



# PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

18 October 2018 – Week 42 report (up to week 41 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 41 (ending 14 October 2018)

- There is no influenza circulation in the community with all indicators **Below Baseline** threshold levels.
- The impact on the healthcare services is **Below Baseline** threshold levels for hospitalisations and ICU/HDU admissions.
- Early signs indicate that RSV activity has started

### Community

- 17 new acute respiratory outbreaks have been reported in the past 7 days. All outbreaks were reported from care homes where 1 tested positive for RSV and another tested negative for influenza A and B

### Primary Care

- The rate of influenza-like illness (ILI) was **Below Baseline** threshold. The overall weekly ILI GP consultation rate was 3.9 per 100,000 registered population in participating GP practices for England, a slight decrease from 4.2 per 100,000 in week 40.
- In the devolved administrations, ILI rates were also **Below Baseline** thresholds

GP ILI  
Consultations  
England



### Secondary Care

- Hospitalisation rate observed was **Below Baseline** threshold, with a rate of 0.08 per 100,000 trust catchment population for England (20 NHS Trusts), a slight increase from 0.04 per 100,000 in week 40.
- ICU/HDU admission rate observed was **Below Baseline** threshold, with a rate of 0.00 per 100,000 trust catchment population for England (132/143 NHS Trusts), this is the same as 0.00 per 100,000 in week 40.
- There were no new influenza admissions reported from the six Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



### All-cause mortality

- In week 41 2018, 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 Scotland, Northern Ireland and Wales.

### Microbiological surveillance

- Primary care: no samples tested positive for influenza through the UK GP sentinel schemes.
- Secondary care: Influenza percent positivity observed was 1.0%, **Below Baseline** threshold levels. 12 detections were recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 3 influenza A(H3), 7 influenza A(unknown subtype) and 1 influenza B). RSV positivity was elevated amongst the <5 year olds at 15.4%.

Secondary  
Care



### Vaccination

- Weekly uptake: Up to week 41 2018, in 41.1% of GP practices the provisional proportion of people in England who had received the 2018/19 influenza vaccine in targeted groups was: 17.6% in under 65 years in a clinical risk group, 19.9% in pregnant women and 28.4% in 65+ year olds. In 41.1% of GP practices reporting for the childhood collection the provisional proportion vaccinated was: 5.2% in 2 year olds and 5.8% in 3 year olds.
- Flu uptake data on 4 year olds will be collected through the school delivery programme and be published in the monthly report on 22 November 2018.

### International situation

- In the temperate zone of the Southern hemisphere, influenza activity appeared to decrease overall though influenza percent positivity remained elevated in Southern Africa. In the temperate zone of the northern hemisphere influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections

#### Key

Arrows (vs previous week):

↑ Increase

↓ Decrease

↔ Stable/No trend

Colour (intensity according to MEM threshold):

● Below Baseline

● Low

● Moderate

● High

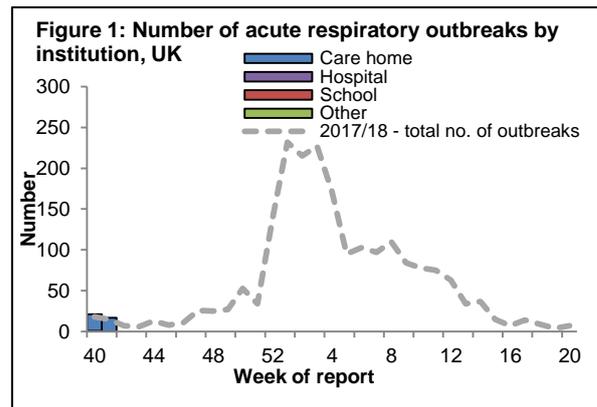
● Very High

**17 new acute respiratory outbreaks were reported in the past 7 days.**

- Acute respiratory disease outbreaks

- 17 new acute respiratory outbreaks have been reported in the past 7 days. All outbreaks were reported from care homes where 1 tested positive for RSV and another tested negative for influenza A and B.

- Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [respscidsc@phe.gov.uk](mailto: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).

- 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](mailto: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 as part of a European wide initiative

- Data will be reported from week 44.

