



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

17 January 2019 – Week 03 report (up to week 02 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 02 (ending 13 January 2019)

- During week 02, influenza is now circulating in the community with activity indicators at **Low intensity**.
- 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

- Ninety-two new acute respiratory outbreaks have been reported in the past 7 days. Sixty-seven outbreaks were reported from care homes where 16 tested positive for influenza A(not subtyped), 1 influenza A(H1N1)pdm09, 1 influenza B, 1 human metapneumovirus (hMPV), 1 parainfluenza and 3 RSV. Fourteen outbreaks were reported from hospitals where 6 tested positive for influenza A(not subtyped), 2 influenza A(H1N1)pdm09 and 3 influenza A(H3). Eight outbreaks were reported from schools where 1 was positive for influenza A(H1N1)pdm09 and 1 was positive for influenza A(not subtyped). The remaining 3 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 19.2 per 100,000 registered population in participating GP practices for England, this is an increase from 14.8 per 100,000 in week 01 2019.
- In the devolved administrations, ILI rates were **Below Baseline** threshold levels for Scotland and were at **Low intensity** levels for Northern Ireland and at **Medium intensity** levels for Wales.

GP ILI
Consultations
England



Secondary Care

- Hospitalisation rate observed was at **Medium impact** levels, with a rate of 4.75 per 100,000 trust catchment population for England (22 NHS Trusts), this is an increase from 3.54 per 100,000 in week 01
- ICU/HDU admission rate observed was at **High impact** levels, with a rate of 0.50 per 100,000 trust catchment population for England (128/143 NHS Trusts), this is an increase from 0.42 per 100,000 in week 01.
- There were 9 new influenza admissions (7 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 02 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 02; statistically significant excess all-cause mortality was observed in Scotland in week 52 2018.

Microbiological surveillance

- **Primary care:** 26 sample tested positive for influenza (15 influenza A(H1N1)pdm09, 7 influenza A(H3) and 4 influenza A(not subtyped)) with a positivity of 28.9% through the UK GP sentinel swabbing schemes.
- **Secondary care:** Influenza percent positivity was 20.4%, **Above Baseline** threshold level, an increase from 17.3% in week 01. There were 640 detections recorded through the DataMart scheme (268 influenza A(H1N1)pdm09, 109 influenza A(H3), 260 influenza A(not subtyped) and 3 influenza B).

Secondary
Care



Vaccination

- **Weekly uptake:** Up to week 02 2019, in 97.0% of GP practices the provisional proportion of people in England who had received the 2018/19 influenza vaccine in targeted groups was: 45.7% in under 65 years in a clinical risk group, 44.2% in pregnant women and 70.5% in 65+ year olds. In 97.1% of GP practices reporting for the childhood collection the provisional proportion vaccinated was: 42.4% in 2 year olds and 44.2% in 3 year olds.
- Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 61.0% were vaccinated by 30 November 2018, compared to 59.3% vaccinated in the previous season by 30 November 2017.
- Provisional data from the second monthly collection of influenza vaccine uptake for children of school years reception to year 5 shows 49.6% in school year reception age, 49.4% in school year 1 age, 47.7% in school year 2 age, 46.8% in school year 3 age, 45.2% in school year 4 age and 43.7% in school year 5 age were vaccinated by 30 November 2018.

International situation

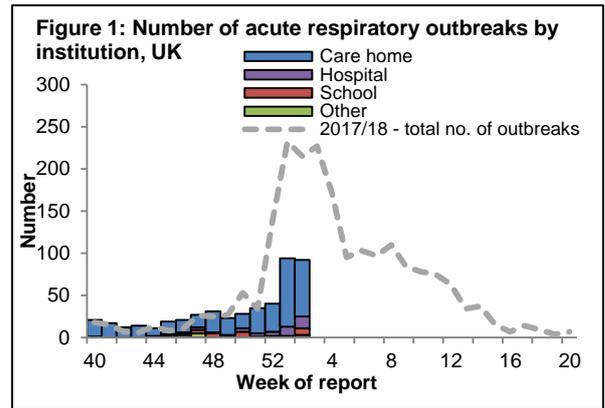
- In the temperate zone of the Northern hemisphere, influenza activity continued to increase slowly. In the temperate zones of the Southern hemisphere, influenza activity returned to inter-seasonal levels with exception of some parts in Australia. Worldwide, seasonal influenza subtype A viruses accounted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

Ninety-two new acute respiratory outbreaks were reported in the past 7 days.

