



# PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

08 November 2018 – Week 45 report (up to week 44 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 44 (ending 04 November 2018)

- Influenza activity remains low with sporadic cases of influenza detected in the community and all indicators **Below Baseline** threshold levels.
- The impact of flu on healthcare services is **Below Baseline** threshold levels for hospitalisations and ICU/HDU admissions.
- RSV activity continues to increase with impact particularly in young children

### Community

- 11 new acute respiratory outbreaks have been reported in the past 7 days. 9 outbreaks were reported from care homes where 1 tested positive for influenza A(not subtyped) and another tested positive for *Haemophilus influenzae*. The 2 remaining outbreaks were reported from schools with no test results available.

### Primary Care

- The rate of influenza-like illness (ILI) was **Below Baseline** threshold levels. The overall weekly ILI GP consultation rate was 3.6 per 100,000 registered population in participating GP practices for England, the same as 3.6 per 100,000 in week 43.
- In the devolved administrations, ILI rates were also **Below Baseline** threshold levels.

GP ILI  
Consultations  
England



### Secondary Care

- Hospitalisation rate observed was **Below Baseline** threshold levels, with a rate of 0.09 per 100,000 trust catchment population for England (16 NHS Trusts), similar to 0.08 per 100,000 in week 43.
- ICU/HDU admission rate observed was **Below Baseline** threshold levels, with a rate of 0.01 per 100,000 trust catchment population for England (130/143 NHS Trusts), this is the same as 0.01 per 100,000 in week 43.
- There were no new influenza admissions reported from the 6 Severe Respiratory Failure centres in the UK.

Hospitalisation



ICU/HDU



### All-cause mortality

- In week 44 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: 4 samples tested positive for influenza (2 influenza A(H1N1)pdm09 and 2 influenza A(unknown subtype)) through the UK GP sentinel schemes, with an overall positivity of 13.8%.
- Secondary care: Influenza percent positivity was 1.9%, **Below Baseline** threshold levels, a slight increase from 0.9% in week 43. 28 detections were recorded through the DataMart scheme (9 influenza A(H1N1)pdm09, 3 influenza A(H3), 11 influenza A(unknown subtype) and 5 influenza B). RSV positivity continues to increase at 12.1% with the highest positivity amongst the <5 year olds at 31.8%.
- For further information and guidance on RSV see [NICE guidance](#)

Secondary  
Care



### Vaccination

- Weekly uptake: Up to week 44 2018, in 96.7% of GP practices the provisional proportion of people in England who had received the 2018/19 influenza vaccine in targeted groups was: 30.8% in under 65 years in a clinical risk group, 33.0% in pregnant women and 45.2% in 65+ year olds. In 97.1% of GP practices reporting for the childhood collection the provisional proportion vaccinated was: 22.3% in 2 year olds and 23.2% in 3 year olds.

### International situation

- In the temperate zone of the Northern hemisphere, influenza activity remained at inter-seasonal levels. Increased influenza was reported in some countries of Southern and South East Asia. In the temperate zones of the Southern hemisphere, influenza activity appeared to decrease overall. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections

#### Key

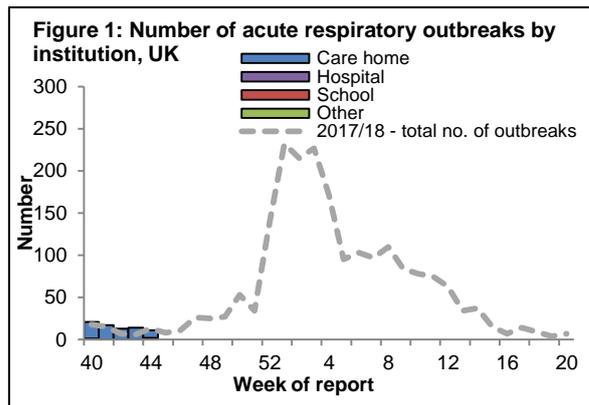
|                            |  |           |
|----------------------------|--|-----------|
| Arrows (vs previous week): | Colour (intensity according to MEM threshold): |           |
| Increase                   | Below Baseline                                 | High      |
| Decrease              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

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

- Acute respiratory disease outbreaks

- 11 new acute respiratory outbreaks have been reported in the past 7 days. 9 outbreaks were reported from care homes where 1 tested positive for influenza A(not subtyped) and another tested positive for *Haemophilus influenza*. The 2 remaining outbreaks were reported from schools with no test results available.