- If you would like to become a participant of the FluSurvey project please do so by visiting the <https://flusurvey.net/> website for more information.

In week 41, the overall weekly influenza-like illness (ILI) GP consultation rate remained low and below the baseline threshold in England. In the devolved administrations, ILI rates were below baseline levels.

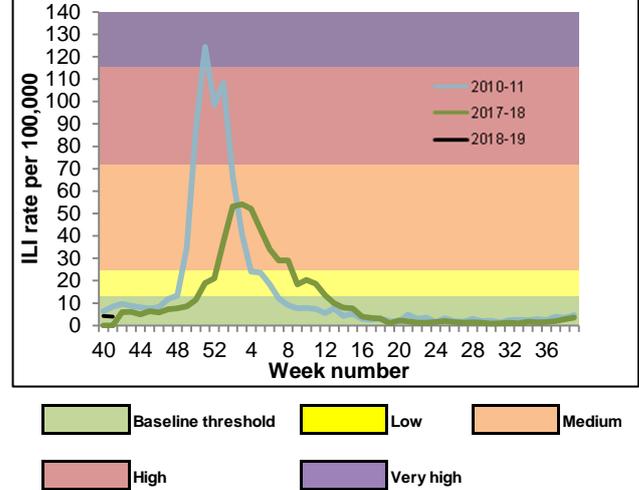
- GP ILI consultations in the UK

**RCGP (England)**

- The weekly ILI consultation rate through the RCGP surveillance was at 3.9 per 100,000 registered population in participating GP practices in week 41 compared to 4.2 per 100,000 in week 40. This is below the baseline threshold (13.1 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 45-64 year olds (6.1 per 100,000) and 15-44 year olds (4.2 per 100,000).

\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity (based on 10 seasons excluding 2009/10) in a standardised approach across Europe. For MEM intensity threshold values, please visit: <https://www.gov.uk/guidance/sources-of-uk-flu-data-influenza-surveillance-in-the-uk#clinical-surveillance-through-primary-care>

**Figure 4: RCGP ILI consultation rates, England**



**UK**

- In week 41, overall weekly ILI consultation rates across the countries of the UK were all below their respective baseline thresholds (Table 1).
- By age group, the highest rates were seen in the 15-44 year olds in Scotland and Northern Ireland (7.2 per 100,000 and 5.6 per 100,000 respectively) and in the 65-74 year olds in Wales (10.6 per 100,000).

**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															
Wales	7.1	2.8															
Scotland	7.1	5.1															
Northern Ireland	3.8	3.5															

\*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 3.7 per 100,000 in week 41 (Figure 5).

During week 41, increases in bronchitis/bronchiolitis ED attendances and GP OOH consultations were noted in infants aged <1 year. NHS 111 calls for coughs continued to increase in children aged 1-4 years old. There were small increases in GP consultations (GPIH) for upper respiratory tract infections particularly in children aged <1 years and 1-4 years old.

Figure 5 represents a map of GP ILI consultation rates in week 41 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

**Figure 5: Map of GP ILI consultation rates in week 41**

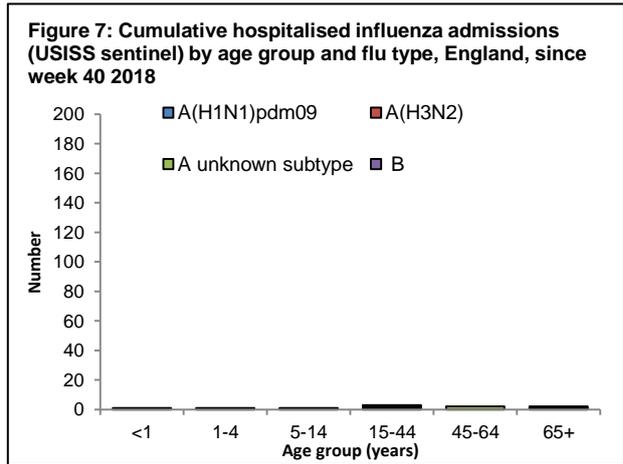
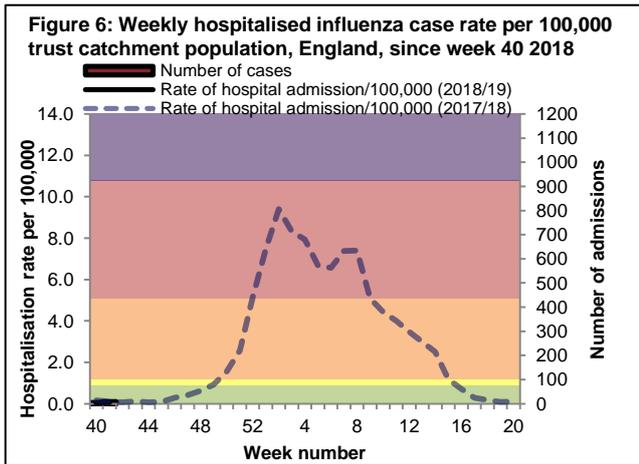


