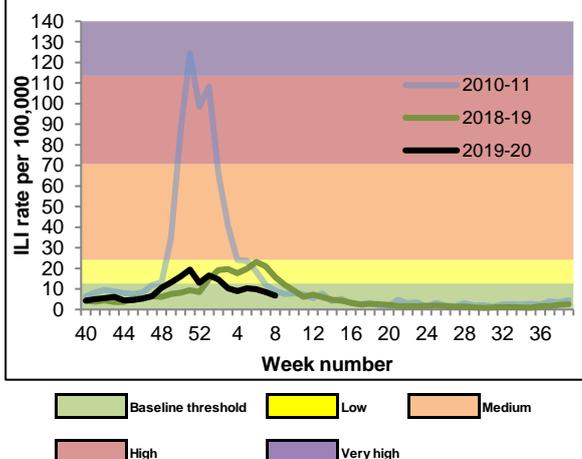
In week 08, the overall weekly influenza-like illness (ILI) GP consultation rate continues to be below baseline threshold in England. In the devolved administrations, ILI rates continue to be below baseline levels in Scotland and Northern Ireland, however in the low intensity level in Wales for week 08.

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was 6.7 per 100,000 registered population in participating GP practices in week 08 compared to 8.4 per 100,000 in week 07. This is below the baseline threshold (12.7 per 100,000) (Figure 3*). By age group, the highest rates were seen in the 15-44 year olds (9.4 per 100,000) and in the 45-64 year olds (7.2 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 08, overall weekly ILI consultation rates decreased and were below baseline levels in Scotland, Northern Ireland and Wales (Table 1).

- By age group, the highest rates were seen in the 15-44 year olds in Scotland, Northern Ireland and Wales (12.1, 6.9 and 7.4 per 100,000 respectively).

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	5	6	7	8
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	9.0	10.3	9.8	8.4	6.7
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	8.6	9.6	10.4	11.3	4.0
Scotland	5.1	6.3	4.4	4.0	8.0	5.0	7.0	11.9	11.9	14.0	19.6	21.3	17.1	13.0	21.8	11.5	11.3	11.4	10.2	12.9	9.0
Northern Ireland	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	8.6	9.6	10.4	11.3	4.0

*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 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 6.4 per 100,000 in week 08 2020 (Figure 4). GP In Hours consultations for ILI decreased and are below baseline threshold levels in week 08 2020. All other respiratory indicators remain stable or decreasing and below seasonally expected levels.

During week 08, NHS 111 calls for cold/flu decreased during week 08.

For GP out-of-hours contacts, ILI consultations decreased and remained at low intensity levels. Other respiratory indicators also remain below seasonally expected levels in week 08.

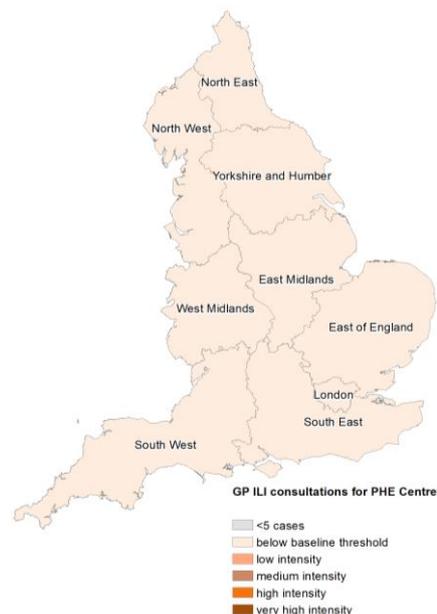
Emergency Department (ED) attendances for pneumonia remained stable although are now above baseline levels. All other respiratory indicators remained at or below seasonally expected levels for week 08.

