



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

31 October 2019 – Week 44 report (up to week 43 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 43 (ending 27 October 2019)

- During week 43, all influenza activity indicators are **Below baseline**.
- The impact of flu on healthcare services is **Below baseline** for hospitalisations and for ICU/HDU influenza admissions.
- Respiratory Syncytial Virus (RSV) is now circulating in the <5 year olds in England.

Community

- 38 new acute respiratory outbreaks have been reported in the past 7 days. 34 outbreaks were reported from care homes where 2 tested positive for influenza A(unknown subtype). Two outbreaks were reported from schools, where one tested positive for influenza A(unknown subtype). Two outbreaks were reported from hospitals.

Primary Care

- The rate of influenza-like illness (ILI) was **Below baseline** threshold levels. The overall weekly ILI GP consultation rate was 6.2 per 100,000 registered population in participating GP practices for England, similar to 5.5 per 100,000 in the previous week.
- In the devolved administrations, ILI rates were **Below baseline** threshold levels for Northern Ireland, Scotland and Wales.

GP ILI
Consultations
England



Secondary Care

- Hospitalisation rate observed for laboratory confirmed influenza was **Below baseline** levels, with a rate of 0.61 per 100,000 trust catchment population for England (20 NHS Trusts) compared to 0.21 per 100,000 in the previous week.
- ICU/HDU admission rate observed for laboratory confirmed influenza was **Below baseline** levels, with a rate of 0.02 per 100,000 trust catchment population for England (134/143 NHS Trusts) compared to 0.02 per 100,000 the previous week.
- There were no laboratory confirmed influenza admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 43 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 in week 43, however excess was noted for Scotland in week 41 2019.

Microbiological surveillance

- **Primary care:** 11 samples tested positive for influenza (1 influenza A(H1N1)pdm09, 6 influenza A(H3) and 4 influenza A(unknown subtype)) through the UK GP sentinel swabbing schemes in week 43 2019, with an overall positivity of 10.1%
- **Secondary care:** There were 57 detections recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 25 influenza A(H3), 30 influenza A(not subtyped) and 1 influenza B). The overall influenza percent positivity was 2.8% and **Below baseline** threshold level.

Secondary
Care



Vaccination

- Weekly uptake: Up to week 43 2019, in 92.3% 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: 18.6% in under 65 years in a clinical risk group, 21.9% in pregnant women and 53.8% in 65+ year olds. In 95.2% of GP practices reporting for the childhood collection, the provisional proportion vaccinated was: 0.7% in 2 year olds and 3 year olds respectively.
- Influenza vaccine uptake data in primary school age children will be collected through the school delivery programme and be published in the monthly report on 21 November 2019.

International situation

- In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels in most countries; however continued to increase across the countries of the Arabian Peninsula. In the temperate zones of the southern hemisphere, influenza activity was low in most countries, with influenza B virus detections continuing to be reported by Chile. Worldwide, seasonal influenza A viruses continued to account for the majority of detections, although the proportion of influenza B viruses increased in recent weeks.

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

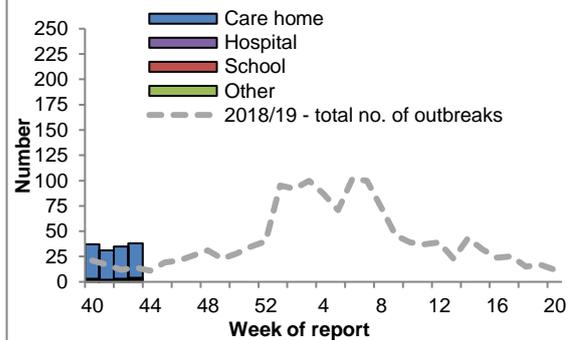
38 new acute respiratory outbreaks were reported in the past 7 days, with 3 confirmed with influenza. ILI rates observed through internet based surveillance were low in week 43.

- Acute respiratory disease outbreaks

- 38 new acute respiratory outbreaks have been reported in the past 7 days. 34 outbreaks were reported from care homes where 2 tested positive for influenza A(unknown subtype) and 5 tested positive for rhinovirus. Two outbreaks were reported from schools, where one tested positive for influenza A(unknown subtype). Two outbreaks were reported from hospitals, where one tested positive rhinovirus.

