



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

24 January 2019 – 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.

| [Summary](#) | [Community surveillance](#) | [GP consultation rates](#) | [Hospitalisations](#) | [All-cause mortality](#) | [Microbiological surveillance](#) | [Vaccination](#) | [International](#) | [Acknowledgements](#) | [Related links](#) |

Summary – Week 03 (ending 20 January 2019)

- During week 03, influenza continued to circulate in the community with activity indicators at **Low** intensity and early signs of peaking.
- The impact of flu on healthcare services is at **Medium** impact for hospitalisations and **High** impact for ICU/HDU influenza admissions.
- Influenza A(H1N1)pdm09 is the dominant circulating subtype. The Department of Health & Social Care has issued an [alert](#) on the prescription of antiviral medicines by GPs

Community

- One-hundred and one new acute respiratory outbreaks have been reported in the past 7 days. Sixty-seven outbreaks were reported from care homes where 15 tested positive for influenza A(not subtyped), 1 influenza A(H1N1)pdm09, 1 influenza A(H3), 1 human metapneumovirus (hMPV) and 2 RSV. Fourteen outbreaks were reported from hospitals where 7 tested positive for influenza A(not subtyped), 1 influenza A(H3) and 1 RSV. Fourteen outbreaks were reported from schools where 1 was positive for influenza A(H1N1)pdm09. The remaining 6 outbreaks were reported from the Other settings category where 2 tested positive for influenza A(not subtyped).

Primary Care

- The rate of influenza-like illness (ILI) was at **Low intensity** levels. The overall weekly ILI GP consultation rate was 19.6 per 100,000 registered population in participating GP practices for England, this is similar to 19.2 per 100,000 in week 02 2019.
- In the devolved administrations, ILI rates were **Below Baseline** threshold levels for Scotland and Northern Ireland and were at **Medium intensity** levels for Wales.

GP ILI
Consultations
England



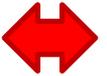
Secondary Care

- Hospitalisation rate observed was at **Medium impact** levels, with a rate of 5.04 per 100,000 trust catchment population for England (21 NHS Trusts), this is a slight increase from 4.80 per 100,000 in week 02
- ICU/HDU admission rate observed was at **High impact** levels, with a rate of 0.54 per 100,000 trust catchment population for England (138/143 NHS Trusts), this is similar to 0.55 per 100,000 in week 02.
- There were 8 new influenza admissions (6 influenza A(H1N1)pdm09 and 2 influenza A(unknown subtype)) reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



All-cause mortality

- In week 03 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 Northern Ireland and Wales in week 03 and in Scotland in week 01 2019.

Microbiological surveillance

- **Primary care:** 54 sample tested positive for influenza (44 influenza A(H1N1)pdm09, 4 influenza A(H3) and 6 influenza A(not subtyped)) with a positivity of 57.4% through the UK GP sentinel swabbing schemes.
- **Secondary care:** Influenza percent positivity was 20.7%, **Above Baseline** threshold level, this is a slight decrease from 22.1% in week 02. There were 676 detections recorded through the DataMart scheme (326 influenza A(H1N1)pdm09, 99 influenza A(H3), 250 influenza A(not subtyped) and 1 influenza B).

Secondary
Care



Vaccination

- **Weekly uptake:** Up to week 03 2019, in 97.2% of GP practices the provisional proportion of people in England who had received the 2018/19 influenza vaccine in targeted groups was: 46.2% in under 65 years in a clinical risk group, 44.5% in pregnant women and 70.8% in 65+ year olds. In 97.3% of GP practices reporting for the childhood collection the provisional proportion vaccinated was: 42.7% in 2 year olds and 44.6% in 3 year olds.
- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 65.8% were vaccinated by 31 December 2018, compared to 63.9% vaccinated in the previous season by 31 December 2017.
- Provisional data from the third monthly collection of influenza vaccine uptake for children of school years reception to year 5 shows 62.6% in school year reception age, 62.2% in school year 1 age, 60.3% in school year 2 age, 59.1% in school year 3 age, 56.9% in school year 4 age and 55.1% in school year 5 age were vaccinated by 31 December 2018.

International situation

- In the temperate zone of the Northern hemisphere, influenza activity continued to increase slowly. In the temperate zones of the Southern hemisphere, influenza activity returned to inter-seasonal levels with exception of some parts in Australia. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

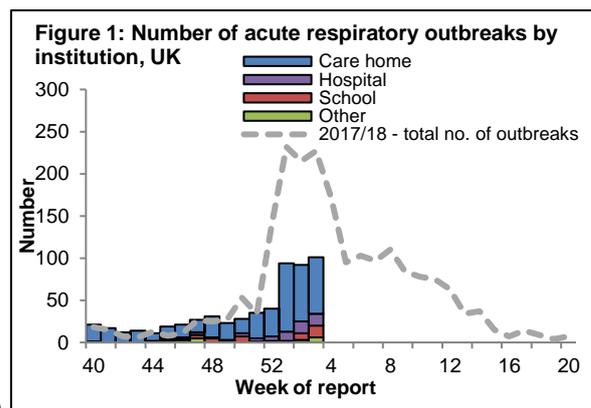
Key	Arrows (vs previous week):	Colour (intensity according to MEM threshold):
	Increase	Below Baseline
	Decrease	Above Baseline/Low
	Stable/No trend	High
		Very High
		Medium

One-hundred and one new acute respiratory outbreaks were reported in the past 7 days.

- Acute respiratory disease outbreaks

- One-hundred and one new acute respiratory outbreaks have been reported in the past 7 days. Sixty-seven outbreaks were reported from care homes where 15 tested positive for influenza A(not subtyped), 1 influenza A(H1N1)pdm09, 1 influenza A(H3), 1 human metapneumovirus (hMPV) and 2 RSV. Fourteen outbreaks were reported from hospitals where 7 tested positive for influenza A(not subtyped), 1 influenza A(H3) and 1 RSV. Fourteen outbreaks were reported from schools where 1 was positive for influenza A(H1N1)pdm09. The remaining 6 outbreaks were reported from the Other settings category where 2 tested positive for influenza A(not subtyped).