In week 41 2018, there was 7 hospitalised confirmed influenza cases (2 influenza A(H1N1)pdm09, 2 influenza A(H3N2) and 3 influenza A(unknown subtype)) reported through the USISS sentinel hospital network across England (20 Trusts). There was 1 new admission to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (132/143 Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 41)

- In week 41, there were 7 hospitalised laboratory confirmed influenza cases (2 influenza A(H1N1)pdm09, 2 influenza A(H3N2) and 3 influenza A(unknown subtype)) reported from 20 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 0.08 per 100,000 trust catchment population compared to 0.04 per 100,000 in the previous week (Figures 6 and 7). This is below the baseline impact threshold of 0.89 per 100,000.

- A total of 10 hospitalised confirmed influenza admissions (2 influenza A(H1N1)pdm09, 2 influenza A(H3N2), 5 (influenza A(unknown subtype) and 1 influenza B) and have been reported in the UK since week 40 2018 via the sentinel scheme.



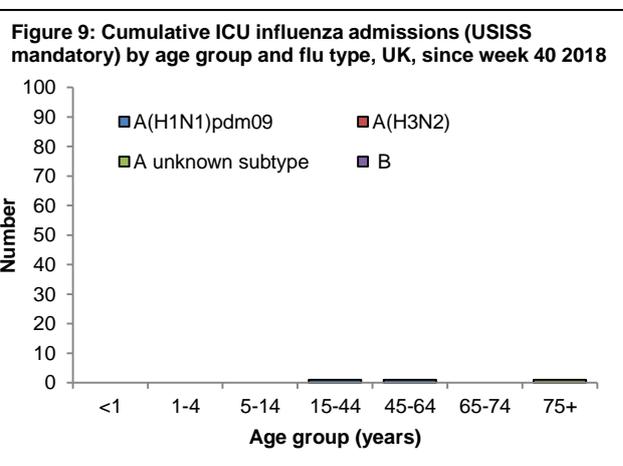
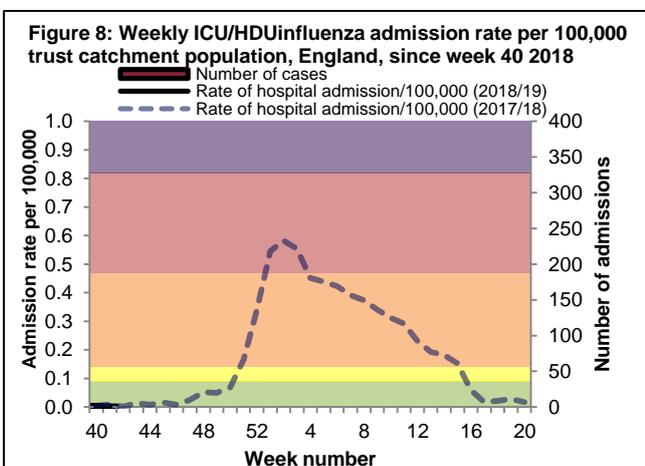
Legend for Figure 6: Baseline threshold (green), Low (yellow), Medium (orange), High (red), Very high (purple)

\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 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 41)

- In week 41, there was 1 new admission to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09) reported across the UK (132/143 Trusts in England ) through the USISS mandatory ICU scheme, with a rate of 0.00 per 100,000 trust catchment population the same as 0.00 per 100,000 in the previous week (Figures 8 and 9). This is below the baseline impact threshold of 0.09 per 100,000. No flu laboratory confirmed deaths were reported to have occurred in ICU week 40 in the UK.