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and respscisc@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).

- Data will be reported from week 45.

- 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.

- Data will be reported from week 45.

- 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

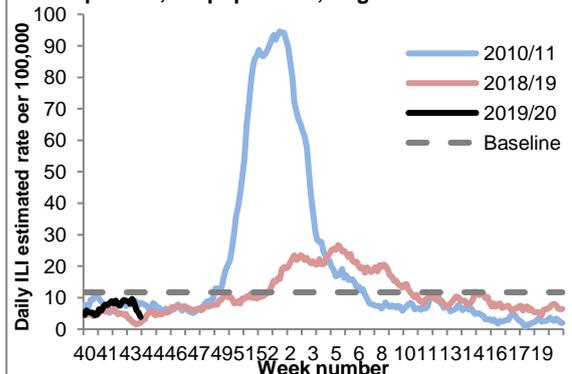
- Internet-based surveillance of influenza-like illness in the general population is also undertaken through FluDetector (<https://fludetector.cs.ucl.ac.uk>), a model assessing internet-based search queries for ILI.

- 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 43 were below the baseline threshold of 11.7 per 100,000, with an overall weekly rate of 3.9 per 100,000 compared to 9.0 per 100,000 in week 42 (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



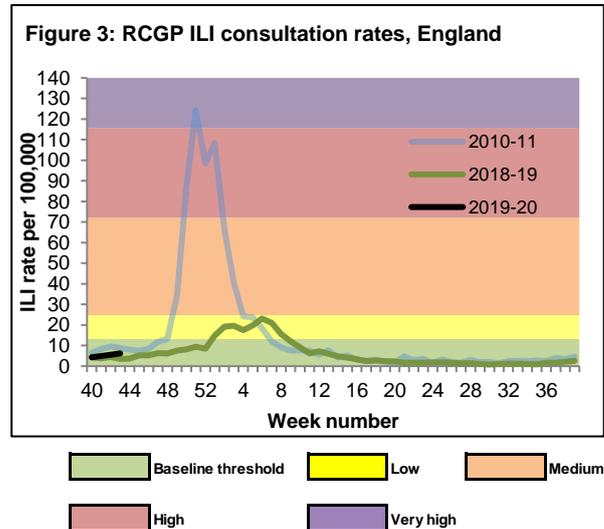
In week 43, the overall weekly influenza-like illness (ILI) GP consultation rate remained below baseline threshold levels in England. In the devolved administrations, ILI rates were below their respective baselines.

- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was 6.2 per 100,000 registered population in participating GP practices in week 43 compared to 5.5 per 100,000 in week 42. This is below the baseline threshold (12.7 per 100,000) (Figure 3*). By age group, the highest rates were seen in the 45-64 year olds (7.9 per 100,000) and in the 65-74 year olds (7.1 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 43, overall weekly ILI consultation rates across the countries of the UK were all below their respective baseline threshold levels (Table 1).

- By age group, the highest rates were seen in the 45-64 year olds in Scotland, Wales and Northern Ireland (4.4 per 100,000, 10.6 per 100,000 and 7.1 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
England (RCGP)	4.3	5.0	5.5	6.2													
Wales	1.7	4.0	4.2	6.4													
Scotland	5.5	6.2	4.4	3.7													
Northern Ireland	3.9	4.8	4.6	5.1													

*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 4.0 per 100,000 in week 43 2019 (Figure 4).

GP In Hours consultations for influenza-like illness and upper respiratory tract infections remain within seasonal expectations, however slight increases were noted in lower respiratory tract infection consultations in children aged <1 years during week 43.

NHS 111 calls for coughs continued to increase, in particularly in children aged under 15 years in week 43.

GP Out of Hours consultations and Emergency Department (ED) attendances for bronchitis/bronchiolitis continued to increase, particularly in young children, however were in line with seasonal expectations, in week 43.

- Figure 4 represents a map of GP ILI consultation rates in week 43 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.