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

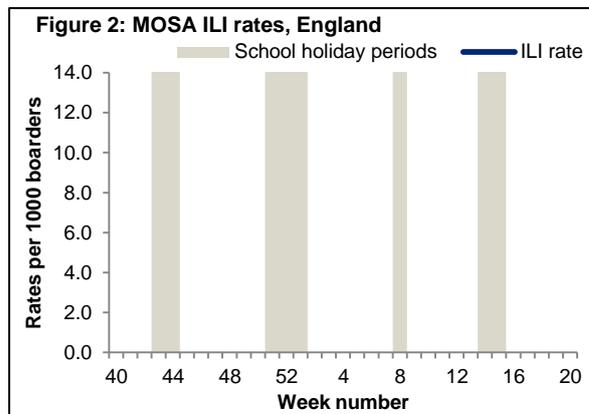


- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- 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.

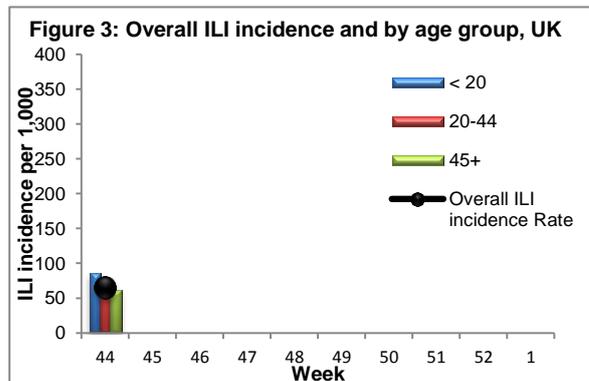


- FluSurvey

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

- The overall ILI rate (all age groups) for week 44 was 65.3 per 1,000 (144/2,204 people reported at least 1 ILI) (Figure 3), with the highest rate seen in the under 20 year olds (86.4 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.



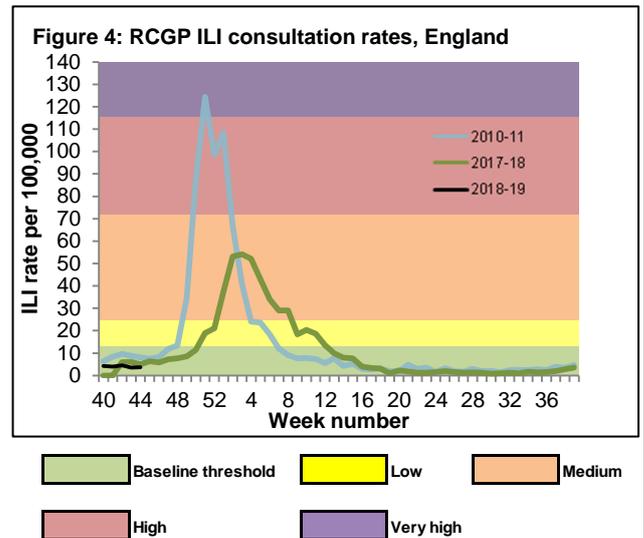
In week 44, the overall weekly influenza-like illness (ILI) GP consultation rate remained low and below the baseline threshold in England. In the devolved administrations, ILI rates were below baseline levels.

- GP ILI consultations in the UK

**RCGP (England)**

- The weekly ILI consultation rate through the RCGP surveillance was at 3.6 per 100,000 registered population in participating GP practices in week 44, this is the same as week 43. This is below the baseline threshold (13.1 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 15-44 year olds (4.5 per 100,000) and 45-64 year olds (4.0 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 44, 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 45-64 year olds in Scotland (3.8 per 100,000), in the 65-74 year olds in Northern Ireland (6.0 per 100,000) and in the 15-44 year olds in Wales (13.7 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 | 4.5 | 3.6 | 3.6 |    |    |    |    |    |    |    |    |   |   |   |   |
| Wales                                | 7.1         | 3.6 | 4.2 | 6.8 | 6.6 |    |    |    |    |    |    |    |    |   |   |   |   |
| Scotland                             | 7.1         | 5.1 | 3.6 | 4.5 | 2.9 |    |    |    |    |    |    |    |    |   |   |   |   |
| Northern Ireland                     | 3.8         | 3.5 | 3.8 | 3.6 | 3.8 |    |    |    |    |    |    |    |    |   |   |   |   |

\*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 44 (Figure 5).