Figure 4 represents a map of GP ILI consultation rates in week 08 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 08

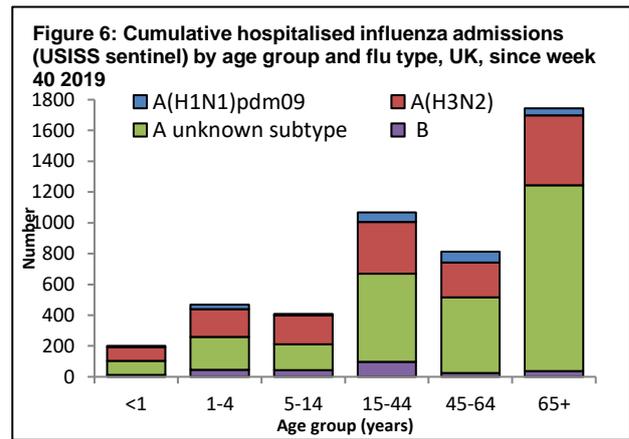
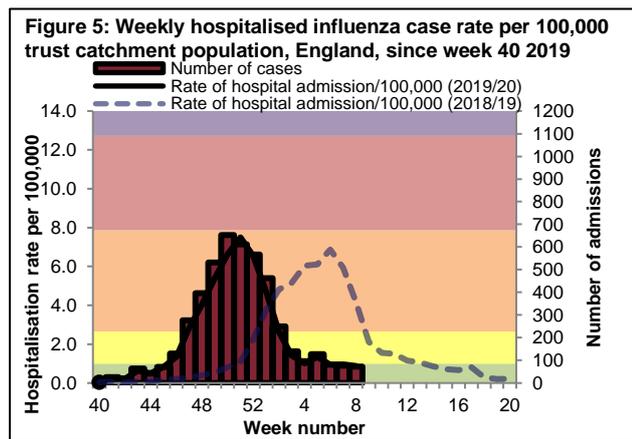


In week 08 2020, there were 72 hospitalised confirmed influenza cases (13 influenza A(H1N1)pdm09, 4 influenza A(H3N2), 37 influenza A(not subtyped) and 18 influenza B) reported through the USISS sentinel hospital network across England (18 Trusts). There were 50 new admissions to ICU/HDU with confirmed influenza (7 influenza A(H1N1)pdm09, 1 influenza A(H3N2), 32 influenza A(not subtyped) and 10 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (141/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 08)

In week 08, there were 72 hospitalised laboratory confirmed influenza cases (13 influenza A(H1N1)pdm09), 4 influenza A(H3N2), 37 influenza A(not subtyped) and 18 influenza B) reported from 18 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 0.87 per 100,000 trust catchment population (Figures 5 and 6) compared to 0.96 per 100,000 in week 07. This remains below the baseline threshold of 0.99 per 100,000.

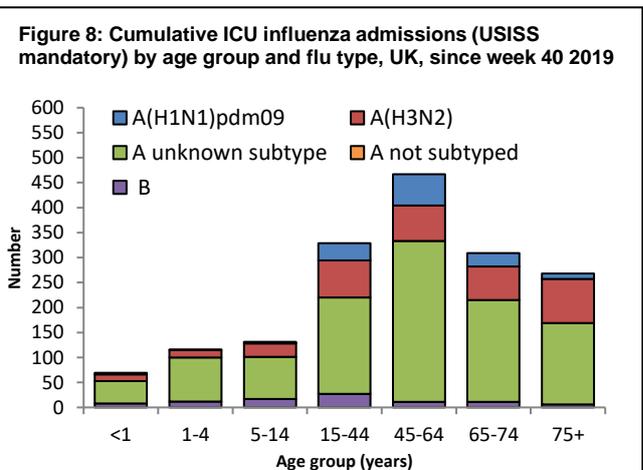
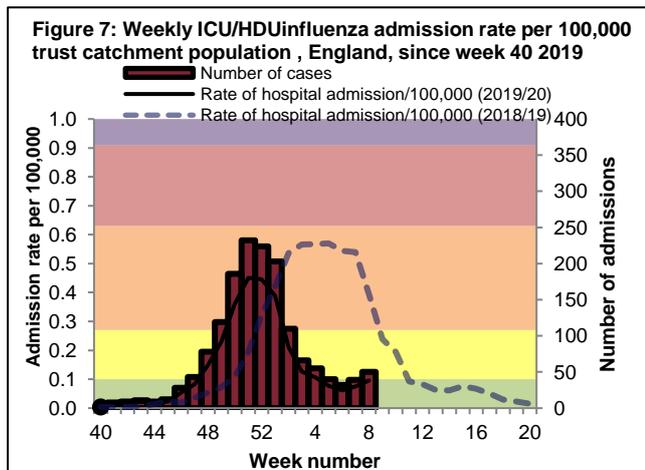
A total of 4,700 hospitalised confirmed influenza admissions (222 influenza A(H1N1)pdm09, 1,472 influenza A(H3N2), 2,746 influenza A(not subtyped), and 260 influenza B) have been reported in England since week 40 2019 via the sentinel scheme.



- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 08)

In week 08, there were 50 new admissions to ICU/HDU with confirmed influenza (7 influenza A(H1N1)pdm09), 1 influenza A(H3N2), 32 influenza A(not subtyped) and 10 influenza B) reported across the UK (141/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.10 per 100,000 (Figures 7 and 8) compared to 0.07 per 100,000 in week 07. This is at the baseline threshold of 0.10 per 100,000. Four influenza laboratory confirmed deaths were reported to have occurred in ICU/HDU week 08 in the UK.

A total of 1,689 new admissions (143 influenza A(H1N1)pdm09), 355 influenza A(H3N2), 1,099 influenza A(not subtyped) and 92 influenza B) and 88 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 08)

- In week 08, there were two new admissions with laboratory confirmed influenza (2 influenza A(not subtyped) among the 6 Severe Respiratory Failure (SRF) centres in the UK.

Since week 40 2019, a total of 30 confirmed influenza admissions (8 influenza A(H1N1)pdm09, 7 influenza A(H3N2), 13 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 08 2020, no statistically significant excess all-cause mortality by week of death was observed overall in England, through the EuroMOMO algorithm. In the devolved administrations, no statistically significant excess all-cause mortality for all ages was observed for Northern Ireland and Wales in week 08 and for Scotland in week 06 2020.

- All-cause death registrations, England and Wales

- In week 07 2020, an estimated 10,944 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a slight decrease compared to the 10,986 estimated death registrations in week 06 2020.

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

- In week 08 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 or 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 for Northern Ireland and Wales in week 08 and for Scotland in week 06 2020 (Table 2).

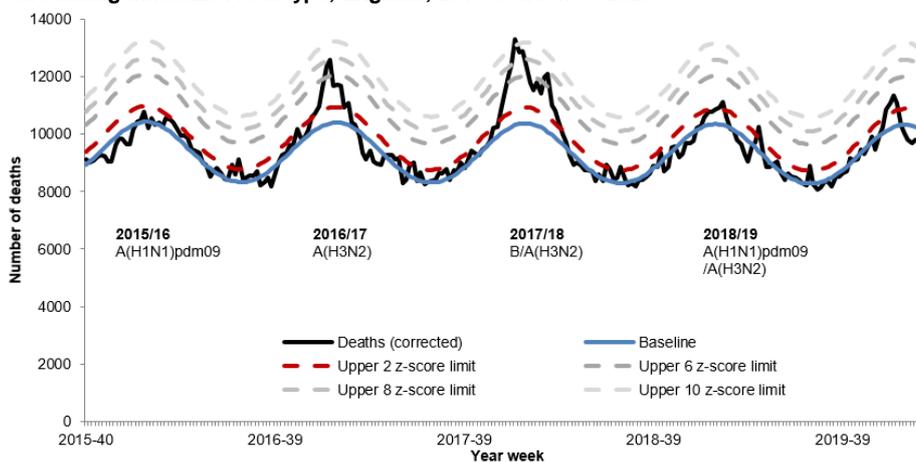
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 08 2020?	Weeks with excess in 2019/20
England	x	51-02
Wales	x	01
Northern Ireland	x	50-51; 02-03

Country	Excess detected in week 06 2020?	Weeks with excess in 2019/20
Scotland	x	41,46, 49-51, 01-02

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

Figure 9: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating influenza A subtype, England, 2015 to week 08 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.