Figure 4: Map of GP ILI consultation rates in week 43

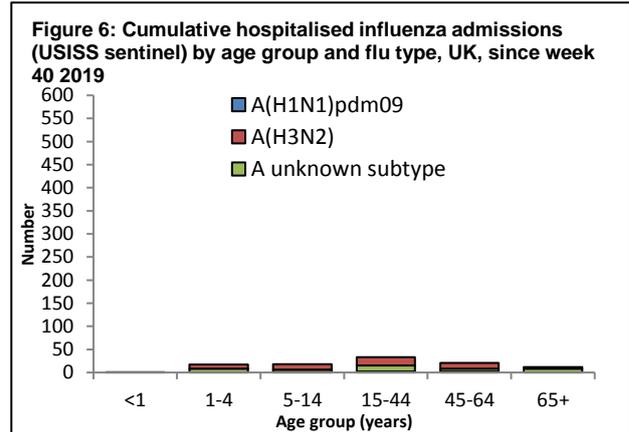
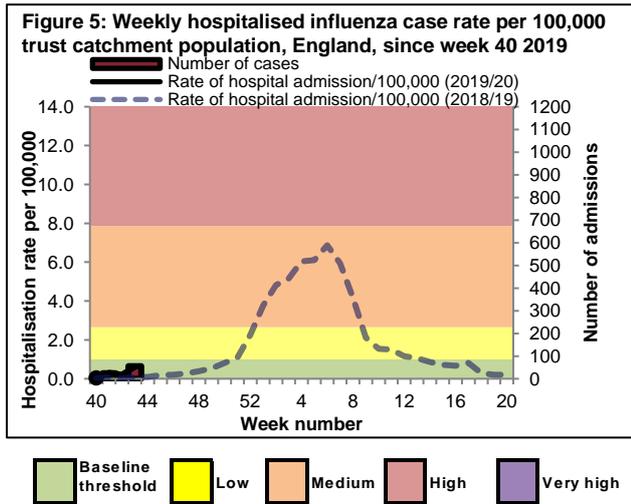


In week 43 2019, there were 55 hospitalised confirmed influenza cases (31 influenza A(H3N2) and 23 influenza A(unknown subtype) and one influenza B) reported through the USISS sentinel hospital network across England (20 Trusts). There were 11 new admissions to ICU/HDU with confirmed influenza (10 influenza A(H1N1)pdm09 and one 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 43)

In week 43, there were 55 hospitalised laboratory confirmed influenza cases (31 influenza A(H3N2) and 23 influenza A(unknown subtype) and one influenza B) reported from 20 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 0.61 per 100,000 trust catchment population (Figures 5 and 6) compared to 0.21 per 100,000 in week 42. This is below the baseline impact threshold of 0.99 per 100,000.

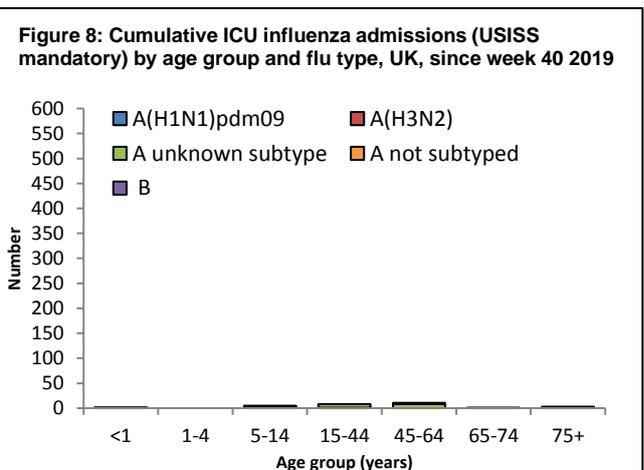
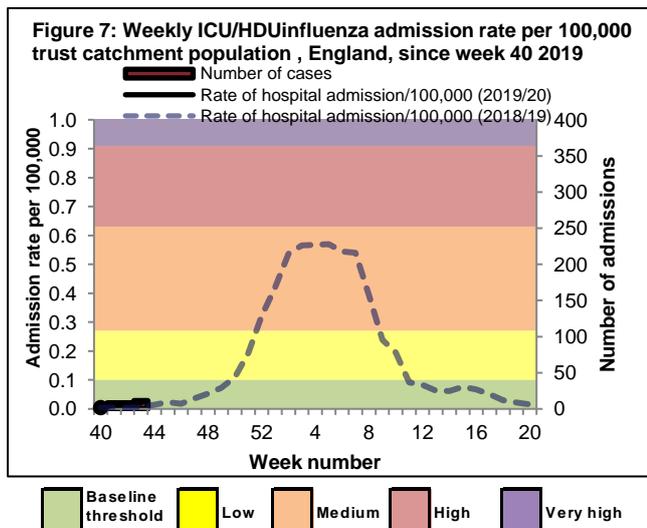
A total of 102 hospitalised confirmed influenza admissions (56 influenza A(H3N2), 41 influenza A(unknown subtype) and five influenza B) have been reported in England since week 40 2019 via the sentinel scheme.



- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 43)

In week 43, there were 11 new admissions to ICU/HDU with confirmed influenza (10 influenza A(H1N1)pdm09 and one influenza B) reported across the UK (134/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.02 per 100,000 (Figures 7 and 8) compared to the same rate week 42. This is below the baseline impact threshold of 0.10 per 100,000. No influenza laboratory confirmed deaths were reported to have occurred in ICU/HDU week 43 in the UK.

A total of total of 30 new admissions (two influenza A(H1N1)pdm09), one influenza A(H3N2), 23 influenza A(unknown subtype) and 4 influenza B) and 1 confirmed death 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 43)

- In week 43, there were no new admissions for laboratory confirmed influenza among the 6 Severe Respiratory Failure (SRF) centres in the UK.

All-cause mortality data

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In week 43 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 43 2019, however excess was noted for Scotland in week 41.

- All-cause death registrations, England and Wales

- In week 42 2019, an estimated 10,156 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is an increase compared to the 9,973 estimated death registrations in week 41 2019.

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

- In week 43 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 42 2019, however excess was noted for Scotland in week 41 (Table 2).

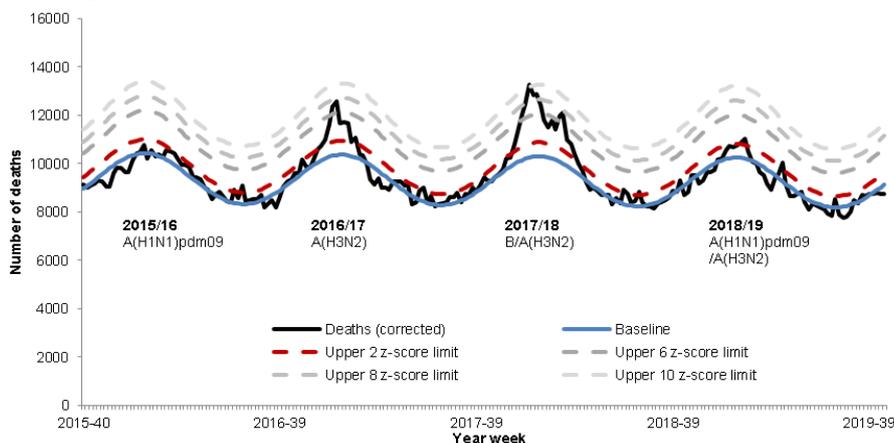
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 43 2019?	Weeks with excess in 2019/20
England	×	NA
Wales	×	NA
Northern Ireland	×	NA
Country	Excess detected in week 41 2019?	Weeks with excess in 2019/20
Scotland	✓	41

* 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 43 2019

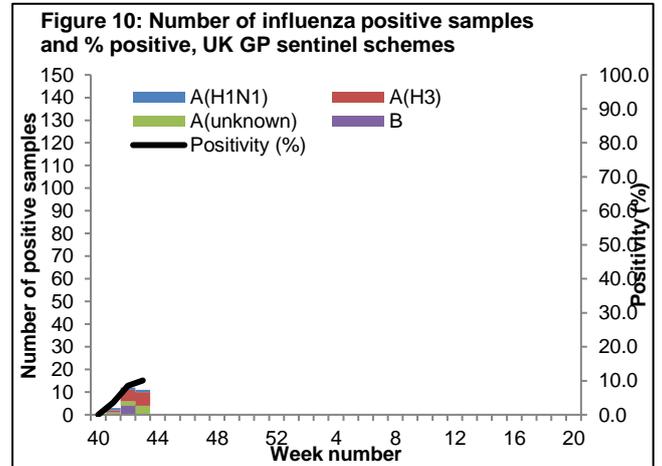


*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 43 2019, 11 samples tested positive for influenza with an overall positivity of 10.1%, through the UK GP sentinel schemes. 57 positive detections were recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 25 influenza A(H3), 30 influenza A(not subtyped) and 1 influenza B) with a positivity of 2.8%, this is below the baseline threshold of 9.7%.