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



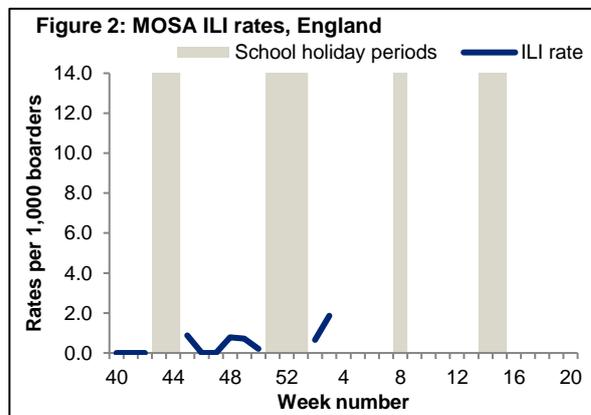
- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- 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 2018/19 season, 21 MOSA schools have agreed to participate in the scheme, including a total of 6,530 boarders.

- The overall rate (all boarders) for week 03 was 1.9 per 1,000 boarders compared to 0.7 per 1,000 boarders in week 02.

-Since week 40, there have been 8 outbreaks reported with 23 ILI cases identified. Of the 8 outbreaks, 1 outbreak has tested positive for influenza B.

- If you are a MOSA school and would like to participate in this scheme, please email mosa@phe.gov.uk for more information.

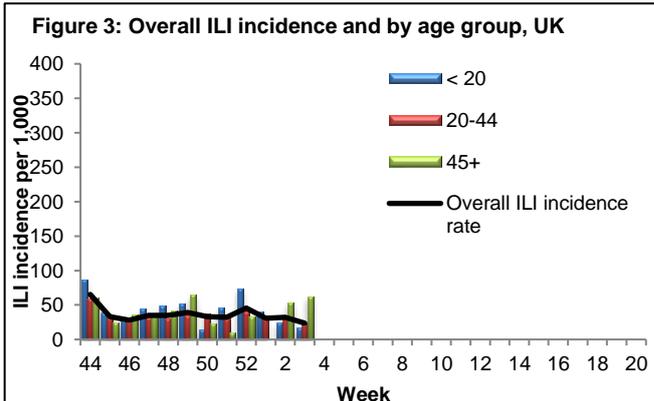


- FluSurvey

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

- The overall ILI rate (all age groups) for week 03 2019 was 23.6 per 1,000 (57/2,413 people reported at least 1 ILI) (Figure 3) compared to 32.0 per 1,000 in the previous week, with the highest rate seen in the 45+ year olds (62.5 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.



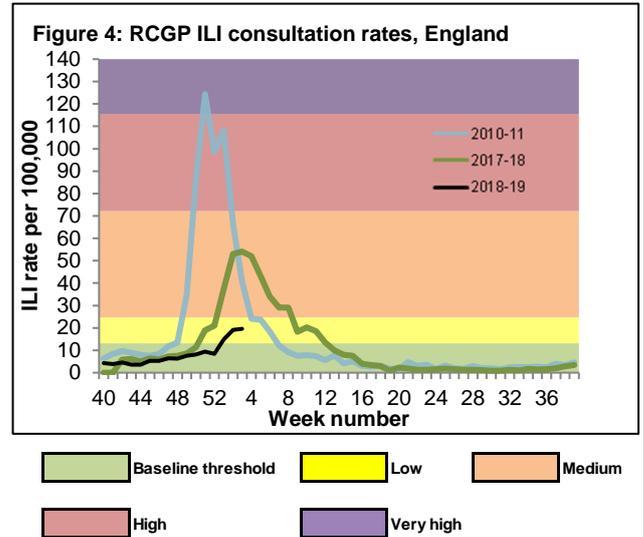
In week 03, the overall weekly influenza-like illness (ILI) GP consultation rate was similar to the previous week and is at low intensity activity levels in England. In the devolved administrations, ILI rates increased with Wales at medium intensity levels.

- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was at 19.6 per 100,000 registered population in participating GP practices in week 03 2019, this is similar to 19.2 per 100,000 in week 02. This is above the baseline threshold (13.1 per 100,000) (Figure 4*). By age group, the highest rates were seen in 45-64 year olds (26.2 per 100,000) and 15-44 year olds (20.3 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 03, overall weekly ILI consultation rates across most countries of the UK have increased and were above their respective baseline thresholds for England at low activity levels and Wales at medium activity level. In Northern Ireland ILI rates decreased back below baseline threshold levels (Table 1).

- By age group, the highest rates were seen in the 45-64 year olds in Scotland, Northern Ireland and Wales (31.9 per 100,000, 20.0 per 100,000 and 29.8 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)	4.2	3.9	4.5	3.6	3.6	5.3	5.2	6.4	6.2	7.6	8.1	9.4	8.4	14.8	19.2	19.6	
Wales	7.0	3.6	4.2	6.6	6.3	6.4	4.5	4.7	6.5	3.2	4.5	9.0	9.5	14.7	20.4	22.9	
Scotland	7.3	5.1	3.1	3.8	2.9	7.3	4.0	4.8	5.5	4.0	6.6	10.4	7.0	16.6	25.6	19.5	
Northern Ireland	3.8	3.5	3.8	3.6	3.8	5.0	6.3	4.5	5.6	6.0	8.4	8.9	9.0	13.5	18.9	14.4	

*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 at 13.6 per 100,000 in week 03 2019 (Figure 5).