During week 44, there were further increases in respiratory syndromes, bronchiolitis (ED attendances) and bronchitis (GP OOH) in children aged <1 year. Calls for coughs and difficulty breathing in children aged <1 year also continued to increase (NHS 111). This is in line with recent increases in laboratory reports for respiratory syncytial virus (RSV).

Figure 5 represents a map of GP ILI consultation rates in week 44 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](#).

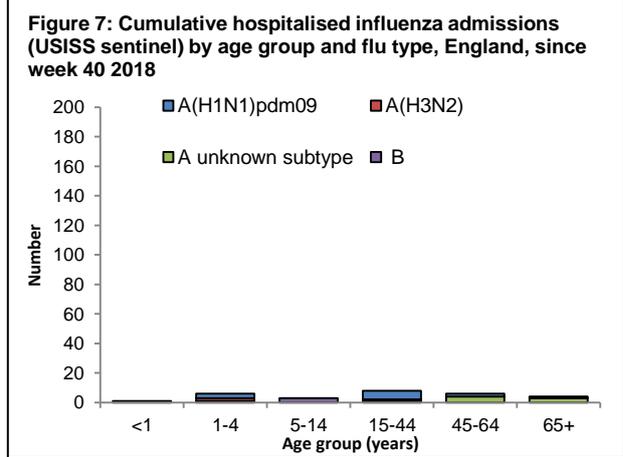
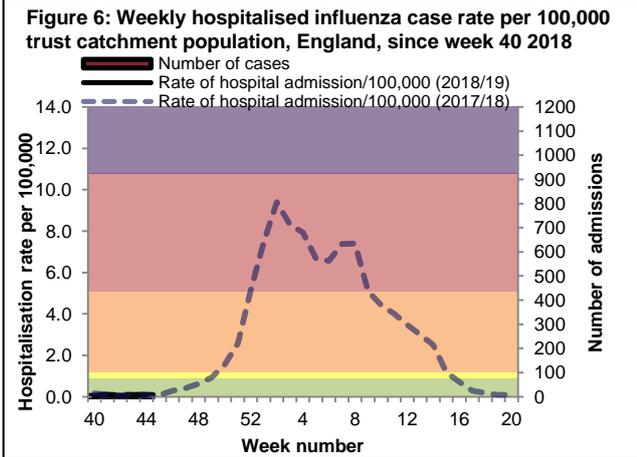
**Figure 5: Map of GP ILI consultation rates in week 44**



In week 44 2018, there were 7 hospitalised confirmed influenza cases (5 influenza A(H1N1)pdm09, 1 influenza A(unknown subtype) and 1 influenza B) reported through the USISS sentinel hospital network across England (16 NHS Trusts). There were 6 new admissions to ICU/HDU with confirmed influenza (3 influenza A(H1N1)pdm09, 2 influenza A(unknown subtype) and 1 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (130/143 NHS Trusts in England).

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 44)

- In week 44, there were 7 hospitalised laboratory confirmed influenza cases (5 influenza A(H1N1)pdm09, 1 influenza A(unknown subtype) and 1 influenza B) reported from 16 NHS Trusts across England through the USISS sentinel hospital network, with a rate of 0.09 per 100,000 trust catchment population compared to 0.08 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 28 hospitalised confirmed influenza admissions (11 influenza A(H1N1)pdm09, 4 influenza A(H3N2), 9 influenza A(unknown subtype) and 4 influenza B) and have been reported in the UK since week 40 2018 via the sentinel scheme.

