PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

26 October 2017 – Week 43 report (up to week 42 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

During week 42 (ending 22 October 2017), influenza activity was low across all surveillance systems. RSV activity is increasing.

- Community influenza surveillance
  - Seven new acute respiratory outbreaks have been reported in the past 7 days, six outbreaks were from care homes where one tested positive for parainfluenza and another for rhinovirus. The remaining outbreak was from a hospital which tested positive for influenza A(not subtyped).
- Overall weekly influenza GP consultation rates across the UK
  - In week 42, the overall weekly influenza-like illness (ILI) GP consultation rate was 5.9 per 100,000 in England, compared to 5.4 per 100,00 in week 41. This is below the baseline threshold of 13.1 per 100,000 for this season. In the devolved administrations, ILI rates were also below baseline thresholds.
  - Through the GP In Hours Syndromic Surveillance system, GP in hours consultations for influenza like illness (ILI) were low in week 42.
- Influenza-confirmed hospitalisations
  - In week 42, there was one admission to ICU/HDU with confirmed influenza (one influenza A(unknown subtype)) reported across the UK (129/155 Trusts in England) through the USISS mandatory ICU scheme with a rate of 0.00 per 100,000, compared to 0.01 per 100,000 in the previous week.
  - In week 42, there were five hospitalised confirmed influenza cases (one influenza A(H3N2), one influenza A(unknown subtype) and three influenza B) reported through the USISS sentinel hospital network (19 NHS Trusts across England), with a rate of 0.06 per 100,000 compared to 0.10 per 100,000 in the previous week.
  - No laboratory confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 42.
- All-cause mortality data
  - In week 42 2017, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England and in the devolved administrations.
- Microbiological surveillance
  - Four samples tested positive for influenza (two influenza A(unknown subtype), one influenza A(H3) and one influenza B) through the UK GP sentinel swabbing schemes, with an overall positivity of 25.0% in week 42.
  - Twenty-four influenza positive detections were recorded through the DataMart scheme (13 influenza A(H3), five influenza A(unknown subtype), one influenza A(H1N1)pdm09 and five influenza B) in week 42. The overall positivity was 2.0% in week 42, which is below the threshold for 2017/18 season of 8.6%.The highest age-specific positivity was seen in the 15-44 year olds (2.9%).The overall RSV positivity was at 5.3% with the highest age-specific positivity seen in the <5 year olds at 19.5% in week 42.
- Vaccination
  - Up to week 42 2017, in 76.7% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2017/18 influenza vaccine in targeted groups was: 29.1% in under 65 years in a clinical risk group, 30.5% in pregnant women and 53.7% in 65+ year olds.
  - Up to week 42 2017 in 63.5% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2017/18 influenza vaccine in targeted groups was: 13.3% in 2 year olds and 13.7% in 3 year olds.
  - Flu vaccine uptake data on 4 year olds will be collected through the school delivery programme together with uptake for 5-8 year olds and published in the monthly report, to be published on 23 November 2017.
- International situation
  - Globally, influenza activity remained at low levels in the temperate zone of the northern hemisphere and declining levels of influenza activity were reported in the temperate zone of the southern hemisphere Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

Community surveillance

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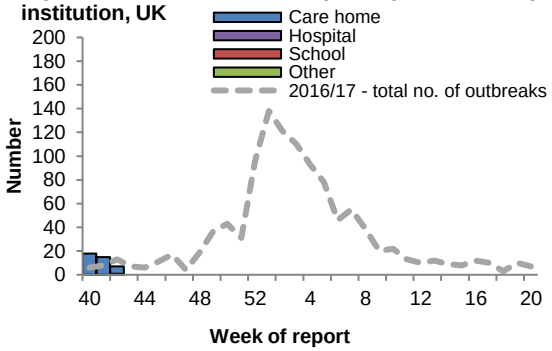
Seven new acute respiratory outbreaks were reported in the past 7 days.

- Acute respiratory disease outbreaks

- Seven new acute respiratory outbreaks have been reported in the past 7 days, six outbreaks were from care homes where one tested positive for parainfluenza and another for rhinovirus. The remaining outbreak was from a hospital which 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 .