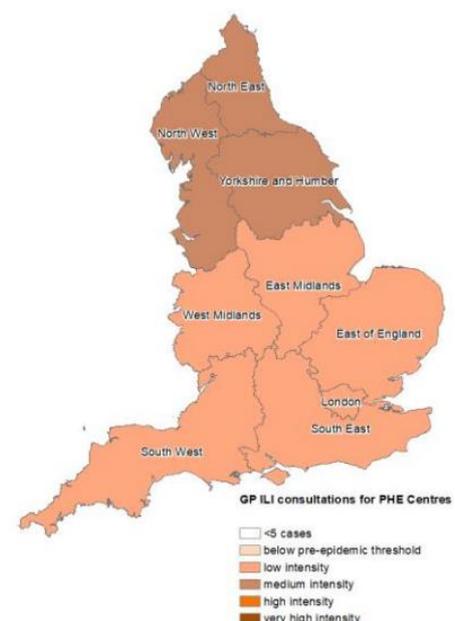
- During week 03, GP consultations for a number of acute respiratory infection indicators decreased including influenza-like illness (ILI) and asthma (GPIH). ILI remained stable for GPOOH consultations and ED attendances, in line with seasonally expected levels.

- Figure 5 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 consultation rates presented for each utLA on the map should be interpreted in context of regional and national ILI activity; as MEM thresholds are calculated (based on previous influenza seasons from 2012/13 onwards) separately for each of the nine PHE centres and utLA rates are then compared to Centre-level thresholds only, therefore utLAs with higher background rates than the Centre may appear to have higher ILI activity.

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

Figure 5: Map of GP ILI consultation rates in week 03

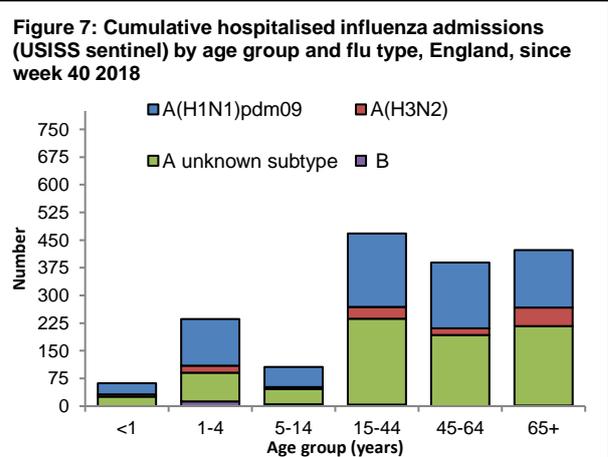
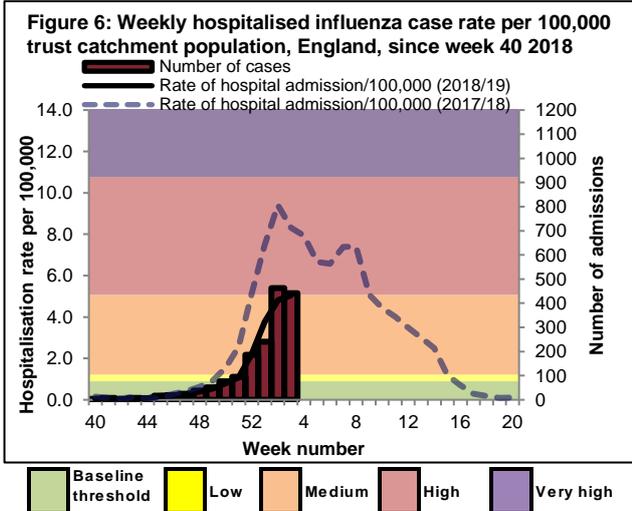


In week 03 2019, there were 441 hospitalised confirmed influenza cases (185 influenza A(H1N1)pdm09, 25 influenza A(H3N2), 230 influenza A(unknown subtype) and 1 influenza B) reported through the USISS sentinel hospital network across England (21 NHS Trusts). There were 272 new admissions to ICU/HDU with confirmed influenza (79 influenza A(H1N1)pdm09, 14 influenza A(H3N2), 177 influenza A(unknown subtype) and 2 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (138/143 NHS Trusts in England).

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

- In week 03 2019, there were 441 hospitalised laboratory confirmed influenza cases (185 influenza A(H1N1)pdm09, 25 influenza A(H3N2), 230 influenza A(unknown subtype) and 1 influenza B) reported from 21 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 5.04 per 100,000 trust catchment population compared to 4.80 per 100,000 in the previous week (Figures 6 and 7). This is above the baseline impact threshold of 0.89 per 100,000 within the medium impact range.

- A total of 1,684 hospitalised confirmed influenza admissions (743 influenza A(H1N1)pdm09, 130 influenza A(H3N2), 787 influenza A(unknown subtype) and 24 influenza B) and have been reported in the UK since week 40 2018 via the sentinel scheme.

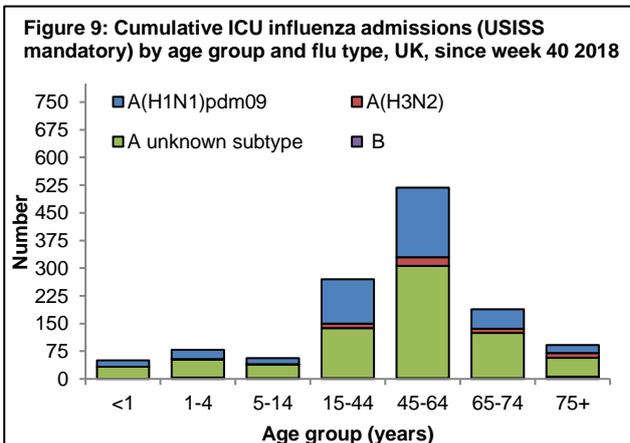
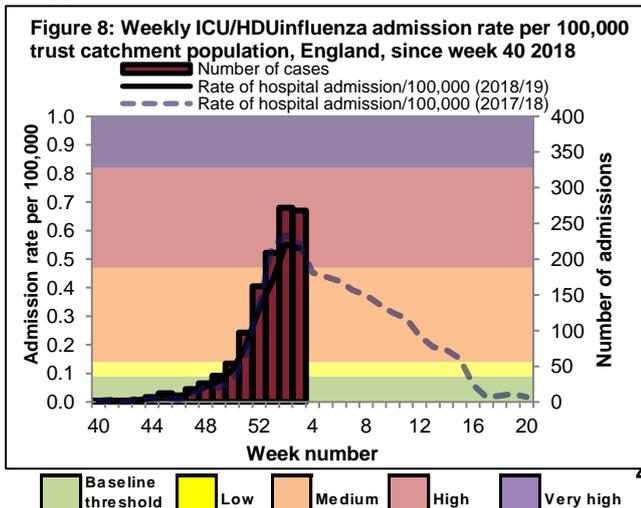