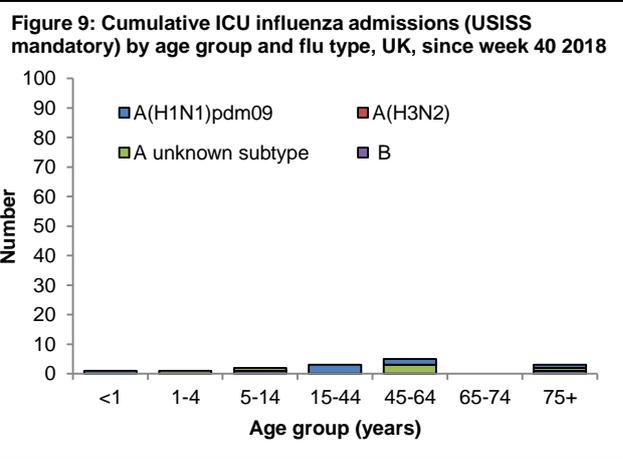
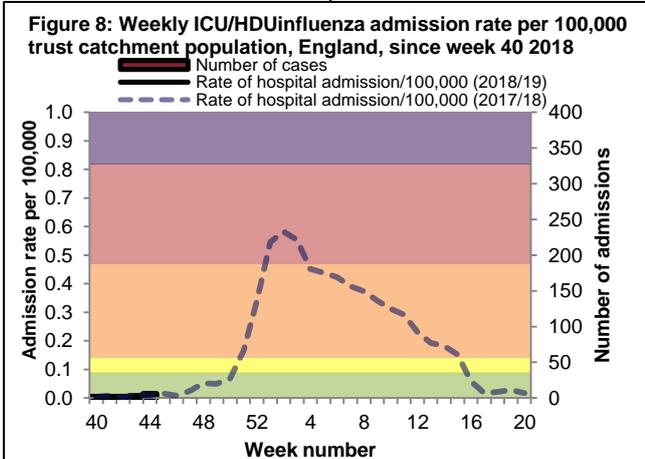


Legend for Figure 6: Baseline threshold (green), Low (yellow), Medium (orange), High (red), Very high (purple)

\*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 44)

- In week 44, there were 6 new admissions to ICU/HDU with confirmed influenza (3 influenza A(H1N1)pdm09, 2 influenza A(unknown subtype) and 1 influenza B) reported across the UK (130/143 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.01 per 100,000 trust catchment population compared to 0.01 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 in week 44 in the UK.
- A total of 15 new ICU/HDU admissions (7 influenza A(H1N1)pdm09, 6 influenza A(unknown subtype) and 2 influenza B) and 1 confirmed death have been reported in the UK since week 40 2018.



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 44)

- In week 44, there were no new admissions for laboratory confirmed influenza among the 6 Severe Respiratory Failure (SRF) centres in the UK.

- Since week 40 there has been 1 confirmed influenza admission (1 influenza A(unknown subtype)) to ECMO centres

### All-cause mortality data

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**In week 44 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 44 2018.**

- All-cause death registrations, England and Wales

- In week 43 2018, an estimated 9,603 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 9,864 estimated death registrations in week 42 2018.

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

- In week 44 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 44 2018 (Table 2).

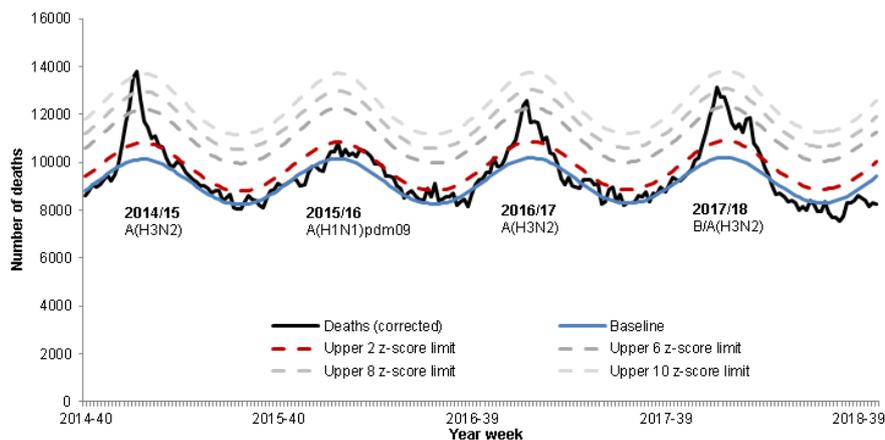
**Table 2: Excess mortality by UK country, for all ages\***

| Country          | Excess detected in week 44 2018? | Weeks with excess in 2018/19 |
|------------------|----------------------------------|------------------------------|
| England          | ×                                | NA                           |
| Wales            | ×                                | NA                           |
| Scotland         | ×                                | NA                           |
| Northern Ireland | ×                                | 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 44 2018**