- A total of 3 new admissions (2 influenza A(H1N1)pdm09 and 1 (influenza A(unknown subtype)) and no confirmed deaths have been reported in the UK since week 40 2017.



Legend for Figure 8: Baseline threshold (green), Low (yellow), Medium (orange), High (red), Very high (purple)

\*The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for ICU/HDU admission rates for the start of influenza activity (based on 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 40)

- In week 41, there were no new influenza admissions reported from the 6 Severe Respiratory Failure (SRF) centres in the UK.

- Since week 40 there have been no confirmed influenza admissions to ECMO centres

### All-cause mortality data

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In week 41 2018, 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 Scotland, Wales and Northern Ireland in week 41 2018.

- All-cause death registrations, England and Wales

- In week 40 2018, an estimated 9,503 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 9,150 estimated death registrations in week 39 2018.

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

- In week 41 2018 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 subnationally (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 Scotland, Wales and Northern Ireland in week 41 2018 (Table 2).

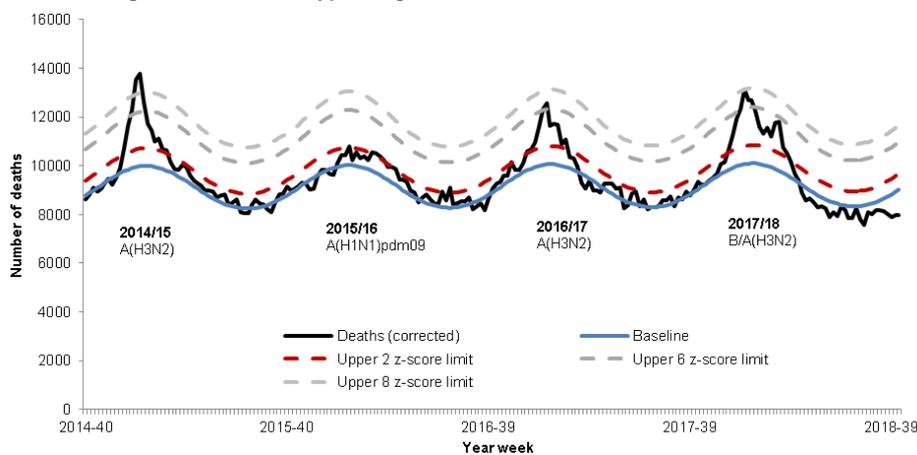
**Table 2: Excess mortality by UK country, for all ages\***

Country	Excess detected in week 41 2018?	Weeks with excess in 2018/19
England	x	NA
Wales	x	NA
Scotland	x	NA
Northern Ireland	x	NA

\* 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 41 2018**

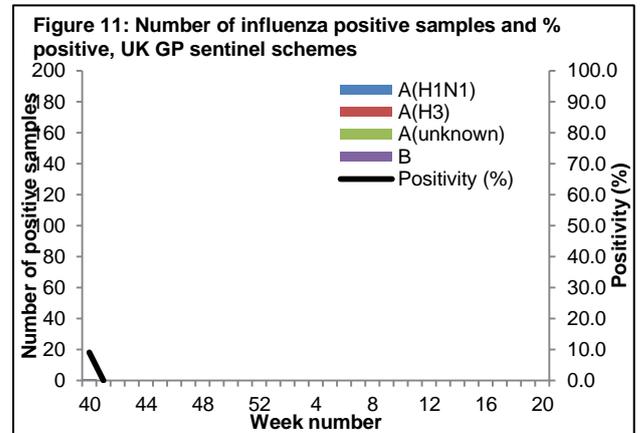


\*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 41 2018, no samples tested positive for influenza through the UK GP sentinel schemes. 12 positive detections were recorded through the DataMart scheme (1 influenza A(H1N1)pdm09, 3 influenza A(H3), 7 influenza A(unknown subtype) and 1 influenza B) with a positivity of 1.0%, this is below the baseline threshold of 9.2%.