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

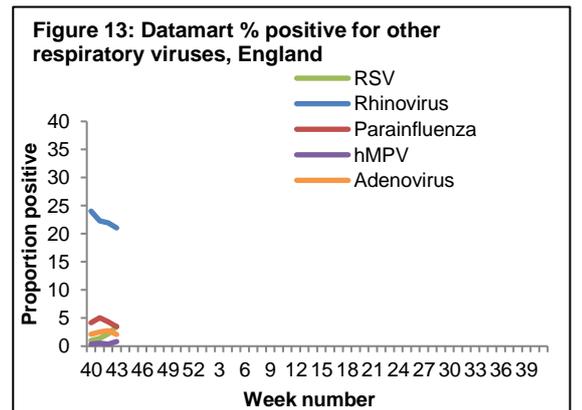
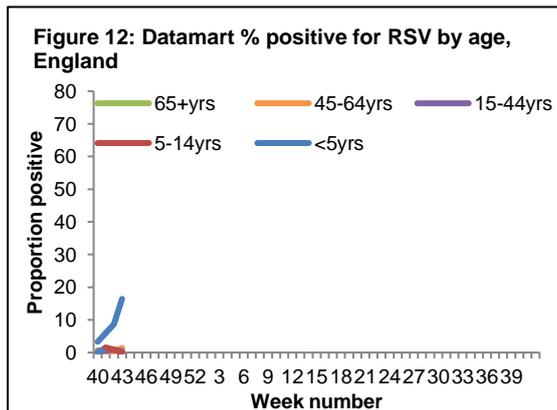
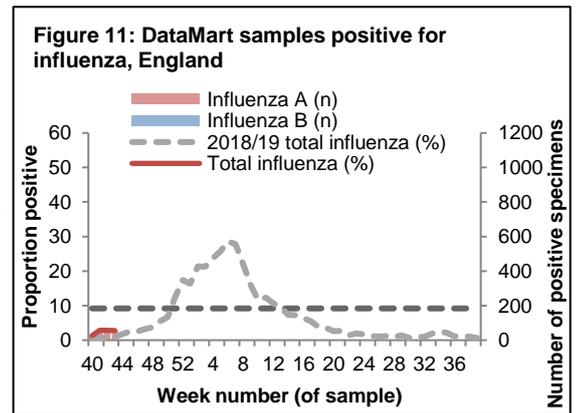
In week 43 2019, 11 samples tested positive for influenza (1 influenza A(H1N1)pdm09, 6 influenza A(H3) and 4 influenza A(unknown subtype)), with an overall positivity of 10.1% compared to 8.6% in the previous week, through the UK GP sentinel swabbing schemes (Figure 10).



- Respiratory DataMart System (England)

In week 43 2019, out of the 2,069 respiratory specimens reported through the Respiratory DataMart System, 57 samples were positive for influenza (1 influenza A(H1N1)pdm09, 25 influenza A(H3), 30 influenza A(not subtyped) and 1 influenza B) (Figure 11), with an overall positivity of 2.8%, which is below the MEM baseline threshold for this season of 9.7%.

RSV positivity remains low but has increased from 2.2% in week 42 to 3.5% in week 43. The highest positivity for RSV by age group was seen in the <5 year olds at 16.4% in week 43 compared to 8.6% in the previous week. Rhinovirus positivity remains high at 21.0% in week 43, similar to the previous week. Parainfluenza positivity decreased slightly to 3.5% in week 43. Adenovirus and human metapneumovirus (hMPV) positivity were low at 2.1% and 0.8% respectively in week 43 2019 (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 9.2% in 2018/19.