*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 6 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#disease-severity-and-mortality-data>

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

- In week 03 2019, there were 272 new admissions to ICU/HDU with confirmed influenza (79 influenza A(H1N1)pdm09, 14 influenza A(H3N2), 177 influenza A(unknown subtype) and 2 influenza B) reported across the UK (138/143 Trusts in England) through the USISS mandatory ICU scheme. The rate for England (n=268) was 0.54 per 100,000 trust catchment population compared to 0.55 per 100,000 in the previous week (Figures 8 and 9), above the baseline threshold of 0.09 per 100,000 within the high impact range. Thirty-one influenza laboratory-confirmed deaths were reported to have occurred in ICU in week 03 in the UK.

- A total of 1,254 new ICU/HDU admissions (441 influenza A(H1N1)pdm09, 62 influenza A(H3N2), 733 influenza A(unknown subtype) and 18 influenza B) and 102 confirmed deaths have been reported in the UK since week 40 2018.



*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 6 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 8 new admissions for laboratory confirmed influenza (6 influenza A(H1N1)pdm09 and 2 influenza A(unknown subtype)) among the 6 Severe Respiratory Failure (SRF) centres in the UK.

- Since week 40 there has been 36 confirmed influenza admissions (32 influenza A(H1N1)pdm09, 1 influenza A(H3N2) and 3 influenza A(unknown subtype)) to ECMO centres

All-cause mortality data

[| Back to top |](#)

In week 03 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 03 2019 and in Scotland in week 01 2019.

- All-cause death registrations, England and Wales

- In week 02 2019, an estimated 12,609 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is an increase compared to the 10,955 estimated death registrations in week 012019.

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

- In week 03 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 was observed in Wales, and Northern Ireland in week 03 2019 and in Scotland in week 01 2019 (Table 2).

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

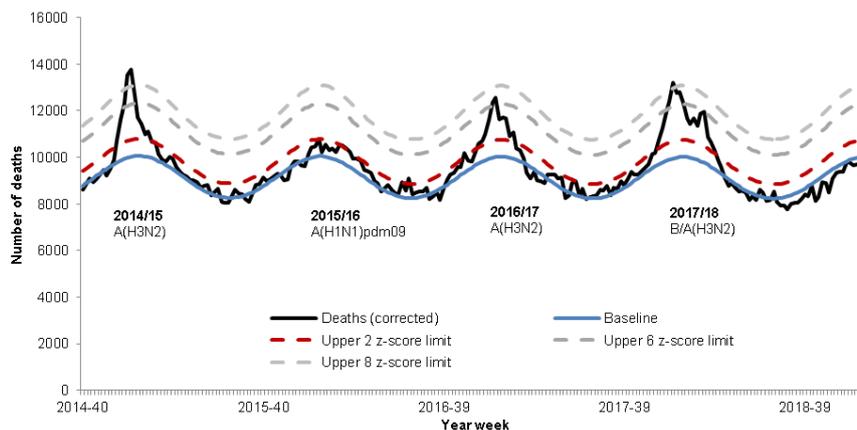
Country	Excess detected in week 03 2019?	Weeks with excess in 2018/19
England	x	NA
Wales	x	NA
Northern Ireland	x	NA

Country	Excess detected in week 01 2019?	Weeks with excess in 2018/19
Scotland	x	52

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

* NA refers to data not available for this week

Figure 10: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating influenza A subtype, England, 2014 to week 03 2019



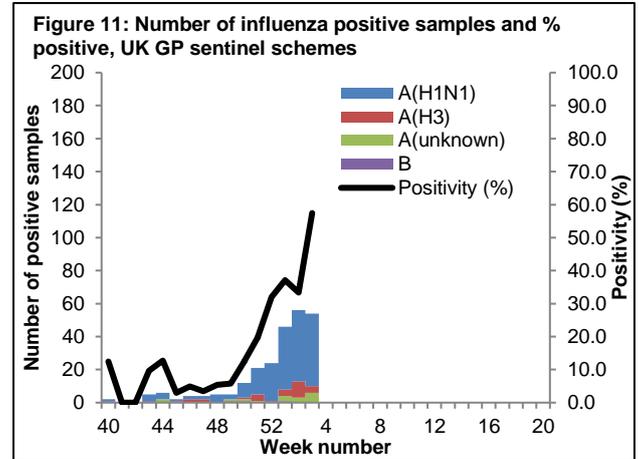
*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 03 2019, 54 samples tested positive for influenza (44 influenza A(H1N1)pdm09, 4 influenza A(H3) and 6 influenza A(not subtyped)) with a positivity of 57.4% through the UK GP sentinel schemes. 676 positive detections were recorded through the DataMart scheme (326 influenza A(H1N1)pdm09, 99 influenza A(H3), 250 influenza A(not subtyped) and 1 influenza B) with a positivity of 20.7%, this is above the baseline threshold of 9.2%.

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

- In week 03 2019, 54 samples tested positive for influenza (44 influenza A(H1N1)pdm09, 4 influenza A(H3) and 6 influenza A(not subtyped)) with an overall positivity of 57.4% compared to 33.3% in week 02 2019 through the UK GP sentinel swabbing schemes (Figure 11).