Figure 1: Number of acute respiratory outbreaks by institution, UK



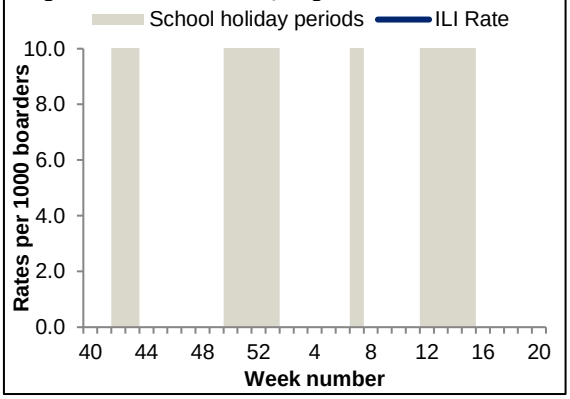
- Medical Officers of Schools Association (MOSA) & PHE surveillance scheme

- Boarding schools in England within the MOSA network are recruited each season to report various respiratory related illnesses including influenza like illnesses (ILI).

- Approximately 20 MOSA schools will be participating in the 2017/18 season. Data will be reported from week 45.

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

Figure 2: MOSA ILI rates, England



- FluSurvey

- Internet-based surveillance of influenza-like illness in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine.

- 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.org.uk/en/accounts/register/ website for more information.

Weekly consultation rates in national sentinel schemes

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In week 42, the overall weekly influenza-like illness (ILI) GP consultation rate is low and is below the baseline threshold in England. In the devolved administrations, ILI rates were low in week 42.

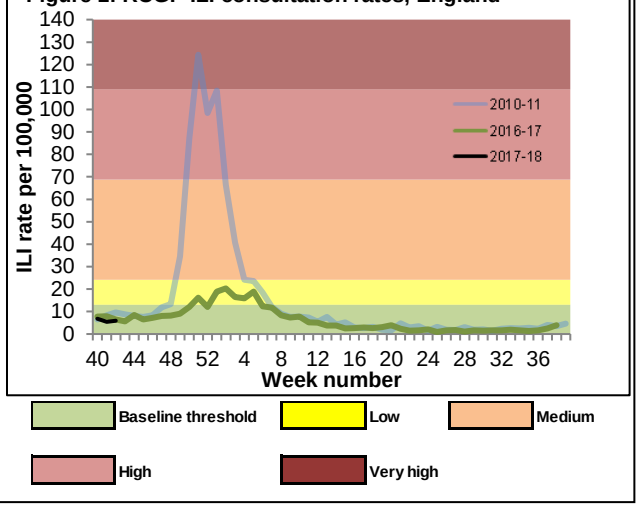
- GP ILI consultations in the UK

RCGP (England)

- The weekly ILI consultation rate through the RCGP surveillance is at 5.9 per 100,000 in week 42 compared to 5.4 per 100,000 in week 41. This is below the baseline threshold (13.1 per 100,000) (Figure 3*). By age group, the highest rates were seen in 45-64 year olds (8.0 per 100,000) and 15-44 year olds (6.4 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 1: RCGP ILI consultation rates, England



UK

- In week 42, overall weekly ILI consultation rates across the countries of the UK were low.

- By age group, the highest rates were seen in the 45-64 & 65-74 year olds in Scotland (6.7 per 100,000 respectively), in the 15-44 year olds in Wales (11.3 per 100,000) and in the 65-74 year olds in Northern Ireland (6.8 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)	6.8	5.4	5.9														
Wales	5.7	6.5	6.7														
Scotland	4.5	7.3	4.2														
Northern Ireland	3.4	3.9	3.7														

**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)

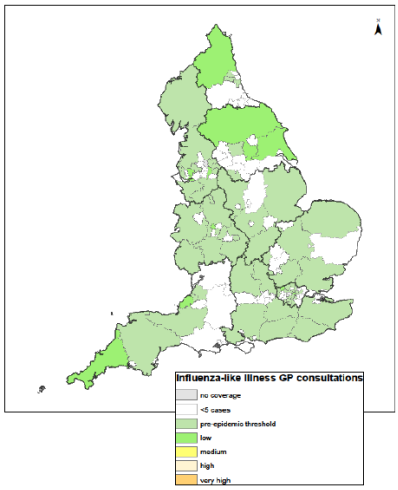
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 4.3 per 100,000 in week 42 (Figure 4).