- Acute respiratory disease outbreaks

- Ninety-two new acute respiratory outbreaks have been reported in the past 7 days. Sixty-seven outbreaks were reported from care homes where 16 tested positive for influenza A(not subtyped), 1 influenza A(H1N1)pdm09, 1 influenza B, 1 human metapneumovirus (hMPV), 1 parainfluenza and 3 RSV. Fourteen outbreaks were reported from hospitals where 6 tested positive for influenza A(not subtyped), 2 influenza A(H1N1)pdm09 and 3 influenza A(H3). Eight outbreaks were reported from schools where 1 was positive for influenza A(H1N1)pdm09 and 1 was positive for influenza A(not subtyped). The remaining 3 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 respscidsc@phe.gov.uk

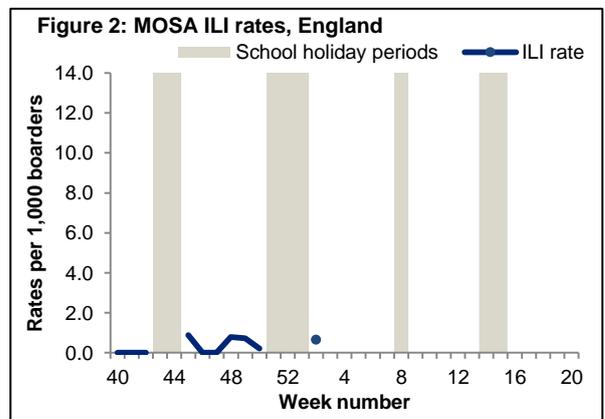
- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- 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 02 was 0.7 per 1,000 boarders compared to 0.2 per 1,000 boarders in week 50.

-Since week 40, there have been 6 outbreaks reported with 17 ILI cases identified. Of the 6 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.

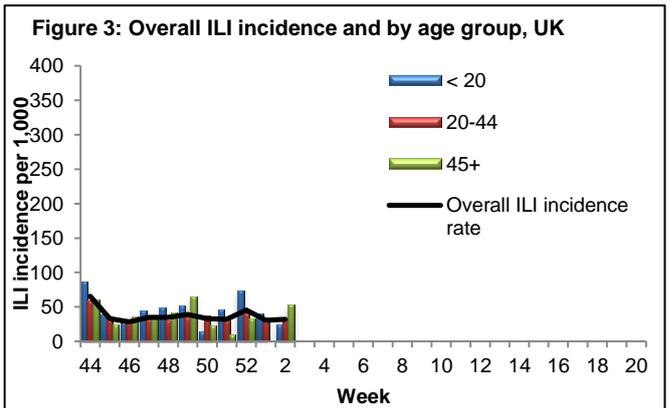


- FluSurvey

- 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 02 2019 was 32.0 per 1,000 (81/2,528 people reported at least 1 ILI) (Figure 3) compared to 30.6 per 1,000 in the previous week, with the highest rate seen in the 45+ year olds (53.8 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 02, the overall weekly influenza-like illness (ILI) GP consultation rate continued to increase and is at low intensity activity levels in England. In the devolved administrations, ILI rates increased with Wales and Northern Ireland above baseline threshold.

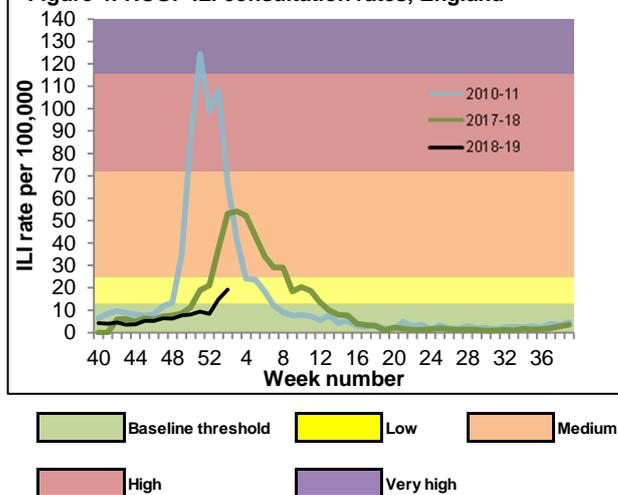
- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance was at 19.2 per 100,000 registered population in participating GP practices in week 02 2019, this is an increase from 14.8 per 100,000 in week 01. 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 (28.9 per 100,000) and 15-44 year olds (19.9 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 4: RCGP ILI consultation rates, England



UK

- In week 02, overall weekly ILI consultation rates across the countries of the UK have increased and were above their respective baseline thresholds for England and Northern Ireland at low activity levels and Wales at medium activity level (Table 1).

- By age group, the highest rates were seen in the 45-64 year olds in Scotland, Northern Ireland and Wales (38.3 per 100,000, 25.2 per 100,000 and 31.7 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		
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		
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		
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		

*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 15.2 per 100,000 in week 02 2019 (Figure 5).