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

-In week 41, no samples tested positive for influenza through the UK GP sentinel swabbing scheme (Figure 11).

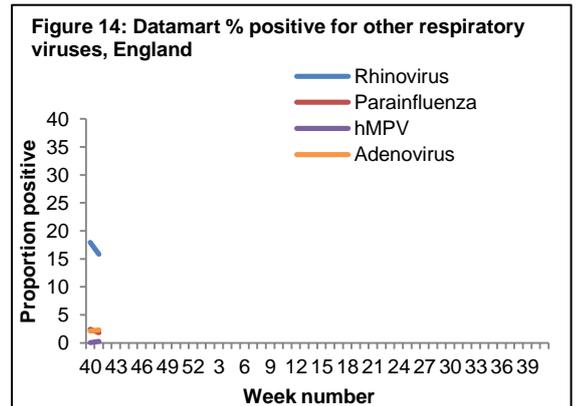
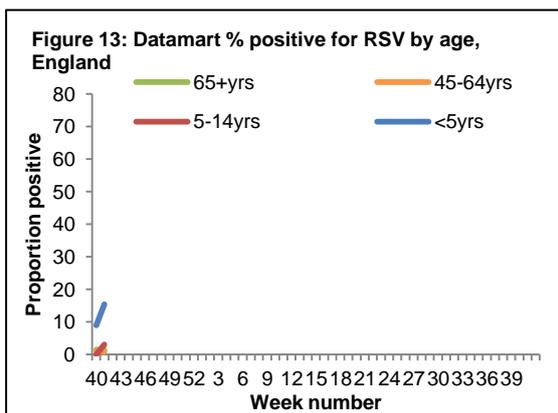
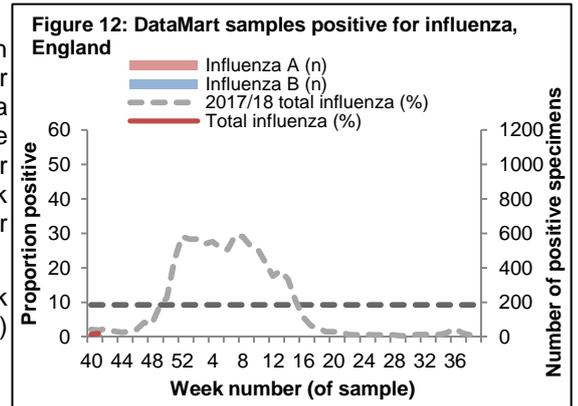


NB. Positivity (%) omitted when fewer than 10 specimens were tested

- Respiratory DataMart System (England)

In week 41 2018, out of the 1,252 respiratory specimens reported through the Respiratory DataMart System, 12 samples (1.0%) were positive for influenza (1 influenza A(H1N1)pdm09, 3 influenza A(H3), 7 influenza A(unknown subtype) and 1 influenza B) (Figure 12), which is below the MEM baseline threshold for this season of 9.2%. The overall positivity for RSV is continued to increase from at 2.8% in week 40 to 4.2% in week 41. The highest positivity for RSV by age group was seen in the <5 year olds at 15.4% in week 41 (Figure 13).

Rhinovirus positivity decreased from 17.9% in week 40 to 15.9% in week 41. Adenovirus, parainfluenza and human metapneumovirus (hMPV) positivity remained low (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 8.6% in 2017/18.

- 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.

In week 40 2018, no influenza viruses were characterised by PHE Respiratory Virus Unit (RVU).

- 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.

In week 40 2018, no influenza viruses were tested for antiviral susceptibility.