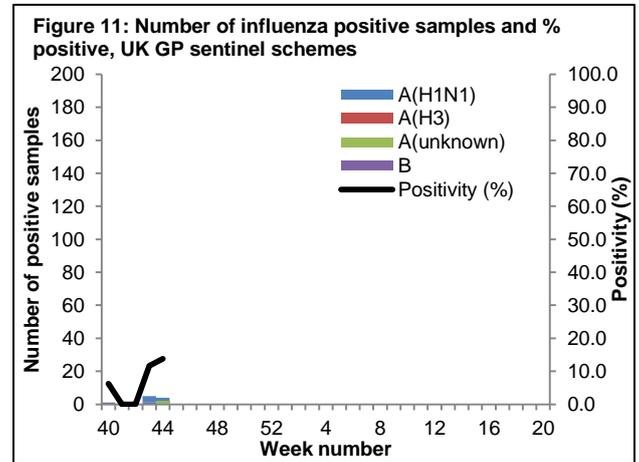
\*Note: Delays in receiving all registered deaths from April 2018, following changes in IT systems at ONS, may result in some delays in the model to adjust for most recent deaths.

In week 44 2018, 4 samples tested positive for influenza (2 influenza A(H1N1)pdm09 and 2 influenza A(unknown subtype)) through the UK GP sentinel schemes, with an overall positivity of 13.8%. 28 positive detections were recorded through the DataMart scheme (9 influenza A(H1N1)pdm09, 3 influenza A(H3), 11 influenza A(unknown subtype) and 5 influenza B) with a positivity of 1.9%, this is below the baseline threshold of 9.2%.

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

-In week 44, 4 samples tested positive for influenza (2 influenza A(H1N1)pdm09 and 2 influenza A(unknown subtype)) with an overall positivity of 13.8% through the UK GP sentinel swabbing schemes (Figure 11).

Since week 40, a total of 10 samples (6 influenza A(H1N1)pdm09, 2 influenza A(unknown subtype) and 2 influenza B) tested positive for influenza through this scheme.

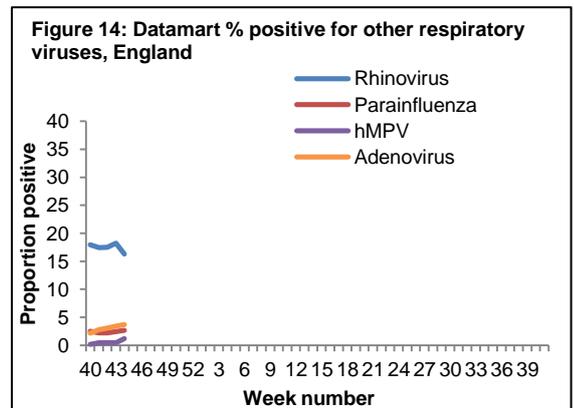
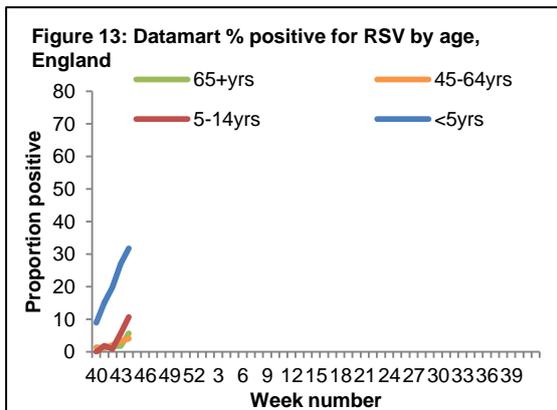
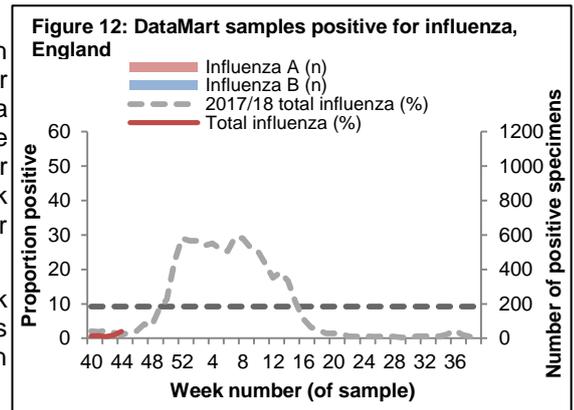


NB. Positivity (%) omitted when fewer than 10 specimens were tested

- Respiratory DataMart System (England)

In week 44 2018, out of the 1,441 respiratory specimens reported through the Respiratory DataMart System, 28 samples (1.9%) were positive for influenza (9 influenza A(H1N1)pdm09, 3 influenza A(H3), 11 influenza A(unknown subtype) and 5 influenza B) (Figure 12), which is below the MEM baseline threshold for this season of 9.2%. The overall positivity for RSV has continued to increase from 9.4% in week 43 to 12.1% in week 44. The highest positivity for RSV by age group was seen in the <5 year olds at 31.8% in week 44 (Figure 13).