Figure 4 represents a map of GP ILI consultation rates in week 42 across England by upper tier Local Authorities (utLA), 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 4: Map of GP ILI consultation rates in week 42



Influenza confirmed hospitalisations (provisional)

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In week 42, there was one admission to ICU/HDU with confirmed influenza (one influenza A(unknown subtype)) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (129 Trusts). Five hospitalised confirmed influenza cases (one influenza A(H3N2), one influenza A(unknown subtype) and three influenza B) were reported through the USISS sentinel hospital network across England (19 Trusts).

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 42)

- In week 42, there was one admission to ICU/HDU with confirmed influenza (one influenza A(unknown subtype)) reported across the UK (129/155 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.00 per 100,000 (Figures 6 and 7). No deaths were reported to have occurred in week 42.

A total of eight admissions (two influenza A(H1N1)pdm09, four influenza A(unknown subtype) and two influenza B) and three confirmed deaths have been reported since week 40 2017.

Figure 5: Weekly ICU/HDUinfluenza admission rate per 100,000 trust catchment population , England, since week 40 2017

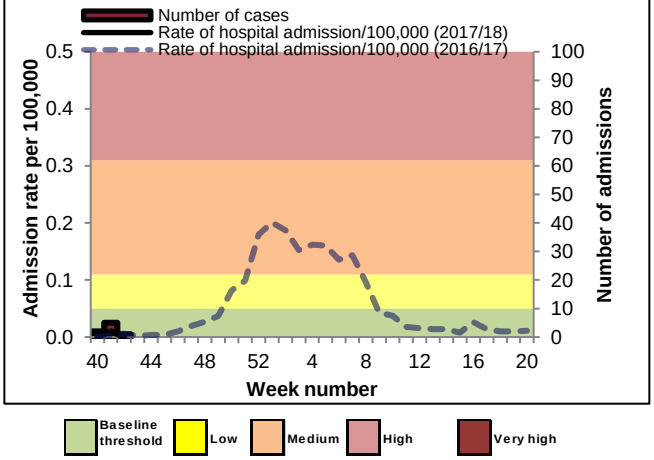
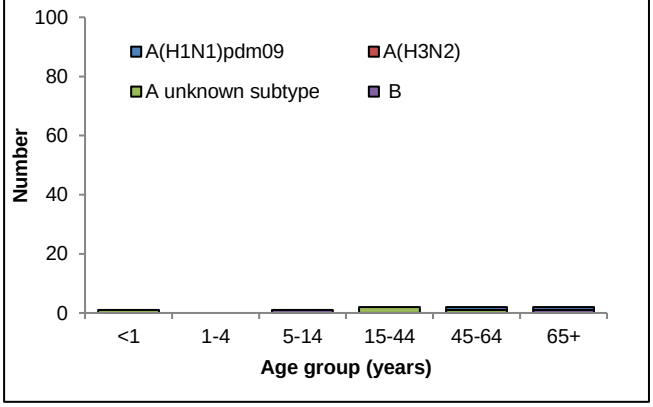


Figure 6: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2017



**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*

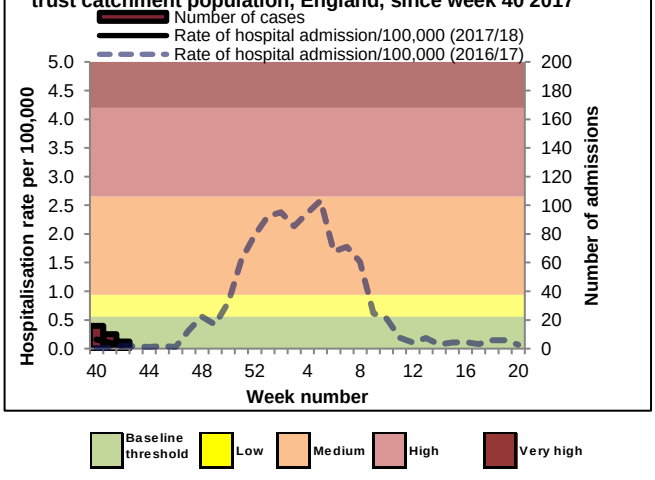
- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 42)

- In week 42, there were five hospitalised confirmed influenza cases (one influenza A(H3N2), one influenza A(unknown subtype) and three influenza B) reported through the USISS sentinel hospital network from 19 NHS Trusts across England (Figure 8), a rate of 0.06 per 100,000 compared to 0.10 per 100,000 in the previous week.