- Antimicrobial susceptibility

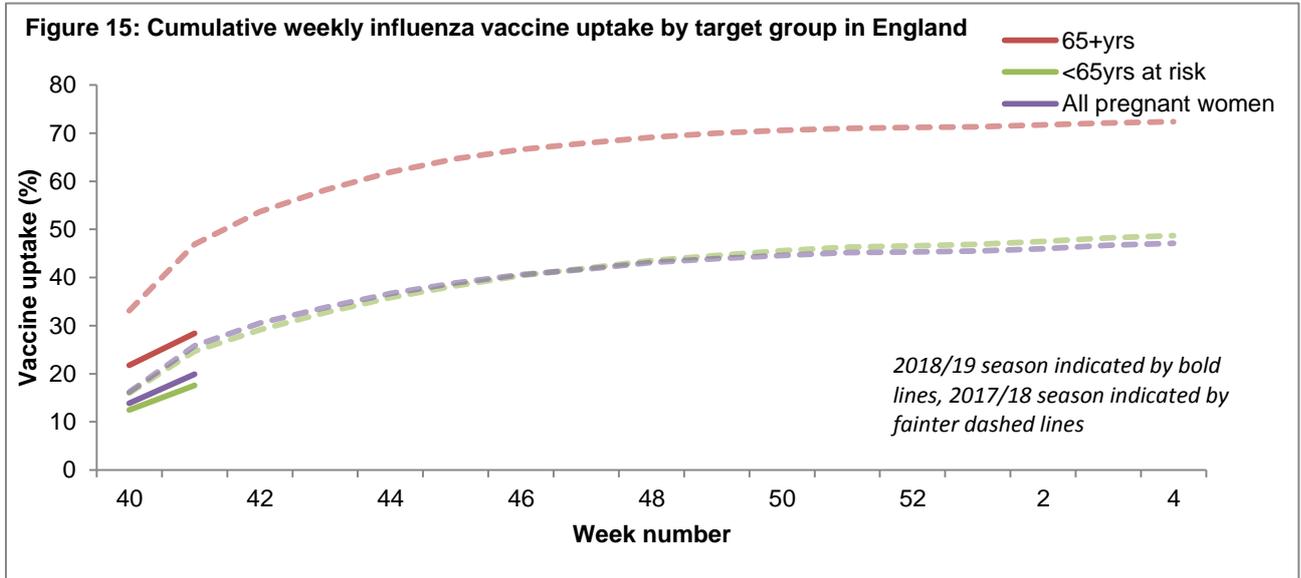
-Table 4 shows in the 12 weeks up to 14 October 2018, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 14 October 2018, E&W**

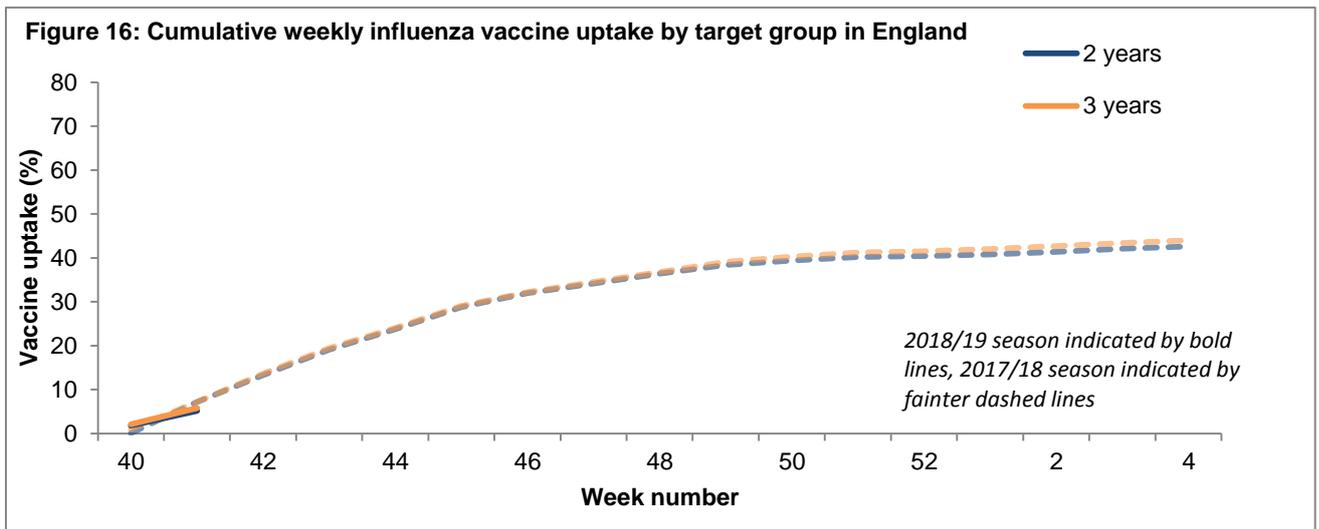
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2654	89
	Macrolides	2895	82
	Tetracycline	2841	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	11412	69
	Co-amoxiclav	12252	83
	Macrolides	2877	4
	Tetracycline	12270	98
<i>S. aureus</i>	Methicillin	6059	90
	Macrolides	6746	66
MRSA	Clindamycin	414	43
	Tetracycline	576	79
MSSA	Clindamycin	3856	78
	Tetracycline	5048	93