Since week 40, a total of 246 samples (195 influenza A(H1N1)pdm09, 29 influenza A(H3), 17 influenza A(unknown subtype) and 5 influenza B) tested positive for influenza through this scheme.

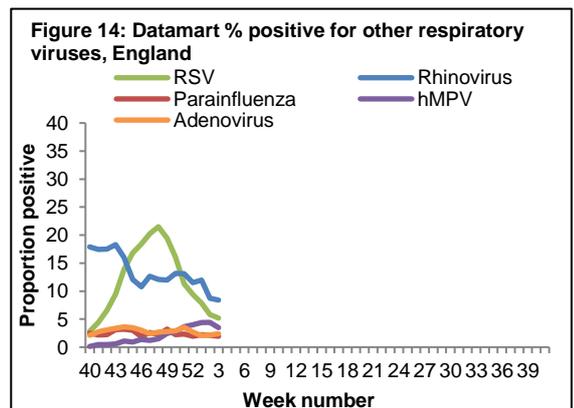
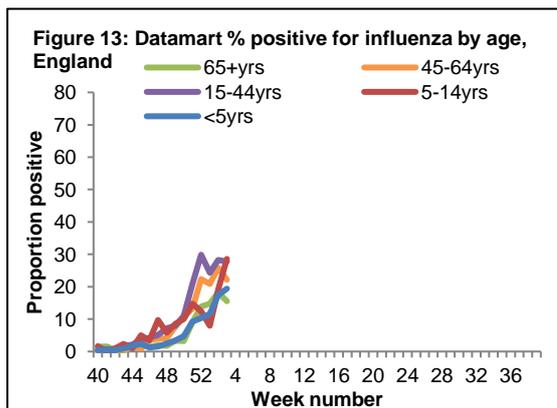
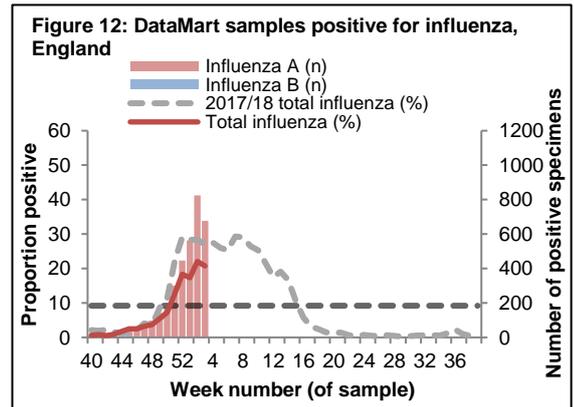


NB. Positivity (%) omitted when fewer than 10 specimens were tested

- Respiratory DataMart System (England)

- In week 03 2019, out of the 3,260 respiratory specimens reported through the Respiratory DataMart System, 676 samples (20.7%) were positive for influenza (326 influenza A(H1N1)pdm09, 99 influenza A(H3), 250 influenza A(not subtyped) and 1 influenza B) (Figure 12), which is above the MEM baseline threshold for this season of 9.2%. The highest positivity for influenza by age group was seen in the 15-44 year olds at 28.6% in week 03 (Figure 13). The overall positivity for RSV continued to decrease from 5.8% in week 02 to 5.2% week 03 2019 (Figure 14). Although the main affected population is in children <5 years the positivity continued to decrease in this group from 14.6% in week 02 to 11.3% in week 03 2019.

Rhinovirus positivity decreased from 8.7% in week 02 to 8.4% in week 03 2019. Human metapneumovirus (hMPV) positivity decreased slightly from 4.4% in week 02 to 3.5% in week 03 2019. Adenovirus and parainfluenza positivities remained low at 2.4% and 2.0% respectively (Figure 14).



*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 235 influenza A(H1N1)pdm09 viruses detected since week 40. Genetic characterisation of 207 influenza A(H1N1)pdm09 viruses detected since week 40 shows that they all belong in the genetic subgroup 6B.1, which was the predominant genetic subgroup in the 2017/18 season. One-hundred and sixteen A(H1N1)pdm09 viruses have been antigenically characterised and are similar to the A/Michigan/45/2015-like Northern Hemisphere 2018/19 (H1N1)pdm09 vaccine strain.

Genetic characterisation of 26 A(H3N2) viruses shows that they belong to genetic subclade 3C.2a1. The Northern Hemisphere 2018/19 influenza A(H3N2) vaccine strain belongs in genetic subclade 3C.2a1.

Of three influenza B viruses characterised to date, two influenza B viruses have been characterised where sequencing of the haemagglutinin (HA) gene shows they belong within genetic clade 1A of the B/Victoria lineage. One of them clusters in a subgroup characterised by deletion of two amino acids in the HA. The N.Hemisphere 2018/19 B/Victoria-lineage quadrivalent and trivalent vaccine component virus (a B/Colorado/06/2017-like virus), is a double deletion subgroup virus. The other influenza B virus has been characterised genetically as belonging to genetic clade 3 of the B/Yamagata lineage and antigenically as similar to the B/Phuket/3073/2013 B/Yamagata lineage vaccine component in the N.Hemisphere 2018/19 quadrivalent vaccine.

Table 3: Viruses characterised by PHE Reference Laboratory, 2018/19

Virus	No. viruses characterised			
	Genetic and antigenic	Genetic only	Antigenic only	Total
A(H1N1)pdm09	88	119	28	235
A(H3N2)	0	26	0	26
B/Yamagata-lineage	1	0	0	1
B/Victoria-lineage	0	2	0	2

- 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.