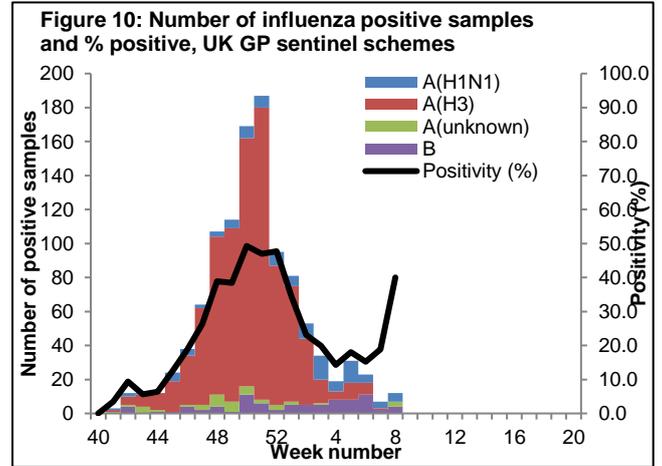
In week 08 2020, 12 samples tested positive for influenza (5 influenza A(H1N1)pdm09, 3 influenza A(not subtyped) and 4 influenza B) with an overall positivity of 40.0%, through the UK GP sentinel schemes. 137 positive detections were recorded through the DataMart scheme (33 influenza A(H1N1)pdm09, 20 influenza A(H3), 49 influenza A(not subtyped) and 35 influenza B) with a positivity of 5.3%, which is below the baseline threshold of 9.7%.

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

In week 08 2020, 12 samples tested positive for influenza (5 influenza A(H1N1)pdm09, 3 influenza A(not subtyped) and 4 influenza B) with an overall positivity of 40.0% compared to 18.9% in the previous week, through the UK GP sentinel swabbing schemes (Figure 10).

Note: the overall positivity for this week should be interpreted with caution due to a low number of samples received this week.

Since week 40, a total of 1,070 samples (100 influenza A(H1N1)pdm09, 857 influenza A(H3N2), 40 influenza A(not subtyped), 73 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 08 2020, out of the 2,597 respiratory specimens reported through the Respiratory DataMart System, 137 samples were positive for influenza (33 influenza A(H1N1)pdm09, 20 influenza A(H3), 49 influenza A(not subtyped) and 35 influenza B) (Figure 11), with an overall positivity of 5.3%. This remains below the baseline threshold of 9.7% for this season. The highest positivity was seen among the 65+ year olds at 6.0% in week 08 (Figure 12). Influenza B positivity decreased slightly but remained at a slightly increased level of 1.3% for this week.

RSV positivity remained low at 2.1% in week 08. Rhinovirus positivity remained stable at 11.6% in week 08. Parainfluenza remained low at 1.2% in week 08. Human metapneumovirus (hMPV) and adenovirus positivity remained slightly increased at 4.2% and 4.6% in week 08 2020 (Figure 13).