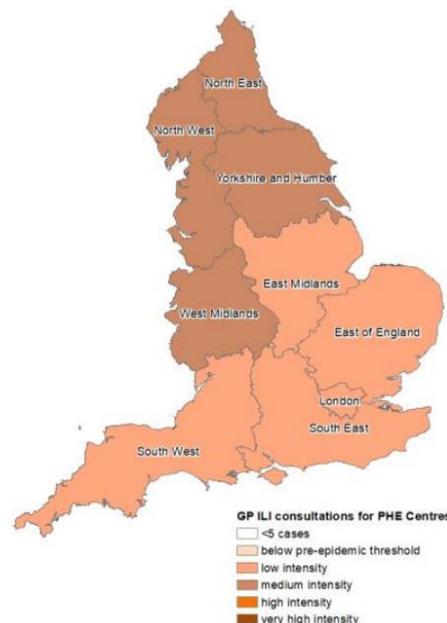
- During week 02, there was a slight decrease in respiratory conditions including influenza-like illness (ILI) in ED attendances and asthma in GPIH. There was a decrease in NHS 111 calls for cold/flu, cough and difficulty breathing, but they remain in line with seasonally expected levels. Consultations for ILI remained stable for GPIH and GPOOH.

- Figure 5 represents a map of GP ILI consultation rates in week 02 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 02

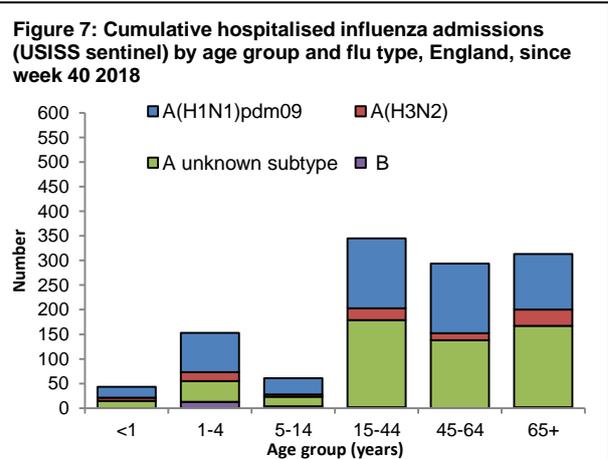
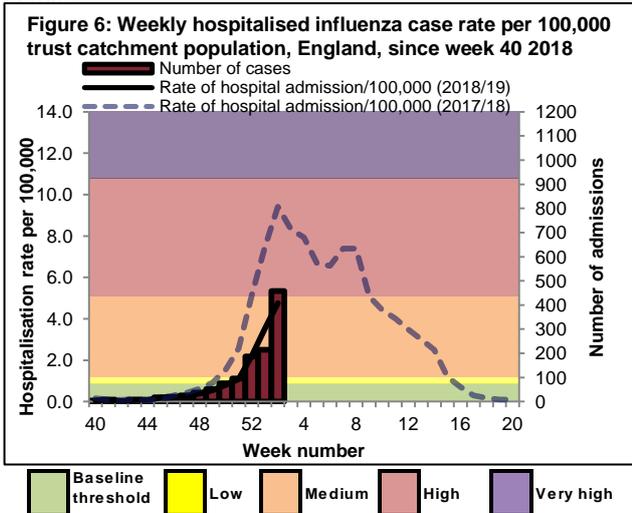


In week 02 2019, there were 458 hospitalised confirmed influenza cases (167 influenza A(H1N1)pdm09, 43 influenza A(H3N2), 246 influenza A(unknown subtype) and 2 influenza B) reported through the USISS sentinel hospital network across England (22 NHS Trusts). There were 237 new admissions to ICU/HDU with confirmed influenza (71 influenza A(H1N1)pdm09, 18 influenza A(H3N2), 147 influenza A(unknown subtype) and 1 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (128/143 NHS Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 02)

- In week 02 2019, there were 458 hospitalised laboratory confirmed influenza cases (167 influenza A(H1N1)pdm09, 43 influenza A(H3N2), 246 influenza A(unknown subtype) and 2 influenza B) reported from 22 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 4.75 per 100,000 trust catchment population compared to 3.54 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 1,211 hospitalised confirmed influenza admissions (532 influenza A(H1N1)pdm09, 100 influenza A(H3N2), 556 influenza A(unknown subtype) and 23 influenza B) and have been reported in the UK since week 40 2018 via the sentinel scheme.