- 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 10 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of these A(H3N2) influenza viruses shows that seven belong to the genetic clade 3C.3a, and three 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. At this early stage of the influenza season, it is too early to predict which, if either of these lineages will dominate throughout the season, and a close watch will be kept on the proportion of different viruses circulating to assist with the evaluation of vaccine effectiveness.

- 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, two influenza A (H1N1) viruses and two influenza A (H3N2) viruses were tested for both antiviral agents, oseltamivir and zanamivir, and all viruses were sensitive.

- Antimicrobial susceptibility

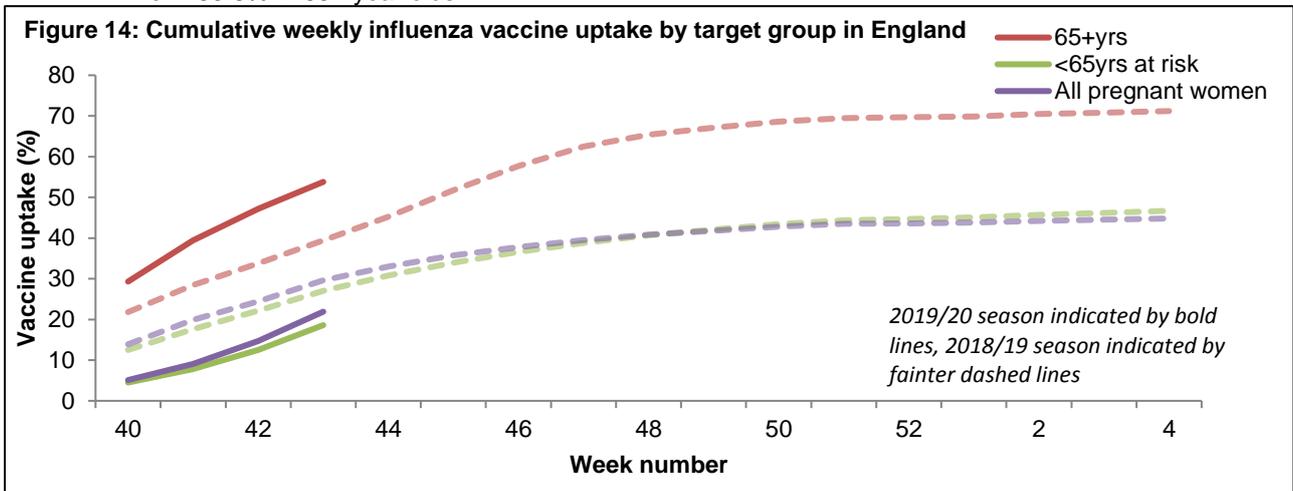
-Table 4 shows in the 12 weeks up to 27 October 2019, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 27 October 2019, E&W

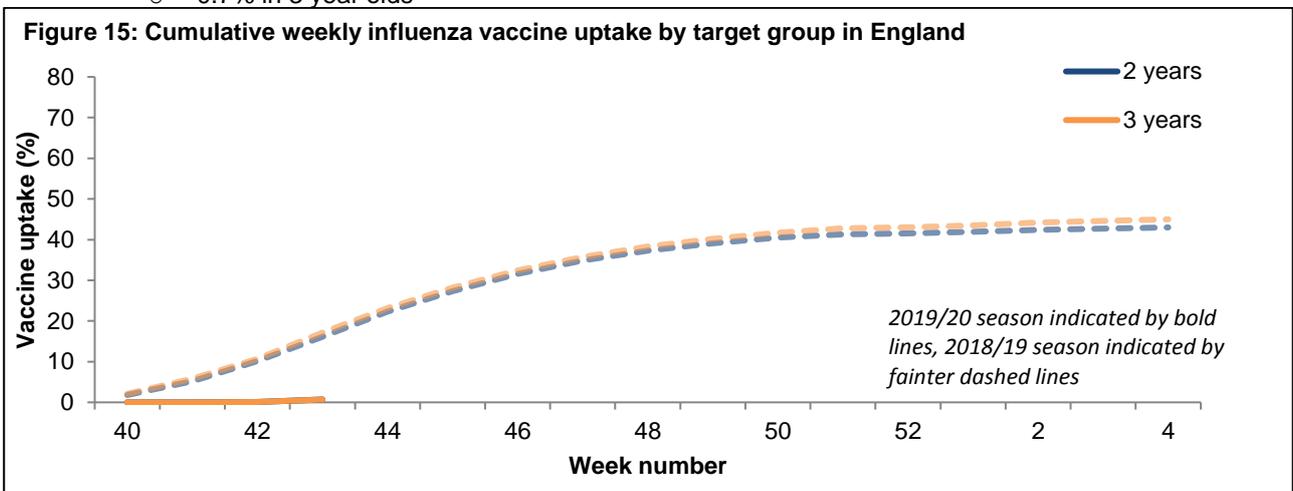
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2788	87
	Macrolides	3033	80
	Tetracycline	3000	81
<i>H. influenzae</i>	Amoxicillin/ampicillin	11614	68
	Co-amoxiclav	12960	82
	Macrolides	2292	8
	Tetracycline	12923	98
<i>S. aureus</i>	Methicillin	6545	92
	Macrolides	7413	66
MRSA	Clindamycin	367	44
	Tetracycline	478	77
MSSA	Clindamycin	4247	73
	Tetracycline	5678	93