A total of 31 hospitalised confirmed influenza admissions (seven influenza A(H1N1)pdm09, 12 influenza A(H3N2), three influenza A(unknown subtype) and nine influenza B) have been reported since week 40 2017.

**The Moving Epidemic Method (MEM) has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for hospital 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*

Figure 7: Weekly hospitalised influenza case rate per 100,000 trust catchment population, England, since week 40 2017



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 42)

- In week 42, there were no laboratory confirmed influenza admissions reported from the six Severe Respiratory Failure (SRF) centres in the UK.

All-cause mortality data

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In week 42 2017 in England, no statistically significant excess all-cause mortality by week of death was observed through the EuroMOMO algorithm in England. In the devolved administrations, no significant excess all-cause mortality was observed in week 42 2017.

- All-cause death registrations, England and Wales

- In week 41 2017, an estimated 9,940 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is a slight increase compared to the 9,778 estimated death registrations in week 40 2017.

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

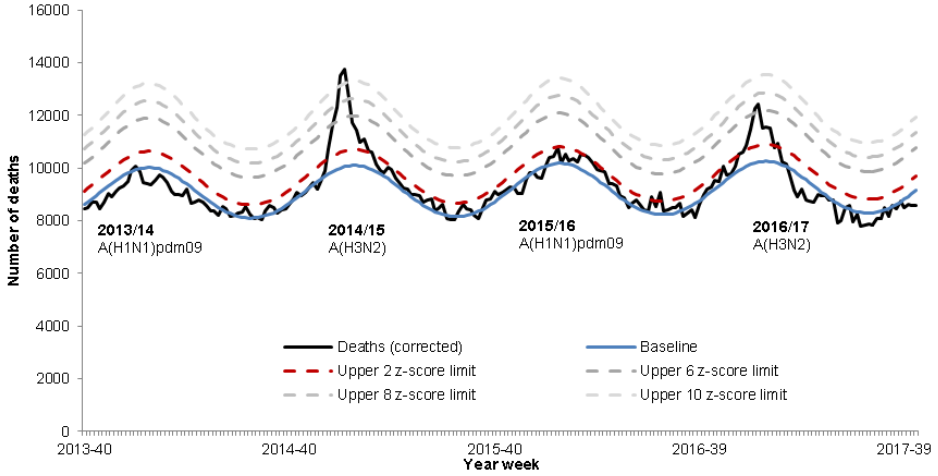
- In week 42 2017 in England, no excess mortality by week of death above the upper 2 z-score threshold was seen overall, by age group or subnationally, after correcting ONS disaggregate data for reporting delay with the standardised EuroMOMO algorithm (Figure 8). This data is provisional due to the time delay in registration; numbers may vary from week to week.
- In the devolved administrations, no significant excess mortality above the threshold was observed in week 42 (Table 2).

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

Country	Excess detected in week 42 2017?	Weeks with excess in 2017/18
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*

Figure 8: Weekly observed and expected number of all-age all-cause deaths, with the dominant circulating strain influenza A type, England, 2013 to 2017