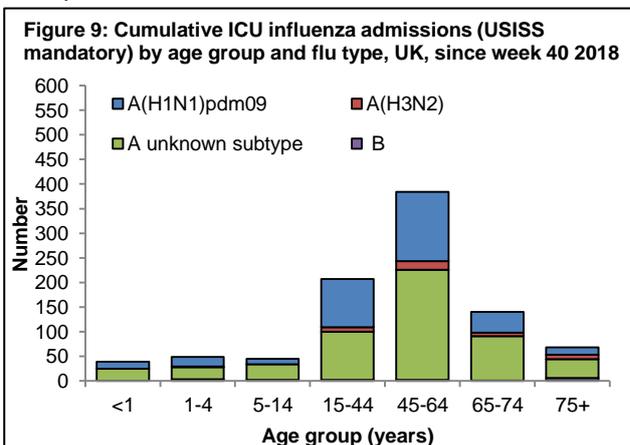
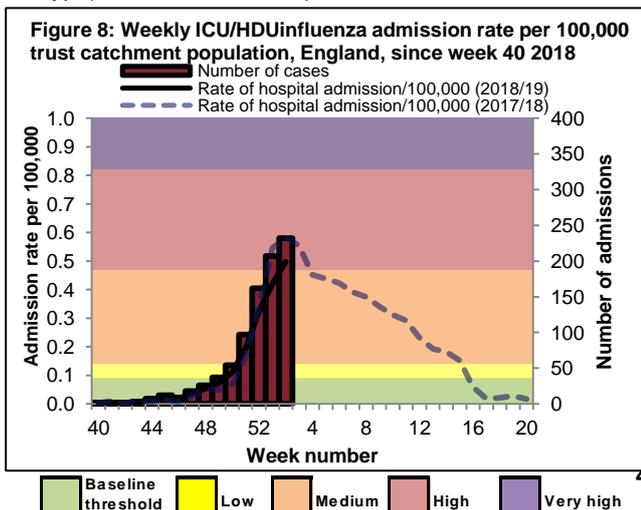


*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 6 seasons) in a standardised approach across Europe. For MEM threshold values, please visit: <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 02)

- In week 02 2019, there were 237 new admissions to ICU/HDU with confirmed influenza (71 influenza A(H1N1)pdm09, 18 influenza A(H3N2), 147 influenza A(unknown subtype) and 1 influenza B) reported across the UK (128/143 Trusts in England) through the USISS mandatory ICU scheme. The rate for England (n=232) was 0.50 per 100,000 trust catchment population compared to 0.42 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. Twenty-six influenza laboratory-confirmed deaths were reported to have occurred in ICU in week 02 in the UK.

- A total of 932 new ICU/HDU admissions (341 influenza A(H1N1)pdm09, 43 influenza A(H3N2), 532 influenza A(unknown subtype) and 16 influenza B) and 68 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 02)

- In week 02, there were 9 new admissions for laboratory confirmed influenza (7 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 28 confirmed influenza admissions (24 influenza A(H1N1)pdm09, 2 influenza A(H3N2) and 2 influenza A(unknown subtype)) to ECMO centres

All-cause mortality data

[| Back to top |](#)

In week 02 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 02 2019. Significant excess all-cause mortality was observed in Scotland in week 52 2018.

- All-cause death registrations, England and Wales

- In week 01 2019, an estimated 10,955 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is an increase compared to the 7,131 estimated death registrations in week 52 2018.

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

- In week 02 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 02 2019. Significant excess mortality above the threshold was observed in Scotland in week 52 2018 (Table 2).

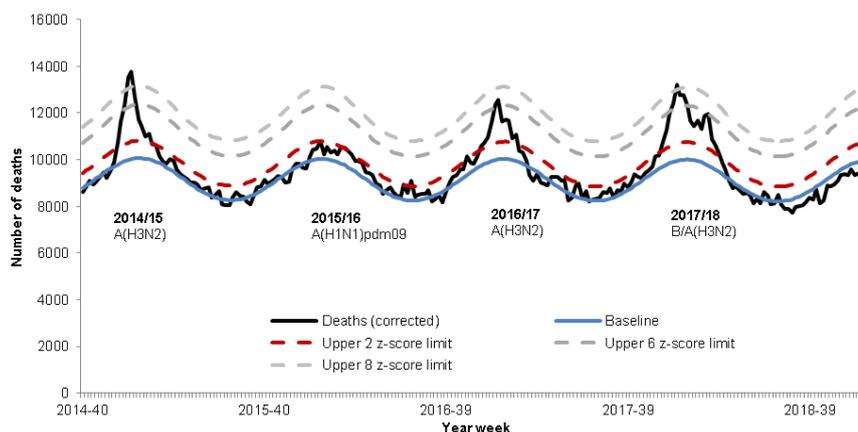
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 01 2019?	Weeks with excess in 2018/19
England	x	NA
Wales	x	NA
Northern Ireland	x	NA
Country	Excess detected in week 52 2018?	Weeks with excess in 2018/19
Scotland	✓	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 02 2019