Figure 11: DataMart samples positive for influenza, England

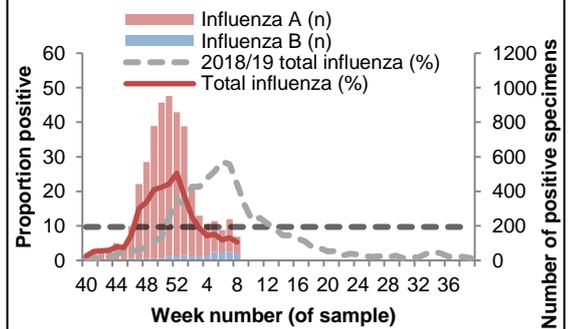


Figure 12: Datamart % positive for influenza by age, England

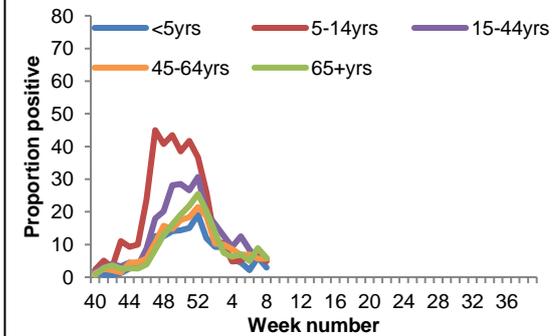
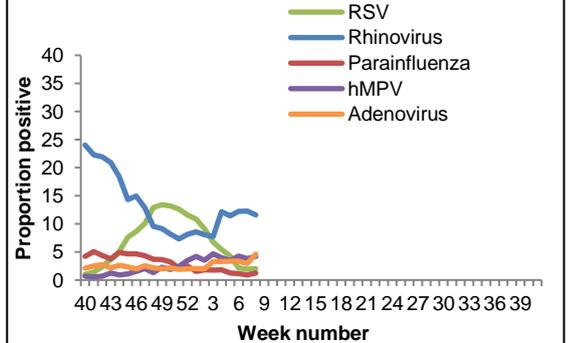


Figure 13: Datamart % positive for other respiratory viruses, England



*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 924 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of 913 of these shows that 730 belong to the genetic clade 3C.3a, and 183 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. Four hundred and forty-five 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 61 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. Forty 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.

Thirty-seven influenza B viruses have been characterised to date, where sequencing of the haemagglutinin (HA) gene shows these viruses belong 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. One influenza B virus has been characterised genetically as belonging to genetic clade 3 of the B/Yamagata lineage. 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	30	31	33	94
A(H3N2) 3C.2a1	0	183	0	183
A(H3N2) 3C.3a	472	258	11	741
A(H3N2) total	472	441	11	924
B/Yamagata-lineage	0	1	0	1
B/Victoria-lineage	0	37	0	37

- 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, 106 influenza A (H1N1) viruses, 914 influenza A (H3N2) and 43 influenza B viruses were tested for their susceptibility for oseltamivir, all but six influenza A(H3N2) viruses are sensitive. 80 influenza A (H1N1) viruses, 901 influenza A (H3N2) and 42 influenza B viruses were tested for their susceptibility for zanamivir and all but two were sensitive.

- Antimicrobial susceptibility

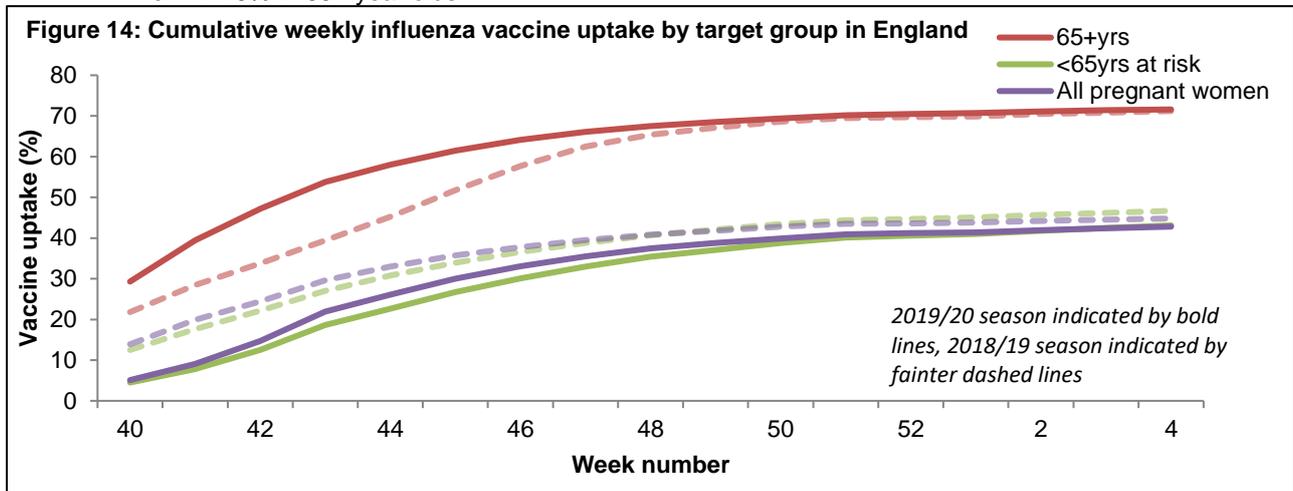
-Table 4 shows in the 12 weeks up to 23 February 2020, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community-acquired 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 23 February 2020, E&W