Microbiological surveillance

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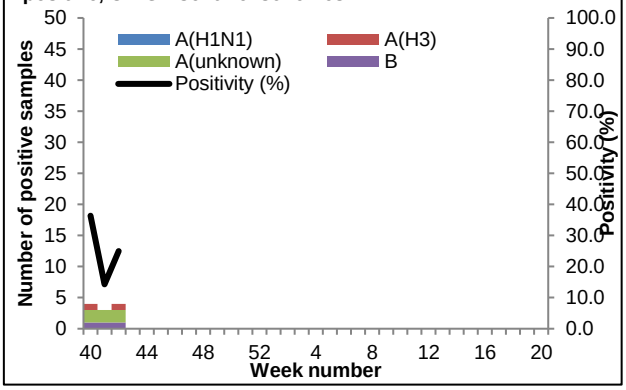
In week 42 2017, four samples tested positive for influenza (two influenza A(unknown subtype), one influenza A(H3) and one influenza B) through the UK GP sentinel schemes, with an overall positivity of 25.0%. Twenty-four positive detections were recorded through the DataMart scheme (13 influenza A(H3), five influenza A(unknown subtype), one influenza A(H1N1)pdm09 and five influenza B) with a positivity of 2.0% in week 42. The highest positivity for RSV by age group was in <5 year olds at 19.5%.

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

-In week 42, four samples tested positive for influenza (two influenza A(unknown subtype), one influenza A(H3) and one influenza B) with an overall positivity of 25.0% through the UK GP sentinel swabbing schemes (Figure 9).

Figure 9: Number of influenza positive samples and % positive, UK GP sentinel schemes



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

- Respiratory DataMart System (England)

In week 42 2017, out of the 1,223 respiratory specimens reported through the Respiratory DataMart System, 24 samples (2.0%) were positive for influenza (13 influenza A(H3), five influenza A(unknown subtype), one influenza A(H1N1)pdm09 and five influenza B) (Figure 10), which is below the MEM threshold for this season of 8.6%. The overall positivity for RSV increased slightly in week 42 at 5.3% compared to 4.2% in week 41. The highest positivity for RSV by age group was seen in the <5 year olds at 19.5% in week 42, an increase from 14.6% in week 41 (Figure 11). Rhinovirus positivity remained high but continued to decrease from 27.9% in week 41 to 22.4% in week 42. Adenovirus positivity decreased slightly from 3.8% in week 41 to 3.0% in week 42. Parainfluenza positivity remained high at 5.8% in week 42 and human metapneumovirus (hMPV) positivity remained low at 1.4% in week 42 (Figure 12).

Figure 10: DataMart samples positive for influenza, England

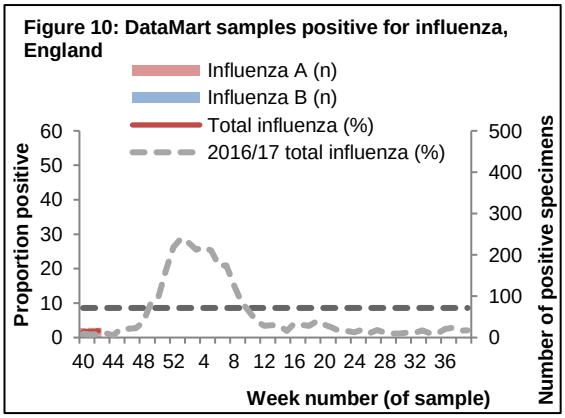


Figure 11: Datamart % positive for RSV by age, England

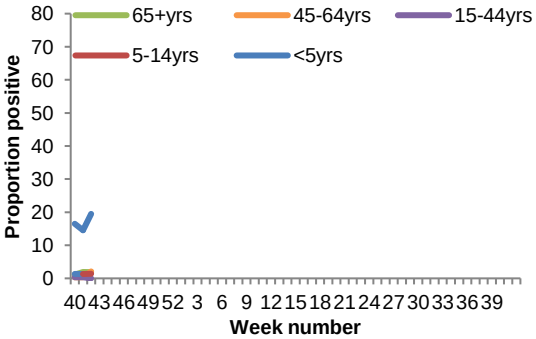
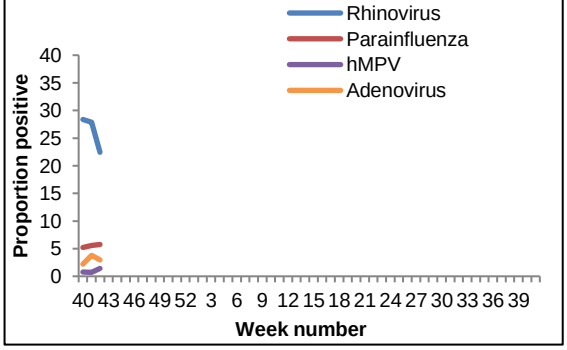