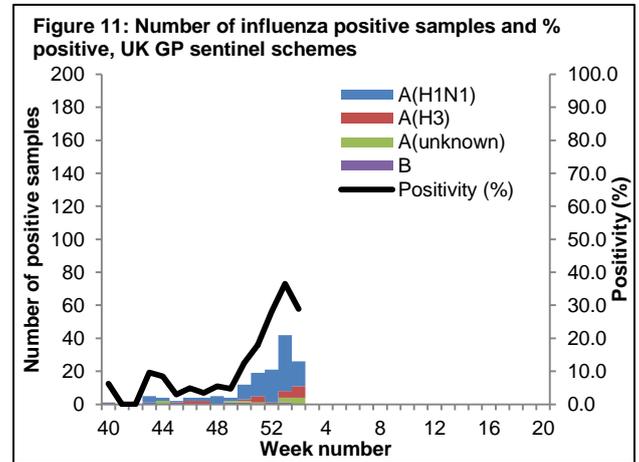
*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 02 2019, 26 samples tested positive for influenza (15 influenza A(H1N1)pdm09, 7 influenza A(H3) and 4 influenza A(not subtyped)) with a positivity of 28.9% through the UK GP sentinel schemes. 640 positive detections were recorded through the DataMart scheme (268 influenza A(H1N1)pdm09, 109 influenza A(H3), 260 influenza A(not subtyped) and 3 influenza B) with a positivity of 20.4%, this is above the baseline threshold of 9.2%.

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

- In week 02 2019, 26 samples tested positive for influenza (15 influenza A(H1N1)pdm09, 7 influenza A(H3) and 4 influenza A(not subtyped)) with an overall positivity of 28.9% compared to 36.5% in week 01 2019 through the UK GP sentinel swabbing schemes (Figure 11).

Since week 40, a total of 149 samples (110 influenza A(H1N1)pdm09, 22 influenza A(H3), 12 influenza A(unknown subtype) and 5 influenza B) tested positive for influenza through this scheme.

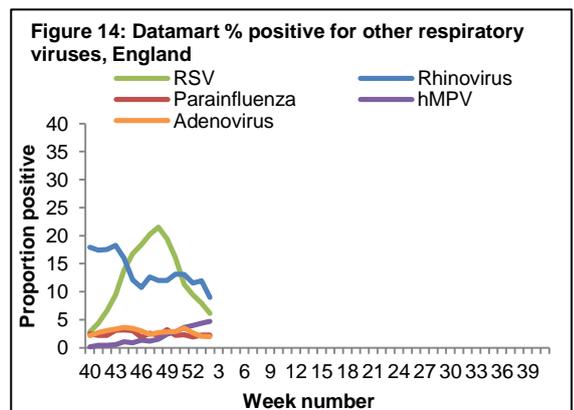
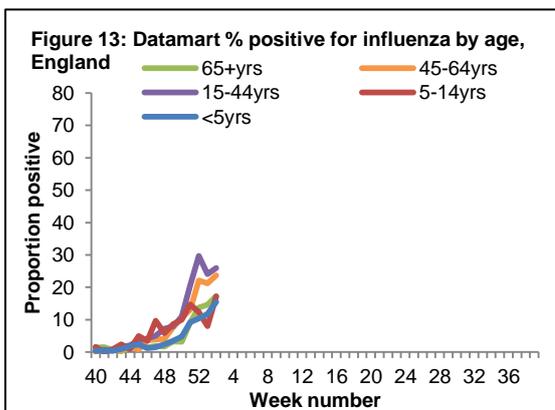
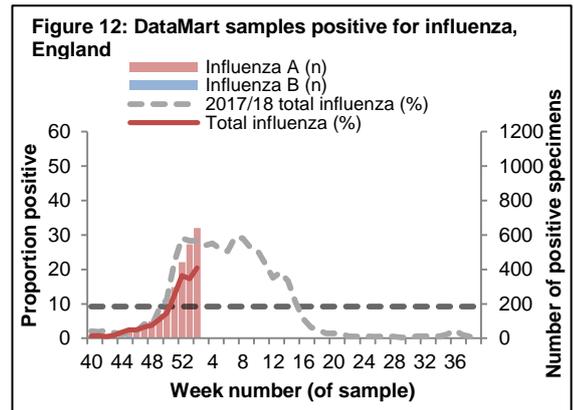


NB. Positivity (%) omitted when fewer than 10 specimens were tested

- Respiratory DataMart System (England)

- In week 02 2019, out of the 3,131 respiratory specimens reported through the Respiratory DataMart System, 640 samples (20.4%) were positive for influenza (268 influenza A(H1N1)pdm09, 109 influenza A(H3), 260 influenza A(not subtyped) and 3 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 23.4% in week 01 (Figure 13). The overall positivity for RSV continued to decrease from 7.9% in week 01 to 6.1% week 02 2019 (Figure 14). Although the main affected population is in children <5 years the positivity continued to decrease in this group from 21.8% in week 01 to 15.1% in week 02 2019.