\*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 41 2018 in 41.1% 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):
  - 17.6% in under 65 years in a clinical risk group
  - 19.9% in pregnant women
  - 28.4% 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 41 2018 in 41.1% 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):
  - 5.2% in 2 year olds
  - 5.8% in 3 year olds



- In addition, the childhood programme has been extended to children of school years Reception (4 year olds), 1, 2, 3, 4 and 5 age. The data for the school programme, including 4 year olds, will be included in the monthly report to be published on 22 November 2018.

**In the temperate zone of the Southern hemisphere, influenza activity appeared to decrease overall though influenza percent positivity remained elevated in Southern Africa. In the temperate zone of the northern hemisphere influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections**

- [Europe](#) updated on 07 October 2018 (Joint ECDC-WHO Europe Influenza weekly update)

Influenza activity was low throughout the European Region.

For week 40, 2 (0.8%) of the 239 sentinel specimens tested positive for influenza B viruses in primary care, 1 of which was ascribed to the Yamagata lineage.

Influenza viruses were detected sporadically in specimens from persons with respiratory illness presenting to medical care.

A subset of Member States monitor severe disease related to influenza virus infection by surveillance of hospitalised laboratory-confirmed influenza cases in ICUs or other wards or severe acute respiratory infections (SARI). 2 cases of hospitalised laboratory confirmed influenza in ICUs were reported during week 40, both by the UK.

For week 40, 42 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 42, 29 (69.0%) were type A and 13 (31.0%) type B viruses. Of the influenza A viruses that were subtyped, 6 (60.0%) were A(H1N1)pdm09 and 4 (40.0%) were A(H3N2). None of the influenza B viruses from non-sentinel specimens were assigned to a lineage

For week 40, data from the 19 countries or regions 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 12 October 2018 (Centre for Disease Control report)

During week 40, influenza activity was low in the United States.

Nationwide, the proportion of outpatient visits for influenza-like illness (ILI) remained low and was 1.4%, which is below the national baseline of 2.2%. All 10 regions reported ILI below region-specific baseline levels the proportion of outpatient visits for influenza-like illness (ILI) was 1.2%, which is below the national baseline of 2.2%.

Influenza A viruses have predominated from the beginning of July onward. The percentage of respiratory specimens testing positive for influenza in clinical laboratories is low.

- [Canada](#) updated on 06 October 2018 (Public Health Agency report)

Overall, influenza activity remains at inter-seasonal levels across the country, with the majority of regions reporting no influenza activity.

In weeks 39 and 40, overall laboratory detections of influenza are at inter-seasonal levels. A total of 73 laboratory confirmed detections of influenza were reported in which 67 were influenza A.

In week 40, 0.9% of visits to healthcare professionals were due to ILI, the percentage of visits for ILI is at inter-seasonal levels.

To date this season, 8 influenza-associated hospitalizations were reported by participating provinces and territories.

- [Global influenza update](#) updated on 15 October 2018 (WHO website)

In the temperate zone of the Southern hemisphere, influenza activity appeared to decrease overall though influenza percent positivity remained elevated in Southern Africa. In Australia and New Zealand, influenza activity remained at low levels and even below seasonal threshold during the entire season. Increased influenza detections were reported in some countries of Southern and South-East Asia. In the temperate zone of the northern hemisphere influenza activity remained at inter-seasonal levels. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections

In temperate South America, influenza and respiratory syncytial virus (RSV) activity decreased in most countries of the sub-region. In Paraguay, influenza activity and other respiratory indicators were reported as decreased but above alert threshold. In Uruguay, severe acute respiratory infection (SARI) levels remained elevated while influenza positivity decreased with detections of all seasonal influenza subtypes.