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 43 2019 in 92.3% 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):
 - 18.6% in under 65 years in a clinical risk group
 - 21.9% in pregnant women
 - 53.8% 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 43 2019, in 95.2% 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):
 - 0.7% in 2 year olds
 - 0.7% in 3 year olds



- In addition, the childhood programme has been extended to all children of primary school age (Reception to school year 6). The data for the school programme, including the 4 year olds will be included in the monthly report to be published on 21 November 2019.

In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels in most countries; however continued to increase across the countries of the Arabian Peninsula. In the temperate zones of the southern hemisphere, influenza activity was low in most countries, with influenza B virus detections continuing to be reported by Chile. Worldwide, seasonal influenza A viruses continued to account for the majority of detections, although the proportion of influenza B viruses increased in recent weeks.

- [Europe](#) updated on 25 October 2019 (Joint ECDC-WHO Europe Influenza weekly update)

Overall in week 42, influenza activity was low throughout the European Region and both influenza A and B viruses detected.

For week 42 2019, of 43 Member States and areas reporting on intensity, 30 reported baseline and 13 reported low intensity (across the Region). Of the same Member States reporting on geographic spread, 29 reported no activity and 14 reported sporadic cases (across the Region).

For week 42 2019, 11 (2.7%) of 403 sentinel specimens tested positive for an influenza virus; 9 were influenza type A [3 A(H1N1)pdm09 and 6 A(H3N2)], and 2 were influenza type B.

For the season overall, 32 influenza viruses have been detected: 8 A(H1N1)pdm09, 10 A(H3N2) and 14 type B viruses (8 ascribed to the B/Victoria lineage).

Since week 40 2019, 9 laboratory-confirmed influenza cases from other wards have been reported by Ireland and Ukraine; of these 7 were infected by influenza type A viruses, with 4 subtyped as A(H3N2), and 2 by influenza type B viruses.

For week 42 2019, pooled estimates from the EuroMOMO project of all-cause mortality from 22 countries or areas show mortality levels are within normal expected ranges.

- [United States of America](#) updated on 25 October 2019 (Centre for Disease Control report)

During week 42, influenza activity remains low in the United States with influenza A(H3N2) and B/Victoria viruses circulating at similar levels.

During week 42, 2.4% of laboratory tested respiratory specimens were positive for influenza. This is slightly lower than the previous week.

Nationwide during week 42, 1.7% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI), which is below the national baseline of 2.4%.

Based on National Center for Health Statistics (NCHS) mortality surveillance data available on October 24, 2019, 4.9% of the deaths occurring during the week ending October 12, 2019 (week 41) were due to P&I. This percentage is below the epidemic threshold of 5.7% for week 41.

- [Canada](#) updated on 25 October 2019 (Public Health Agency report)

At national level, influenza activity remains at interseasonal levels across the country in week 42, with influenza A(H3N2) being the most common influenza virus circulating in Canada.

In weeks 42, a total of 86 laboratory detections of influenza were reported, of which 84% (72) were influenza A, with 11/12 subtyped influenza A detections being influenza A(H3N2). The percentage of tests positive for influenza remains at interseasonal levels, at 1.9% in week 42.