Rhinovirus positivity decreased from 11.9% in week 01 to 9.1% in week 02 2019. Human metapneumovirus (hMPV) positivity continued its slow increasing trend from 4.3% in week 01 to 4.7% in week 02 2019. Adenovirus and parainfluenza positivities remained low at 2.0% and 2.3% 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.

Genetic characterisation by the PHE Respiratory Virus Unit of 121 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. Eighty-four 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.

The PHE Respiratory Virus Unit has characterised 20 influenza A(H3N2) viruses detected since week 40. Genetic characterisation of these 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 two influenza B viruses characterised to date, one influenza B virus has been characterised where sequencing of the haemagglutinin (HA) gene shows it belongs within genetic clade 1A of the B/Victoria lineage, 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	58	63	26	147
A(H3N2)	0	20	0	20
B/Yamagata-lineage	1	0	0	1
B/Victoria-lineage	0	1	0	1

- 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, 79 influenza A(H1N1)pdm09 viruses have been tested for oseltamivir susceptibility, 74 were fully susceptible and 5 were resistant. The five resistant cases had H275Y mutations. 57 out of the 79 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

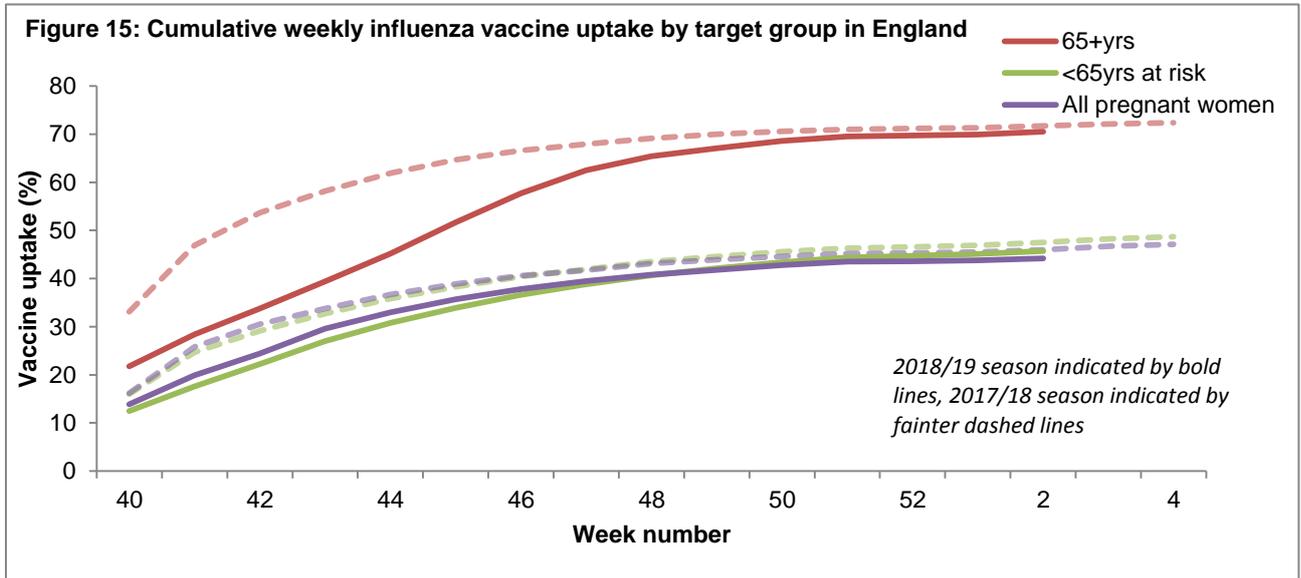
-Table 4 shows in the 12 weeks up to 13 January 2019, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 13 January 2019, E&W