Figure 12: Datamart % positive for other respiratory viruses, England



**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

The PHE Respiratory Virus Unit has characterised 19 influenza viruses detected since late summer. Four A(H1N1)pdm09 influenza viruses have been characterised, two genetically, and two both genetically and antigenically. The A(H1N1)pdm09 viruses genetically characterised belong in the genetic subgroup 6B.1, which was the predominant genetic subgroup in the 2016/17 season. The two viruses antigenically analysed are similar to the A/Michigan/45/2015 Northern Hemisphere 2017/18 (H1N1)pdm09 vaccine strain.
Genetic characterisation of 7 A(H3N2) influenza viruses detected since late summer, showed that they all belong to genetic subclade 3C.2a, with 3 belonging to a cluster within this genetic subclade designated as 3C.2a1. The Northern Hemisphere 2017/18 influenza A(H3N2) vaccine strain A/HongKong/4801/2014 belongs in genetic subclade 3C.2a.
Five influenza B viruses have been analysed genetically; 3 have been characterised as belonging to the B/Yamagata/16/88-lineage and 2 belonging to the B/Victoria/2/1987-lineage. Five influenza B viruses have been isolated and antigenically characterised, of which two viruses were characterised as belonging to the B/Victoria/2/87-lineage and were antigenically similar to B/Brisbane/60/2008, the influenza B/Victoria-lineage component of 2017/18 Northern Hemisphere trivalent and quadrivalent vaccines. Three viruses were characterised as belonging to the B/Yamagata/16/88-lineage and antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2016/17 Northern Hemisphere quadrivalent vaccine.

- 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 2017/18 season so far, three influenza A(H3N2) viruses have been tested for oseltamivir and zanamivir susceptibility; two are fully susceptible but one have E119V amino acid substitutions, causing resistance to oseltamivir but not affecting zanamivir susceptibility. Eight influenza A(H1N1)pdm09 virus have been tested for oseltamivir susceptibility and all were fully susceptible. One of the eight influenza A(H1N1)pdm09 virus have been tested for zanamivir susceptibility and was fully susceptible.

- Antimicrobial susceptibility

-Table 3 shows in the 12 weeks up to 22 October 2017, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenza, 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 22 October 2017, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
S. pneumoniae	Penicillin	357	86
	Macrolides	396	80
	Tetracycline	382	82
H. influenzae	Amoxicillin/ampicillin	1297	69
	Co-amoxiclav	1310	87
	Macrolides	471	12
	Tetracycline	1313	98
S. aureus	Methicillin	605	91
	Macrolides	656	68
MRSA	Clindamycin	37	35
	Tetracycline	54	83
MSSA	Clindamycin	320	80
	Tetracycline	519	95

Macrolides = erythromycin, azithromycin and clarithromycin

Vaccination

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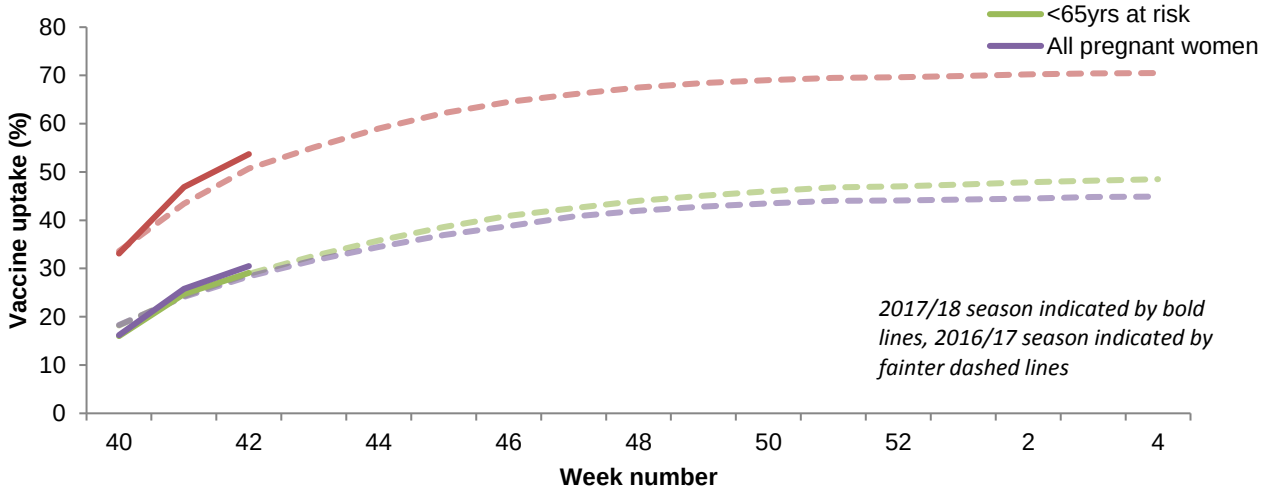
- Up to week 42 2017 in 76.7% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2017/18 influenza vaccine in targeted groups was as follows (Figure 12):
  - 29.1% in under 65 years in a clinical risk group
  - 30.5% in pregnant women
  - 53.7% in 65+ year olds