During the current 2018/19 season since week 40 2018, 88 influenza A(H1N1)pdm09 viruses have been tested for oseltamivir susceptibility, 83 were fully susceptible and 5 were resistant. The 5 resistant cases had H275Y mutations. 57 out of the 88 influenza A(H1N1)pdm09 virus have also been tested for zanamivir susceptibility and all were susceptible. 17 influenza A(H3N2) viruses have been tested for oseltamivir susceptibility and all were susceptible. 16 out of the 17 influenza A(H3N2) viruses have also been tested for zanamivir susceptibility and all were susceptible. One influenza B virus has been tested for susceptibility for both oseltamivir and zanamivir and it was susceptible to both agents.

- Antimicrobial susceptibility

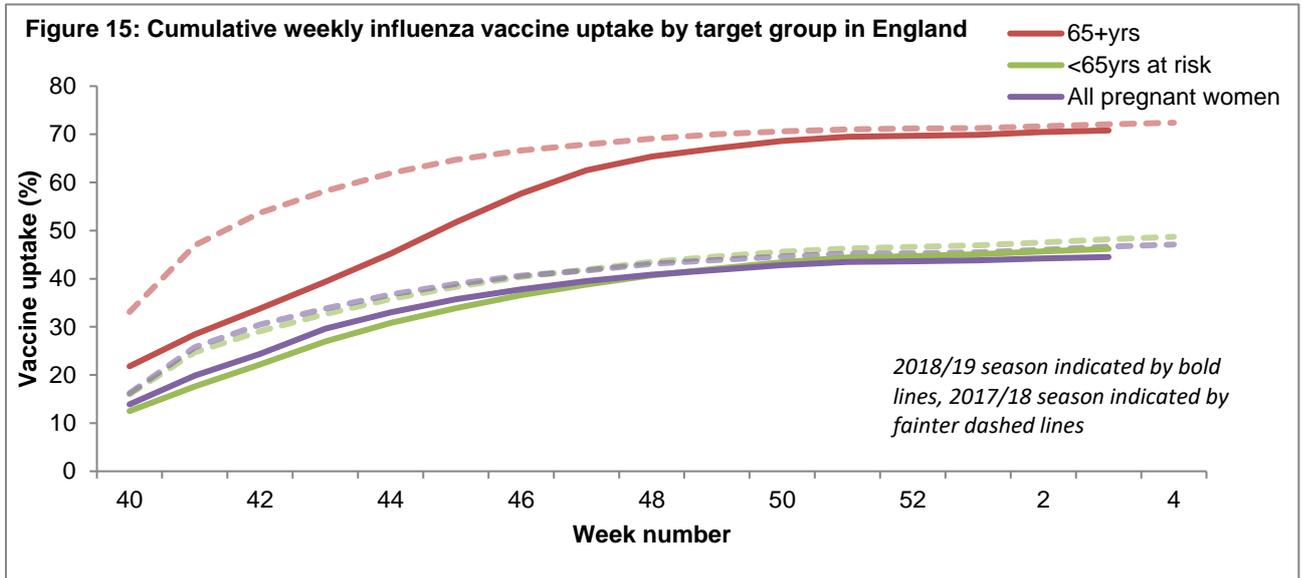
-Table 4 shows in the 12 weeks up to 20 January 2019, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 20 January 2019, E&W

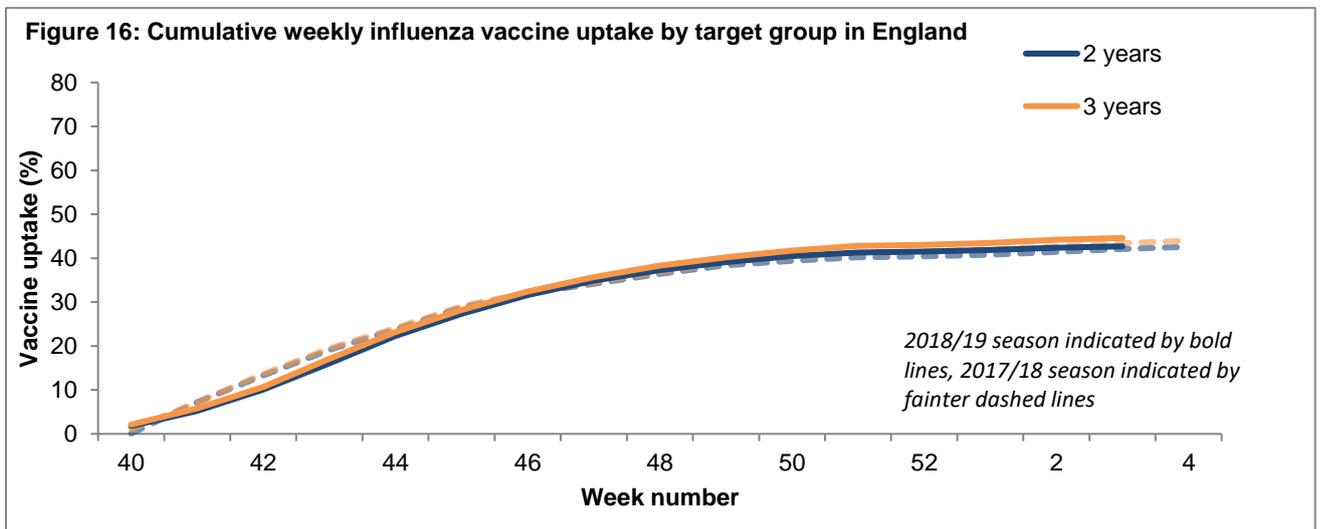
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3810	88
	Macrolides	4186	84
	Tetracycline	4137	86
<i>H. influenzae</i>	Amoxicillin/ampicillin	14336	69
	Co-amoxiclav	15453	84
	Macrolides	3524	3
	Tetracycline	15491	98
<i>S. aureus</i>	Methicillin	6595	91
	Macrolides	7346	66
MRSA	Clindamycin	403	46
	Tetracycline	557	79
MSSA	Clindamycin	4190	76
	Tetracycline	5557	93