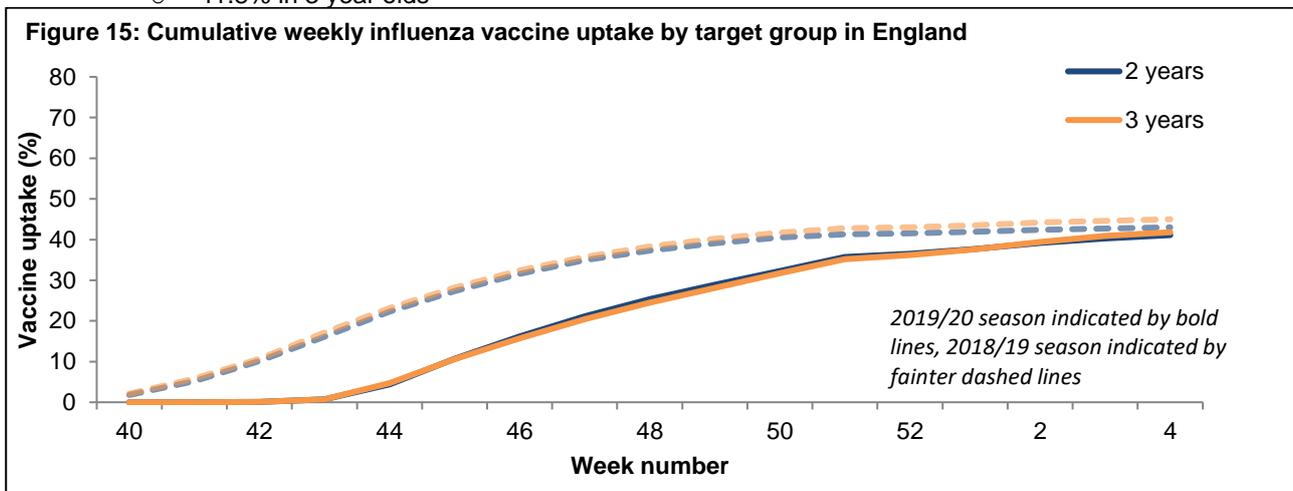
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4619	89
	Macrolides	4975	84
	Tetracycline	4951	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	20895	67
	Co-amoxiclav	22755	81
	Macrolides	4241	5
	Tetracycline	22953	99
<i>S. aureus</i>	Methicillin	7563	93
	Macrolides	8446	67
MRSA	Clindamycin	417	44
	Tetracycline	518	78
MSSA	Clindamycin	5091	72
	Tetracycline	6598	92

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 04 2020 in 98.4% 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):
 - 43.1% in under 65 years in a clinical risk group
 - 42.8% in pregnant women
 - 71.6% 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 04 2020, in 97.9% 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):
 - 41.1% in 2 year olds
 - 41.8% in 3 year olds



- Provisional data from the fourth monthly collection of influenza vaccine uptake by for all GP patients in 99.7% of GP practices reporting for the main collection in targeted groups was: 43.6% in under 65 years in a clinical risk group, 43.1% in pregnant women and 71.9% in 65+ year olds by 31 January 2020. In 99.7% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 41.7% in 2 year olds and 42.6% in 3 year olds by 31 January 2020.
- Provisional data from the fourth monthly collection of the influenza vaccine uptake by frontline healthcare workers show 72.4% were vaccinated by 31 January 2020 from 97.5% of all organisations, compared to 68.6% vaccinated in the previous season by 31 January 2019. The report provides uptake at national, NHS England local team and Trust-level.

- Provisional data from the fourth monthly collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3, 4, 5 and 6 age (from a sample of 100% 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 January 2020 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 January 2020 & 2019, England

School Year	% Vaccine uptake (up to 31 January)	
	2019/20	2018/19
Reception (4-5 years)	64.2	63.9
Year 1 (5-6 years)	63.5	63.4
Year 2 (6-7 years)	62.6	61.4
Year 3 (7-8 years)	60.6	60.2
Year 4 (8-9 years)	59.6	58.0
Year 5 (9-10 years)	57.2	56.2
Year 6 (10-11 years)	55.1	-

- : 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 continued with some regions such as North America, East and Western Asia experiencing elevated activity with influenza A(H1N1) pdm09 and/or B predominating. In Europe, influenza activity continued but appears to have decreased in the Northern European 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.