In week 42, 1.4% of visits to healthcare professionals were due to ILI, respectively.

In weeks 42, six influenza-associated hospitalisations were reported by participating provinces and territories. To date this season, 28 influenza-associated hospitalisations have been reported with the majority of cases being aged greater than 65 years of age and associated with influenza A(H3N2).

- [Global influenza update](#) updated on 28 October 2019 (WHO website)

In the temperate zone of the northern hemisphere, influenza activity remained at inter-seasonal levels in most countries; however continued to increase across the countries of the Arabian Peninsula. In the temperate zones of the southern hemisphere, influenza activity was low in most countries, with influenza B virus detections continuing to be reported by Chile.

Worldwide, seasonal influenza A viruses continued to account for the majority of detections, although the proportion of influenza B viruses increased in recent weeks.

In Western Asia, influenza activity continued to increase across the countries of the Arabian Peninsula, with influenza A(H3N2) viruses predominating in Qatar and all seasonal influenza subtypes co-circulating in Kuwait and Oman.

In the Caribbean countries and tropical countries of South America, influenza activity remained low overall. In Central American countries, influenza activity continued to increase in El Salvador and Nicaragua, with influenza A(H1N1)pdm09 and A(H3N2) predominately detected, respectively.

In Western Africa, influenza activity remained elevated. Increased influenza virus detections were reported in Côte d'Ivoire (influenza A(H3N2) and B/Victoria lineage), Guinea (influenza B/Victoria lineage), Mauritania (all seasonal influenza subtypes), Niger (influenza A(H3N2)) and Togo (influenza A(H3N2) and B).

In Middle Africa, influenza detections of predominantly influenza B/Victoria lineage and influenza A(H1N1)pdm09 were reported in Cameroon and South Sudan, respectively.

In Eastern Africa, influenza detections were low across reporting countries. Increases in influenza A(H1N1)pdm09 virus detections were reported in Kenya and La Réunion.

In Southern Asia, influenza detections were low across reporting countries. In South East Asia, influenza activity was reported in some countries with influenza B/Victoria-lineage and influenza A(H3N2) predominating.

In Oceania, influenza activity was low. In Australia ILI and weekly notifications of laboratory confirmed influenza are further decreasing but not yet at inter-seasonal levels.

In South Africa, influenza and ILI activity remained below seasonal threshold.

In temperate South America, influenza activity was low in most countries. In Chile, influenza activity of predominately B viruses continued to be reported, though decreased.

The WHO GISRS laboratories tested more than 102,881 specimens between 30 September 2019 and 13 October 2019. 5,005 were positive for influenza viruses, of which 3,030 (60.5%) were typed as influenza A and 1,975 (39.5%) as influenza B. Of the sub-typed influenza A viruses, 595 (35.6%) were influenza A (H1N1)pdm09 and 1,076 (64.4%) were influenza A (H3N2). Of the characterized B viruses, 71 (14.1%) belonged to the B-Yamagata lineage and 433 (85.9%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 27 September 2019 (WHO website)

Influenza A(H5) viruses

Between [25 June 2019 to 27 September 2019](#), one new laboratory-confirmed human case of influenza A(H5N6) virus infection was reported to WHO.

A total of 24 laboratory-confirmed cases of human infection with influenza A(H5N6) virus have been reported to WHO from China since 2014.

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

Influenza A(H7N9)

Between [25 June 2019 and 27 September 2019](#), no new laboratory-confirmed human case of influenza A(H7N9) virus infection were reported to WHO from China. Publicly available reports from animal health authorities in China of influenza A(H7N9) virus detections in animals in recent months indicate virus detections in two provinces from samples taken in the first half of the year. Overall, the risk assessment has not changed.

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 30 October 2019

Up to 30 October 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 1,681 suspected cases in the UK since September 2012 that have been investigated for MERS-CoV and tested negative.

Between [1 and 30 September 2019](#), the National IHR Focal Point of Saudi Arabia reported 4 additional laboratory-confirmed cases of MERS-CoV infection with one associated death.

Globally, since September 2012 and up to 30 September 2019, [WHO](#) has been notified of 2,468 laboratory-confirmed cases of infection with MERS-CoV, including 851 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](#))