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 03 2019, in 97.2 % of GP practices reporting weekly to ImmForm, the provisional proportion of people in England who had received the 2018/19 influenza vaccine in targeted groups was as follows (Figure 15):
 - 46.2% in under 65 years in a clinical risk group
 - 44.5% in pregnant women
 - 70.8% in 65+ year olds



- In 2018/19, all 2 and 3 year-olds continue to be eligible for flu vaccination, through their GPs. Up to week 03 2019, in 97.3% of GP practices reporting weekly to ImmForm, the provisional proportion of children in England who had received the 2018/19 influenza vaccine in targeted groups was as follows (Figure 16):
 - 42.7% in 2 year olds
 - 44.6% in 3 year olds



- Provisional data from the third monthly collection of the influenza vaccine uptake by frontline healthcare workers show 65.8% were vaccinated by 31 December 2018 from 97.9% of all organisations, compared to 63.9% vaccinated in the previous season by 31 December 2017. 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 and 5 age (from a sample of 94.8% of all Local Authorities in England) show the provisional proportion of children in England who received the 2018/19 influenza vaccine via school, pharmacy or GP practice by 31 December 2018 in targeted groups as follows:
 - 62.6% in children school year reception age (4-5 yrs) compared to 61.8% by 31 December 2017
 - 62.2% in children school year 1 age (5-6 yrs) compared to 60.0% by 31 December 2017
 - 60.3% in children school year 2 age (6-7 yrs) compared to 59.5% by 31 December 2017
 - 59.1% in children school year 3 age (7-8 yrs) compared to 56.7% by 31 December 2017
 - 56.9% in children school year 4 age (8-9 yrs) compared to 54.8% by 31 December 2017
 - 55.1% in children school year 5 age (9-10 yrs); age group not include in 2017/18 school vaccine programme.

International Situation

[| Back to top |](#)

In the temperate zone of the Northern hemisphere, influenza activity continued to increase slowly. In the temperate zones of the Southern hemisphere, influenza activity returned to inter-seasonal levels with exception of some parts in Australia. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

- [Europe](#) updated on 18 January 2019 (Joint ECDC-WHO Europe Influenza weekly update)

In week 02 2019, influenza activity continued to increase in the European Region. Influenza A virus detections dominated with A(H1N1)pdm09 viruses being slightly more prevalent than A(H3N2).

Of all the Member States and areas with influenza-like illness thresholds defined, countries in Eastern (Republic of Moldova), Northern (Estonia, Ireland, Latvia, Lithuania, Norway and United Kingdom (England and Northern Ireland)), Southern (Greece, Israel, Italy and Montenegro) and Western (Hungary, Luxembourg, Netherlands, Portugal, Spain and Switzerland) areas of the European region reported activity above baseline levels.

Of 46 Member States and areas reporting on influenza activity, 7 reported baseline, 29 reported low (across the region), 8 reported medium (across the region) and 2 reported high intensity for week 02.

Of the 46 Member States reporting on geographic spread, 3 reported no activity, 10 reported sporadic cases, 5 reported local spread, 11 reported regional spread (in Eastern, Southern and Western areas) and 17 reported widespread activity (across the region).

For week 02, 1,177 (42.2%) of the 2,788 sentinel specimens tested positive for influenza viruses, 1,163 (98.8%) were influenza A and 14 (1.2%) were influenza B. Of the 737 type A viruses subtyped, 398 (54.0%) were influenza A(H1N1)pdm09 and 339 (46.0%) were influenza A(H3N2). Of the 5 type B viruses ascribed to a lineage all were B-Yamagata.

For week 02, 321 laboratory-confirmed influenza cases were reported in ICUs, 319 (99.4%) were infected with influenza type A viruses and 2 (0.6%) were infected with influenza type B viruses. Among the 172 laboratory confirmed influenza cases in other wards reported all were infected with influenza type A viruses.

For week 02, 6,981 specimens from non-sentinel sources (such as hospitals, schools, primary care facilities not involved in sentinel surveillance, or nursing homes and other institutions) tested positive for influenza viruses. Of the 6,981, 6,901 (98.9%) were type A and 80 (1.1%) were type B viruses. Of the 1,997 influenza A viruses that were subtyped, 1,379 (69.1%) were A(H1N1)pdm09 and 618 (30.9%) were A(H3N2). Of the 2 B viruses ascribed to a lineage, 1 was B-Victoria and 1 was B-Yamagata lineage

For week 02, data from the 23 Member States or areas reporting to the EuroMOMO project indicated all-cause mortality to be at expected levels for this time of year, but with a few countries starting to observe some excess mortality in elderly populations.

- [United States of America](#) updated on 18 January 2019 (Centre for Disease Control report)

During week 02, influenza activity in the United States (US) remains elevated. Influenza A and B viruses continue to co-circulate. Influenza A viruses have predominated since the start of the season with influenza A(H1N1)pdm09 predominating in most areas, however influenza A(H3) predominated in South-Eastern US.

A cumulative rate of 12.4 laboratory-confirmed influenza-associated hospitalisations per 100,000 population was reported, with the highest rate among those aged 65+ years old.

Nationwide during week 02, the proportion of outpatient visits for influenza-like illness (ILI) decreased from 3.5% to 3.0%, but remains above the national baseline of 2.2%.

For week 01, the proportion of deaths attributed to pneumonia and influenza (P&I) was 6.9%, below the epidemic threshold (7.0% for week 01) in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

Three influenza-associated pediatric deaths (2 influenza A(H1N1)pdm09 and 1 influenza A(not subtyped)) were reported to the CDC during week 02.

- [Canada](#) updated on 18 January 2019 (Public Health Agency report)

Overall, Central and Eastern regions are reporting higher levels than the rest of the country. Laboratory detections continued to decline sharply from the previous week confirming that influenza season reached peak levels in the last week of December (week 52). Influenza A is the most common influenza virus circulating and the majority of these viruses are influenza A(H1N1)pdm09.