Rhinovirus positivity decreased from 18.3% in week 43 to 16.3% in week 44. Adenovirus and human metapneumovirus (hMPV) positivities increased slightly from 3.4% and 0.4% in week 43 to 3.7% and 1.2% in week 44, respectively. Parainfluenza 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 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 3 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.

Genetic characterisation of 5 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 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 2018/19 N.hemisphere B/Victoria lineage quadrivalent and trivalent vaccine component virus (a B/Colorado/06/2017-like virus), is a double deletion subgroup virus.

- 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 44 2018, no influenza viruses were tested for antiviral susceptibility.

- Antimicrobial susceptibility

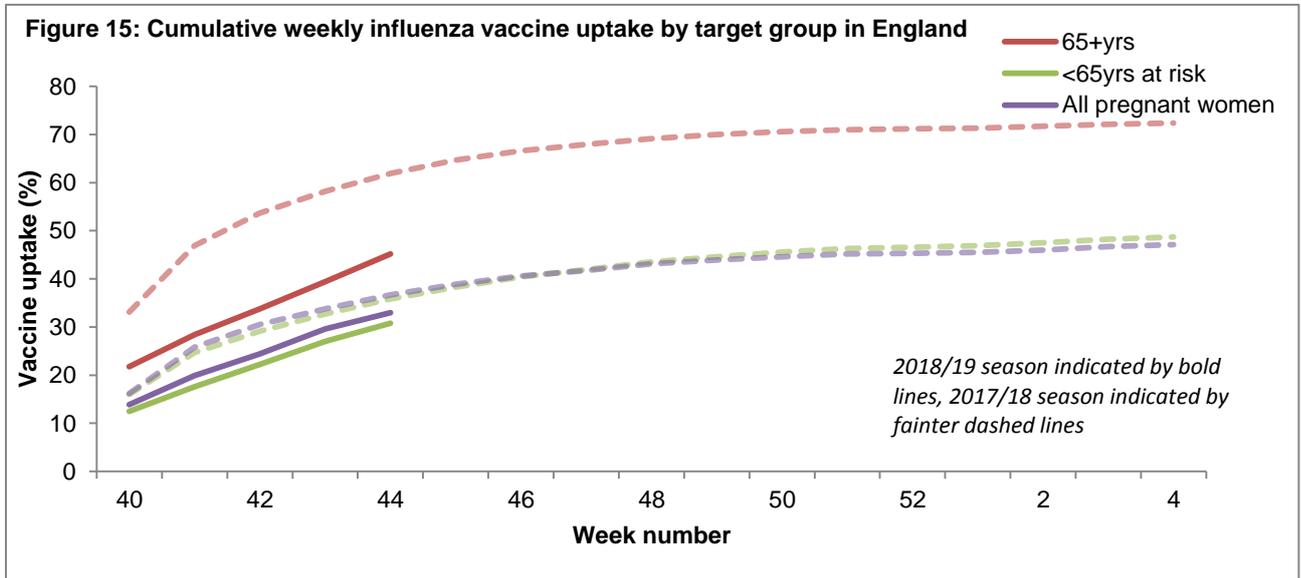
-Table 3 shows in the 12 weeks up to 04 November 2018, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired pneumonia (CAP) and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