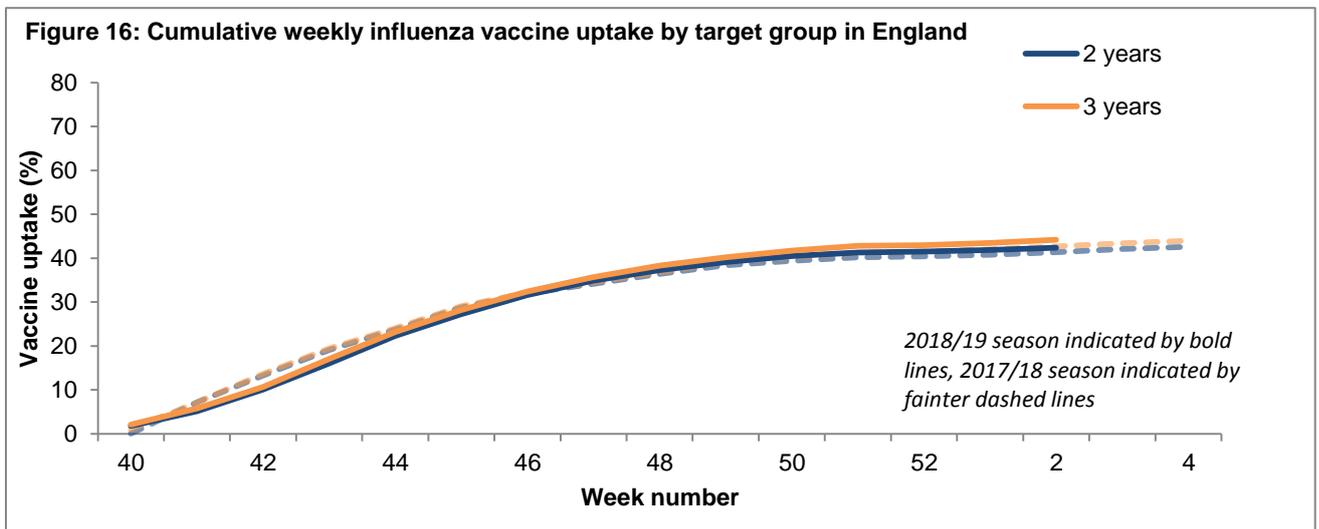
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3802	88
	Macrolides	4169	83
	Tetracycline	4114	86
<i>H. influenzae</i>	Amoxicillin/ampicillin	14070	69
	Co-amoxiclav	15213	85
	Macrolides	3449	3
	Tetracycline	15257	98
<i>S. aureus</i>	Methicillin	6589	91
	Macrolides	7331	66
MRSA	Clindamycin	398	45
	Tetracycline	551	79
MSSA	Clindamycin	4206	76
	Tetracycline	5575	93

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 02 2019, in 97.0 % 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):
 - 45.7% in under 65 years in a clinical risk group
 - 44.2% in pregnant women
 - 70.5% 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 02 2019, in 97.1% 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):
 - 42.4% in 2 year olds
 - 44.2% in 3 year olds



- Provisional data from the second monthly collection of the influenza vaccine uptake by frontline healthcare workers show 61.0% were vaccinated by 30 November 2018 from 97.9% of all organisations, compared to 59.3% vaccinated in the previous season by 30 November 2017. The [report](#) provides uptake at national, NHS England local team and Trust-level.

- Provisional data from the second [monthly](#) collection of influenza vaccine uptake for children of school years Reception, 1, 2, 3, 4 and 5 age (from a sample of 97.4% 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 30 November 2018 in targeted groups as follows:
 - 49.6% in children school year reception age (4-5 yrs)
 - 49.4% in children school year 1 age (5-6 yrs)
 - 47.7% in children school year 2 age (6-7 yrs)
 - 46.8% in children school year 3 age (7-8 yrs)
 - 45.2% in children school year 4 age (8-9 yrs)
 - 43.7% in children school year 5 age (9-10 yrs)

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 11 January 2019 (Joint ECDC-WHO Europe Influenza weekly update)

In week 01 2019, influenza activity continued to increase in the European Region.

Of all the Member States and areas with influenza-like illness thresholds defined, countries in Northern (Estonia, Ireland, Latvia, Lithuania and United Kingdom (England and Wales)), Southern (Greece, Israel and Italy) and Western (Portugal) sectors of the European region reported activity above baseline levels. Of 43 Member States and areas reporting on influenza activity, 11 reported baseline, 28 reported low (across the region) and 2 reported medium and 1 reported high intensity for week 01.

Of the 42 Member States reporting on geographic spread, 5 reported no activity, 15 reported sporadic cases, 8 reported local spread (in Northern, Southern and Western areas), 5 reported regional spread (Israel, the Netherlands, Republic of Moldova, Spain and Ukraine) and 9 reported widespread activity (in Northern, Southern and Western areas).

For week 01, 605 (44.6%) of the 1,356 sentinel specimens tested positive for influenza viruses, 596 (98.5%) were influenza A and 9 (1.5%) were influenza B. Of the 346 type A viruses subtyped, 166 (48.0%) were influenza A(H1N1)pdm09 and 180 (52.0%) were influenza A(H3N2). Of the 5 type B viruses ascribed to a lineage, 1 was Victoria and 4 were Yamagata lineage.

For week 01, 252 laboratory-confirmed influenza cases were reported in ICUs, 250 (99.2%) were infected with influenza type A viruses and 2 (0.8%) were infected with influenza type B viruses. Among the 156 laboratory confirmed influenza cases in other wards reported all were infected with influenza type A viruses.