In Southern Africa, influenza percent positivity from influenza-like illness (ILI) sentinel sites high levels in South Africa with detections of mainly influenza B virus (both lineages).

In Oceania, influenza activity remained low overall. In Australia and New Zealand, influenza activity appeared to have peaked though remained low throughout the season. Influenza A(H1N1)pdm09 was the most frequently detected influenza virus.

In the Caribbean, influenza detections and RSV activity remained low in general with the exception of Cuba and Haiti where influenza A(H1N1)pdm09 virus detections increased. In Central American countries, influenza activity remained high in El Salvador and Nicaragua, with influenza A(H1N1)pdm09 virus predominantly detected. RSV activity remained elevated in Guatemala and Panama.

In the tropical countries of South America, influenza and RSV activity were low in most of the countries, though RSV continued to increase in Peru.

In Western Africa, influenza detections were low across reporting countries. In Middle Africa, increased detections of influenza A(H3N2) continued to be reported in Central African Republic.

In Southern Asia, influenza activity remained low across reporting countries with the exception of India where were influenza A(H1N1)pdm09 detections continued to increase.

In South East Asia, influenza activity continued to be reported in some countries. Influenza A(H1N1)pdm09 virus was reported in Cambodia, Lao PDR and Thailand with Cambodia also reporting detections of influenza B-Yamagata lineage virus.

The WHO GISRS laboratories tested more than 58,772 specimens between 17 September 2018 and 30 September 2018. 2,124 were positive for influenza viruses, of which 1,789 (84.2%) were typed as influenza A and 335 (15.8%) as influenza B. Of the sub-typed influenza A viruses, 1,051 (74.0%) were influenza A (H1N1)pdm09 and 369 (26.0%) were influenza A (H3N2). Of the characterized B viruses, 51 (49.0%) belonged to the B-Yamagata lineage and 53 (51.0%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 21 September 2018 (WHO website)

### **Influenza A(H5) viruses**

Between [21 July 2018 and 21 September 2018](#), 1 new laboratory-confirmed human case of influenza A(H5N6) virus infection was reported to WHO from China.

Since 2014 a total of 20 laboratory confirmed cases of human infection with influenza A(H5N6) virus have been reported to WHO from China.

According to reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes continue to be detected in birds in Africa, Europe and Asia. Influenza A(H5N6) viruses have recently been detected in parts of Europe and Asia, however these A(H5N6) viruses are different from the A(H5N6) influenza viruses which have infected humans in China

### **Influenza A(H7N9)**

According to reports from mainland 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 [21 July 2018 and 21 September 2018](#), 1 new laboratory-confirmed human case of influenza A(H9N2) have been reported to WHO from China. Avian influenza A(H9N2) are enzootic in poultry in China.

## Influenza A(H1N2) variant viruses

Between [21 July 2018 and 21 September 2018](#), 13 new laboratory-confirmed human cases of influenza A(H1N2)v virus infection were detected in the U.S.

On 10 Aug 2018, the United States (US) IHR National Focal Point (NFP) reported the first 4 cases of human infection with influenza A(H1N2)v viruses in 2018. 9 Further laboratory confirmed human cases of influenza A(H1N2)v virus infection were detected in the following weeks.

Since 2011, 25 human infections with influenza A(H1N2)v viruses have been reported to the U.S. CDC. Swine influenza A(H1N2) viruses are endemic in pig populations and circulate among swine in many regions of the world.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 10 October 2018

Up to 17 October 2018, 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 1,327 suspected cases in the UK that have been investigated for MERS-CoV and tested negative.

Between [01 June 2018 and 16 September 2018](#), the National IHR Focal Point of The Kingdom of Saudi Arabia reported 32 additional cases of Middle East Respiratory Syndrome (MERS), including 10 deaths.

Globally, since September 2012 through to the end of September 2018, WHO has been notified of 2,260 laboratory-confirmed cases of infection with MERS-CoV, including 803 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](#)
- 2018/19 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))

### 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](#))