In week 02, a total of 2,486 laboratory confirmed detections of influenza were reported, of which 98% were influenza A. The percentage of tests positive for influenza from sentinel laboratories decreased to 20.5% in week 02, which is above the seasonal threshold of 5.0%.

In week 02, 2.5% of visits to healthcare professionals were due to ILI, the percentage of visits for ILI is within expected levels.

To date this season, 1,518 influenza-associated hospitalisations have been reported by participating provinces and territories, of which 1,512 (99.6%) were associated with influenza A. To date this season, 227 ICU admissions and 47 deaths have been reported.

- [Global influenza update](#) updated on 21 January 2019 (WHO website)

In the temperate zone of the Northern hemisphere, influenza activity continued to increase slowly. In the temperate zones of the Southern hemisphere, influenza activity returned to inter-seasonal levels with exception of some parts in Australia. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections.

In North America, influenza activity remained elevated, with influenza A(H1N1)pdm09 virus predominating. In Canada, although influenza percent positivity appeared to decrease, activity remained elevated; paediatric hospitalisations remained elevated but within the average number of hospitalisations seen in 2010-2011 season. In the United States, influenza activity increased, with mainly influenza A(H1N1)pdm09 virus detected followed by increased detections of influenza A(H3N2) viruses. In Mexico, influenza A(H1N1)pdm09 continued to be reported.

In Europe, influenza activity continued to increase across the continent but remained overall low with influenza A(H1N1)pdm09 and A(H3N2) viruses co-circulating. In Northern Europe, increased detections of predominantly influenza A were reported in Estonia, Sweden and UK. In South Eastern Europe, ILI levels and influenza activity increased slightly across the sub-region. In Eastern Europe, influenza activity increased in the Republic of Moldova and Ukraine, with influenza A(H1N1)pdm09 and A(H3N2) viruses predominating, respectively

In Central Asia, influenza activity of predominantly influenza A(H1N1)pdm09 virus decreased in Kyrgyzstan and appeared to have peaked in week 50 2018.

In Northern Africa, detections of influenza A(H3N2)viruses continued to be reported in Egypt.

In Western Asia, respiratory illness indicators continued to increase in Armenia, Georgia, Israel and Turkey. Influenza A viruses predominated with various proportions of A(H1N1)pdm09 and A(H3N2) in different countries. In the Arabian Peninsula, elevated influenza activity continued to be reported across countries, but lower than previously reported.

In East Asia, influenza season increased with predominantly influenza A (H1N1)pdm09. ILI activity sharply increased in China and Hong Kong SAR, and slightly decreased in Republic of Korea, with mainly influenza A(H1N1)pdm09 detected. In Japan and Mongolia, influenza and ILI activity continued to increase with influenza A(H1N1)pdm09 predominantly detected.

In the Caribbean and Central American countries, influenza activity and RSV remained low across reporting countries with exception of Costa Rica, where RSV activity continued to increase

In the tropical countries of South America, influenza and RSV activity were low in general.

In Western, Middle and Eastern Africa, Influenza virus detections were low across reporting countries. Influenza A(H3N2) viruses predominated followed by influenza B Victoria lineage virus.

In Southern Asia, influenza detections remained elevated. ILI levels increased in Afghanistan and influenza activity continued to be reported in India, with influenza A(H1N1)pdm09 virus most frequently detected. Increased detections were observed in Sri Lanka with all seasonal subtypes co-circulating. Iran (Islamic Republic of) saw a sharp increase in influenza A(H3N2) viruses.

In South-East Asia, Lao PDR continued to report influenza activity with ILI levels in line with previous years, influenza A(H1N1)pdm09 virus was most frequently detected. A few influenza detections were reported in Thailand with influenza A(both subtypes) and influenza B co-circulating. Singapore appeared to have peaked in week 50 2018, with predominantly influenza A(H3N2) reported

The WHO GISRS laboratories tested more than 191,778 specimens between 24 December 2018 and 06 January 2019. 39,161 were positive for influenza viruses, of which 38,493 (98.3%) were typed as influenza A and 668 (1.7%) as influenza B. Of the sub-typed influenza A viruses, 13,313 (79.4%) were influenza A (H1N1)pdm09 and 3,446 (20.6%) were influenza A (H3N2). Of the characterized B viruses, 45 (38.1%) belonged to the B-Yamagata lineage and 73 (61.9%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 13 December 2018 (WHO website)

Influenza A(H5) viruses

Between [2 November 2018 and 13 December 2018](#), no new laboratory-confirmed human cases of influenza A(H5) virus infections were reported to WHO.

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(H7N2)

Between [2 November 2018 and 13 December 2018](#), 1 additional laboratory-confirmed human case of infection with an avian influenza A(H7N2)virus, associated with an outbreak in cats in the USA. This is the second human case of infection with influenza A(H7N2) virus transmitted from cats to humans.

Influenza A(H7N9)

According to reports from mainland and the Hong Kong Special Administrative Region China and those received by the World Organisation for Animal Health (OIE), A(H7N9) avian influenza viruses continue to be detected in China but at lower levels compared to previous years. A nationwide domestic poultry vaccination campaign began in 2017.

Influenza A(H9N2)

Between [2 November 2018 and 13 December 2018](#), 2 new laboratory-confirmed cases of influenza A(H9N2) virus infections were reported to WHO from China. Avian influenza A(H9N2) viruses are enzootic in poultry in China

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 16 January 2019

Up to 09 January 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 1,414 suspected cases in the UK that have been investigated for MERS-CoV and tested negative.

Between [01 December 2018 and 31 December 2018](#), the National IHR Focal Point of The Kingdom of Saudi Arabia reported 5 additional cases of Middle East Respiratory Syndrome coronavirus(MERS-CoV).

Globally, since September 2012, WHO has been notified of 2,266 laboratory-confirmed cases of infection with MERS-CoV, including 804 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.

This report was prepared by the Influenza 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](#))
- 2018/19 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))