**Table 3: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 04 November 2018, E&W**

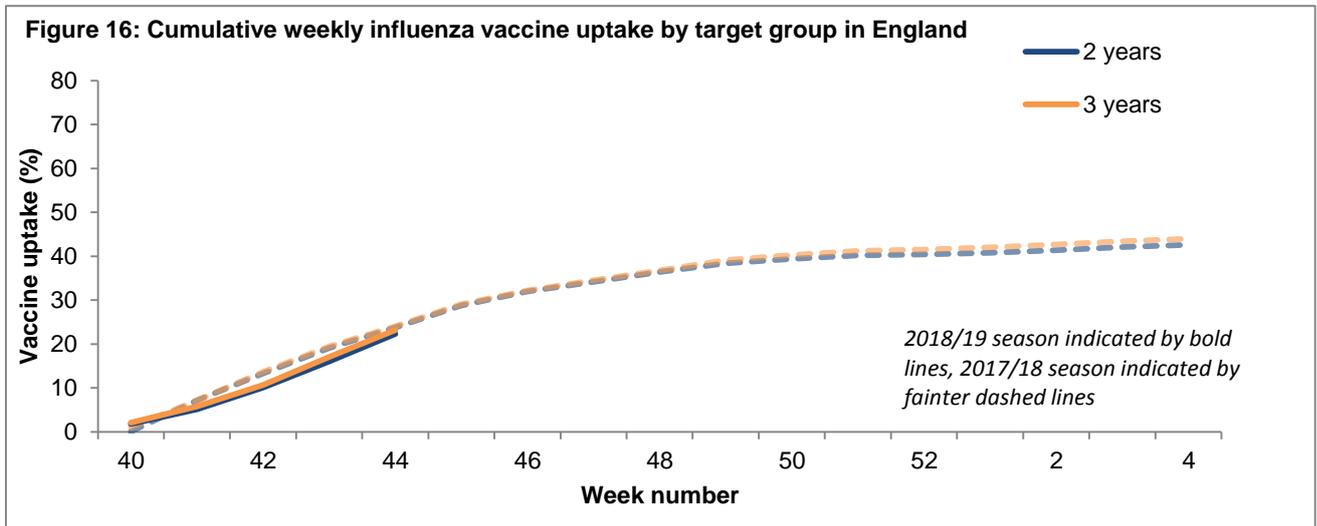
| Organism             | Antibiotic             | Specimens tested (N) | Specimens susceptible (%) |
|----------------------|------------------------|----------------------|---------------------------|
| <i>S. pneumoniae</i> | Penicillin             | 2920                 | 89                        |
|                      | Macrolides             | 3155                 | 82                        |
|                      | Tetracycline           | 3097                 | 85                        |
| <i>H. influenzae</i> | Amoxicillin/ampicillin | 11287                | 69                        |
|                      | Co-amoxiclav           | 12190                | 83                        |
|                      | Macrolides             | 2911                 | 4                         |
|                      | Tetracycline           | 12190                | 98                        |
| <i>S. aureus</i>     | Methicillin            | 6023                 | 90                        |
|                      | Macrolides             | 6730                 | 65                        |
| MRSA                 | Clindamycin            | 424                  | 42                        |
|                      | Tetracycline           | 567                  | 78                        |
| MSSA                 | Clindamycin            | 3860                 | 78                        |
|                      | Tetracycline           | 5034                 | 93                        |

\*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 44 2018, in 96.7% 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):
  - 30.8% in under 65 years in a clinical risk group
  - 33.0% in pregnant women
  - 45.2% 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 44 2018, 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):
  - 22.3% in 2 year olds
  - 23.2% 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 Northern hemisphere, influenza activity remained at inter-seasonal levels. Increased influenza was reported in some countries of Southern and South East Asia. In the temperate zones of the Southern hemisphere, influenza activity appeared to decrease overall. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections**

- [Europe](#) updated on 02 November 2018 (Joint ECDC-WHO Europe Influenza weekly update)

Influenza activity was low throughout the European Region.

For week 43, 8 (1.5%) of the 549 sentinel specimens tested positive for influenza virus 6 type A and 2 type B, of the 5 subtyped influenza A viruses 4 (80.0%) were influenza A(H1N1)pdm09 and 1 (20.0%) was influenza A(H3N2). Type B viruses were not ascribed a lineage.

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). 3 cases of hospitalised laboratory confirmed influenza A in ICUs were reported during week 43, by the UK. 1 case of hospitalised laboratory confirmed influenza in other wards was reported during week 43 by the Czech Republic.

For week 43, 113 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 113, 97 (85.8%) were type A and 16 (14.2%) type B viruses. Of the influenza A viruses that were subtyped, 28 (68.3%) were A(H1N1)pdm09 and 13 (31.7%) were A(H3N2). None of the influenza B viruses from non-sentinel specimens were assigned to a lineage

For week 43, data from the 23 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 02 November 2018 (Centre for Disease Control report)

During week 43, influenza activity remains low in the United States although small increases in activity were reported.

Influenza A and B viruses continue to co-circulate with influenza A(H1N1)pdm09 most commonly reported by public health laboratories during the most recent weeks.