- [Europe](#) updated on 21 February 2020 (Joint ECDC-WHO Europe Influenza weekly update)

Overall in week 07, the influenza season appears to have peaked as a whole in Europe in week 05.

Widespread influenza activity reported by the majority of Member States and areas across the Region.

For week 07 2020, of 48 Member States and areas reporting on intensity, 5 reported activity at baseline levels, 19 reported low intensity, 16 reported medium intensity, 7 reported high intensity and 1 reported very high intensity. Of 48 Member States and areas reporting on geographic spread, 2 reported no activity, 7 reported sporadic cases, 2 reported local spread, 4 reported regional spread and 33 reported widespread activity.

For week 07 2020, 1 332 (48%) of 2 794 sentinel specimens tested positive for an influenza virus; 60% were type A and 40% were type B. Of 643 subtyped A viruses, 58% were A(H1N1)pdm09 and 42% were A(H3N2). Of 200 type B viruses ascribed to a lineage, almost all were of the B/Victoria lineage.

For the season to date, more influenza type A (n= 8 852, 66%) than type B (n=4 475, 34%) viruses have been detected. Of 8 208 subtyped A viruses, 60% were A(H1N1)pdm09 and 40% were A(H3N2). Of 1 651 influenza type B viruses ascribed to a lineage, 99% were of the B/Victoria lineage.

Since week 40 2019, more influenza type A (n=2, 934, 92%) than type B (n=250, 8%) viruses were detected among laboratory confirmed influenza ICU cases. Of 1000 subtyped influenza A viruses, 46% were A(H3N2) and 54% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 1,549 cases with known age, 49% were 15-64 years old and 37% were 65 years and older.

Since week 40 2019, more influenza type A (n=5, 125, 90%) than type B (n=560, 10%) viruses were detected among laboratory confirmed influenza cases in wards other than ICU. Of 1, 367 subtyped influenza A viruses, 49% were A(H3N2) and 51% A(H1N1)pdm09. No influenza B viruses were ascribed to a lineage. Of 5, 684 cases with known age, 45% were 65 years and older and 31% were 15-64 years old.

Pooled estimates of all-cause mortality from 23 countries or regions reporting to the [EuroMOMO](#) project showed normal expected levels of mortality, following some excess mortality observed in some countries over the past few weeks.

- [United States of America](#) updated on 21 February 2020 (Centre for Disease Control report)

During week 07, key indicators for influenza remain high but decreased slightly. Indicators that track severity (hospitalisations and deaths) are not high at this point in the season. Influenza B/Victoria and A(H1N1)pdm09 viruses have been predominant for the season overall, with increases seen in influenza A(H1N1)pdm09 in recent weeks.

Nationwide during week 07, 6.1% 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 07, 29.6% of respiratory specimens tested by clinical laboratories were influenza positive.

The overall hospitalisation rate for the season increased to 47.4 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 20 February 2020, 6.8% of the deaths occurring during the week ending 8 February 2020 (week 06) were due to P&I. This percentage is below the epidemic threshold of 7.3% for week 06.

105 influenza-associated paediatric deaths occurring during the 2019-2020 season have been reported to CDC. 72 deaths were associated with influenza B viruses. 12 of these had the lineage determined and all were B/Victoria viruses. 33 deaths were associated with influenza A viruses. 19 of these had subtyping performed and were A(H1N1) pdm09 viruses and one was an A(H3) virus.

- [Canada](#) updated on 21 February 2020 (Public Health Agency report)

In week 07, influenza activity remained high with the majority of indicators remaining similar or having decreased from the previous week. Influenza A(H1N1) is currently the dominant influenza A subtype circulating in Canada, representing 83% of subtyped influenza A specimens in week 07.

The percentage of tests positive for influenza remained high at 29% in week 07, this recent increase has been mainly driven by influenza B.