For week 01, 4,896 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 4,896, 4,851 (99.1%) were type A and 45 (0.9%) were type B viruses. Of the 1,068 influenza A viruses that were subtyped, 755 (70.7%) were A(H1N1)pdm09 and 313 (29.3%) were A(H3N2). None of the influenza B viruses were assigned to a lineage

For week 01, data from the 21 Member States or areas reporting to the EuroMOMO project indicated all-cause mortality to be at expected levels for this time of year.

- [United States of America](#) updated on 11 January 2019 (Centre for Disease Control report)

During week 01, 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 9.1 laboratory-confirmed influenza-associated hospitalisations per 100,000 population was reported, with the highest rate among those aged 65+ years old.

Nationwide during week 01, the proportion of outpatient visits for influenza-like illness (ILI) decreased from 4.0 to 3.5%, but remains above the national baseline of 2.2%.

For week 52, the proportion of deaths attributed to pneumonia and influenza (P&I) was 6.4%, below the epidemic threshold (7.0% for week 52) in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

Three influenza-associated pediatric deaths (1 influenza A(H1N1)pdm09, 1 influenza A(H3) and 1 influenza A(not subtyped)) were reported to the CDC during week 01.

- [Canada](#) updated on 11 January 2019 (Public Health Agency report)

Overall, influenza activity remains high in week 01. Laboratory detections have declined from the previous week suggesting that nationally the influenza season may have reached peak levels in the last week of December. Influenza A is the most common influenza virus circulating and the majority of these viruses are influenza A(H1N1)pdm09.

In week 01, a total of 3,153 laboratory confirmed detections of influenza were reported, of which 99% were influenza A. The percentage of tests positive for influenza from sentinel laboratories decreased to 25.6% in week 01, which is above the seasonal threshold of 5.0%.

In week 01, 3.9% of visits to healthcare professionals were due to ILI, the percentage of visits for ILI is within expected levels.

To date this season, 1,348 influenza-associated hospitalisations have been reported by participating provinces and territories, of which 1,342 (99.6%) were associated with influenza A. To date this season, 196 ICU admissions and 37 deaths have been reported.

- [Global influenza update](#) updated on 07 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 continued to increase, with influenza A(H1N1)pdm09 virus predominating. In Canada, influenza activity continued to increase; paediatric hospitalisations remained stable and were close to 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. In Mexico, influenza A(H1N1)pdm09 continued to be reported.

In Europe, influenza activity continued to increase across the continent. Influenza A(H1N1)pdm09 and A(H3N2) viruses predominated and were detected at almost equal proportions.

In North Africa, there was an increase in influenza detections with mainly influenza A(H3N2) detections reported from Egypt.

In Western Asia, respiratory illness indicators increased in Armenia, Georgia, Israel, Lebanon 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 appears to have started, with predominantly influenza A (H1N1)pdm09. ILI activity increased further in China and Hong Kong SAR and sharply increased in Republic of Korea, with mainly influenza A(H1N1)pdm09 detected. In Japan and Mongolia, influenza and ILI activity increased but remained low.

In the Caribbean, while influenza activity remained low overall, increase detections of influenza A(H1N1)pdm09 and B (Victoria lineage) viruses were reported in Cuba. In Central American countries, influenza activity was reported in Costa Rica (influenza A viruses) and Nicaragua (influenza A(H1N1)pdm09 and influenza B).

In the tropical countries of South America, influenza and RSV activity were low in general except for Ecuador where elevated RSV was reported.

In Western Africa, influenza detections (mainly influenza A(H3N2) and influenza B Victoria-lineage viruses) were reported. Low levels of influenza were reported in Niger (influenza B), Guinea and Mauritania (influenza AH3N2). In Middle Africa, Cameroon reported fewer influenza detections. In Eastern Africa, low levels of influenza B were detected in Madagascar and Mozambique. Kenya reported decreasing levels of influenza A(H3N2) virus detections.

In Southern Asia, influenza detections rose sharply in recent weeks mainly due to increased influenza A(H3N2) virus detections in Iran and A(H1N1)pdm09 virus detections in India. ILI levels increased in Afghanistan with influenza A(H1N1)pdm09 virus mainly detected.

In South-East Asia, Lao PDR continued to report influenza activity with influenza A(H1N1)pdm09 virus most frequently detected viruses. Although decreased, influenza activity continues to be reported in Thailand with influenza A(both subtypes) circulating

The WHO GISRS laboratories tested more than 97,188 specimens between 10 December 2018 and 23 December 2018. 12,945 were positive for influenza viruses, of which 12,148 (93.8%) were typed as influenza A and 797 (6.2%) as influenza B. Of the sub-typed influenza A viruses, 5,823 (77.0%) were influenza A (H1N1)pdm09 and 1,739 (23.0%) were influenza A (H3N2). Of the characterized B viruses, 40 (40.4%) belonged to the B-Yamagata lineage and 59 (59.6%) 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 1,413 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.

Acknowledgements

[| Back to top |](#)

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](#))