Nationwide, the proportion of outpatient visits for influenza-like illness (ILI) increased slightly at 1.7%, which is below the national baseline of 2.2%. All regions reported ILI below region-specific baseline levels the proportion of outpatient visits for ILI ranged from 0.7% to 2.7%

The proportion of deaths attributed to pneumonia and influenza (P&I) was below the system-specific epidemic threshold in the National Center for Health Statistics (NCHS) Mortality Surveillance System.

- [Canada](#) updated on 02 November 2018 (Public Health Agency report)

Overall, influenza activity crossed the seasonal threshold in week 43, indicating the beginning of the influenza season at the national level.

In week 43, a total of 220 laboratory confirmed detections of influenza were reported, all but 3 of these were influenza A. The percentage of tests positive for influenza from sentinel laboratories crossed the season threshold of 5.0% at 5.2%. The percentage of positive tests for influenza A is higher for this time of year compared to previous 8 seasons.

In week 43, 1.4% of visits to healthcare professionals were due to ILI, the percentage of visits for ILI is within expected levels.

To date this season, 56 influenza-associated hospitalizations were reported by participating provinces and territories.

- [Global influenza update](#) updated on 30 October 2018 (WHO website)

In the temperate zone of the Northern hemisphere, influenza activity remained at inter-seasonal levels. Increased influenza was reported in some countries of Southern and South East Asia. In the temperate

zones of the Southern hemisphere, influenza activity appeared to decrease overall. Worldwide, seasonal influenza subtype A viruses accounted for the majority of detections

In the temperate zone of the Northern hemisphere, influenza activity remained at inter-seasonal levels. In Europe and North America, influenza like illness (ILI) levels started to increase in some countries with low to no influenza virus detections. In Northern Africa, Egypt reported detections of influenza A(H3N2) viruses in recent weeks. In Western Asia, increased activity of influenza A(H1N1)pdm09 followed by influenza B viruses was reported in Qatar.

In the Caribbean, influenza detections and respiratory syncytial virus (RSV) detections remained low in general with the exception of Haiti where influenza A(H1N1)pdm09 virus detections remained elevated. In Central American countries, influenza activity appeared to decrease high in El Salvador and Nicaragua. RSV activity remained elevated in Guatemala, Nicaragua and Panama.

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

In Western Africa, influenza detections increased in Guinea, Mali, Nigeria and Senegal with detections of influenza A(H1N1)pdm09 and B viruses. In Middle Africa, influenza A(H3N2) detections continued to be reported in Central African Republic. In Eastern Africa influenza detections was low in reporting countries.

In Southern Asia, influenza activity of predominantly influenza A(H1N1)pdm09 virus remained elevated in India. In Nepal, increased detections of influenza A(H3N2) and B viruses were reported in Recent weeks.

In South East Asia, influenza activity was reported as increased in some reporting countries. In Lao PDR and Thailand increases in influenza detections were reported with influenza A(H1N1)pdm09 predominantly detected. Increased detections of influenza A(H3N2) and B viruses were reported in Myanmar.

In temperate South America, influenza and RSV activity decreased across the countries of the sub-region. In Paraguay, low detections of all seasonal influenza subtypes were reported while respiratory indicators, although reported as decreased, remained above alert threshold.

In Southern Africa, influenza percent positivity from influenza-like illness (ILI) sentinel sites decreased in South Africa with detections of mainly influenza B viruses.

In Oceania, influenza activity remained low overall with influenza A(H1N1)pdm09 virus most frequently detected. In Australia, influenza activity decreased in general with slightly different trends in each region. In New Zealand, influenza activity declined further in recent weeks and remained below baseline levels.

The WHO GISRS laboratories tested more than 89,996 specimens between 01 October 2018 and 14 October 2018. 2,890 were positive for influenza viruses, of which 2,432 (84.2%) were typed as influenza A and 458 (15.8%) as influenza B. Of the sub-typed influenza A viruses, 1,559 (80.1%) were influenza A (H1N1)pdm09 and 387 (19.9%) were influenza A (H3N2). Of the characterized B viruses, 67 (62.0%) belonged to the B-Yamagata lineage and 41 (38.0%) 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 Organization 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 07 November 2018

Up to 07 November 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 1,334 suspected cases in the UK that have been investigated for MERS-CoV and tested negative.

Between [17 September 2018 and 15 October 2018](#), the National IHR Focal Point of The Kingdom of Saudi Arabia reported 8 additional cases of Middle East Respiratory Syndrome (MERS), including 3 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](#)

### 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](#))

### Disease severity and mortality data

- [USISS](#) system
- [EuroMOMO](#) mortality project