In week 07, the percentage of visits to healthcare professionals due to influenza-like illness (ILI) was 1.4% which is below average for this time of year.

To date this season, 1,687 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).

- [Global influenza update](#) updated on 17 February 2020 (based on data up to 02 February 2020) (WHO website)

In the temperate zone of the northern hemisphere, influenza activity and respiratory illness indicators remained elevated overall. 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 North America, influenza activity remained elevated influenza A(H1N1)pdm09 and B viruses co-circulating.

In Europe, influenza activity continued to increase across the region but appeared to have peaked in some countries of Northern Europe.

In Central Asia, influenza activity increased with detections of all seasonal influenza subtypes.

In Northern Africa, influenza activity increased in Algeria and Tunisia, with detections of influenza A(H1N1)pdm09 and B viruses.

In Western Asia, influenza activity remained elevated overall, though in some countries activity returned to low levels.

In East Asia, influenza-like illness (ILI) and influenza activity remained elevated overall.

In the Caribbean and Central American countries, influenza activity was low across reporting countries, except for Mexico with increased activity of influenza A(H1N1)pdm09 viruses. In tropical South American countries, influenza activity was low.

In tropical Africa, influenza detections were low across reporting countries.

In Southern Asia, influenza activity was low overall, though remained elevated in Afghanistan.

In South East Asia, influenza activity was low in most reporting countries.

The WHO GISRS laboratories tested more than 204, 655 specimens between 20 January 2020 and 02 February 2020. 59,702 were positive for influenza viruses, of which 35,359 (59.2%) were typed as influenza A and 24,343 (40.8%) as influenza B. Of the sub-typed influenza A viruses, 7,321 (75.8%) were influenza A (H1N1)pdm09 and 2,333 (24.2%) were influenza A (H3N2). Of the characterized B viruses, 26 (1.5%) belonged to the B-Yamagata lineage and 1,746 (98.5%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 20 January 2020 (WHO website)

Influenza A(H5) viruses

Between [26 November 2019 to 20 January 2020](#), 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.

Influenza A(H7N9)

Between [26 November 2019 to 20 January 2020](#), no new laboratory-confirmed human case of influenza A(H7N9) virus infection were reported to WHO. There have been no publicly available reports from animal health authorities in China on influenza A(H7N9) virus detections in animals in recent months.

Overall, the risk assessment has not changed.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 26 February 2020

Up to 26 February 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 1,784 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

From [1 December 2019 through 31 January 2020](#), the National IHR Focal Point of Saudi Arabia reported 19 additional cases of MERS-CoV infection, including 8 associated deaths.

On [9 and 13 January 2020](#), the National IHR Focal Point of the United Arab Emirates (UAE) reported an additional two (2) laboratory-confirmed cases of Middle East respiratory syndrome Coronavirus (MERS-CoV) to WHO.

Globally, since September 2012 and up to 31 January 2020, [WHO](#) has been notified of 2,519 laboratory-confirmed cases of infection with MERS-CoV, including 866 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.

- [Coronavirus Disease 2019 \(COVID-19\)](#) latest update on 26 February 2020

Up to [26 February 2020](#), a total of 13 confirmed cases of COVID-19, have been confirmed in the UK. On-going surveillance has identified 7, 132 suspected cases in the UK that tested negative.

Globally, up to 25 February 2020, [WHO](#) has been notified of 80,239 laboratory-confirmed cases of COVID-19 infection, including 2,700 related deaths.

This report was prepared by the Influenza Surveillance Section, Immunisations and Countermeasures Division, National Infection Service, Public Health England. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the PHE Real-time Syndromic Surveillance team, the PHE Respiratory Virus Unit, the PHE Modelling and Statistics unit, the PHE Dept. of Healthcare Associated Infection & Antimicrobial Resistance, PHE regional microbiology laboratories, Office for National Statistics, the Department of Health, Health Protection Scotland, National Public Health Service (Wales), the Public Health Agency Northern Ireland, the Northern Ireland Statistics and Research Agency, QSurveillance® and EMIS and EMIS practices contributing to the QSurveillance® database.

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](#))