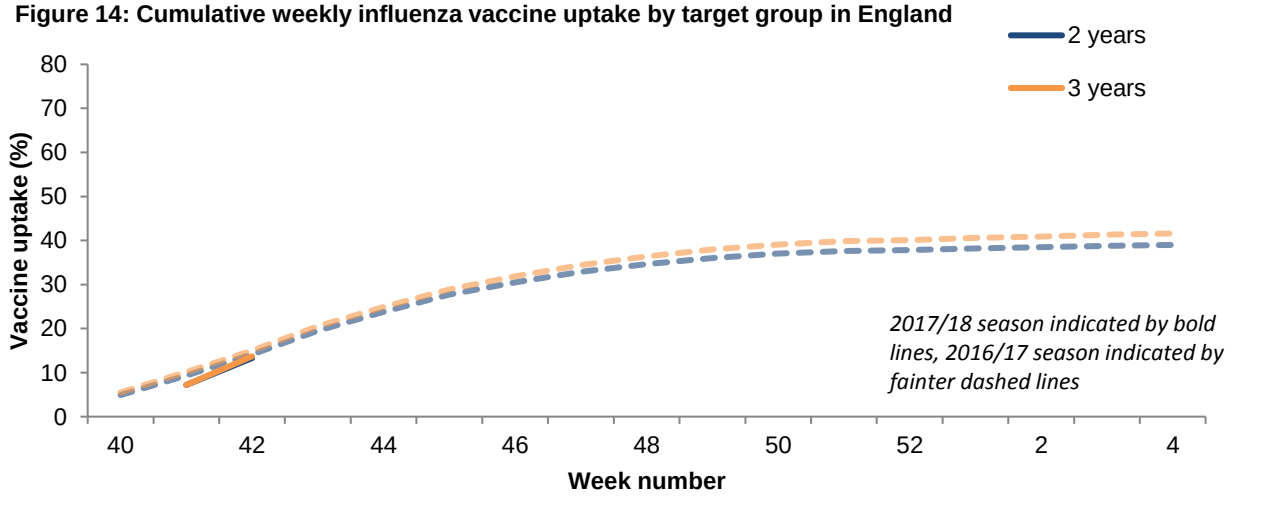
Figure 13: Cumulative weekly influenza vaccine uptake by target group in England



- In 2017/18, all two- and three-year-olds continue to be eligible for flu vaccination, through their GPs. Up to week 42 2017 in 63.5% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2017/18 influenza vaccine in targeted groups was as follows (Figure 14):
  - 13.3% in 2 year olds
  - 13.7% in 3 year olds

In addition, the programme has been extended to children of school years Reception (4 year olds), 1, 2, 3 and 4 age. The data for the school programme, including 4 year olds, will be included in the monthly report to be published on 23 November 2017.

Figure 14: Cumulative weekly influenza vaccine uptake by target group in England



International Situation

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Influenza activity remained at low levels in the temperate zone of the northern hemisphere and declining levels of influenza activity were reported in the temperate zone of the southern hemisphere Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

- Europe updated on 20 October 2017 (Joint ECDC-WHO Influenza weekly update)

In week 41, low influenza activity was reported by all 39 reporting countries.

For week 41/2017, 10 (2%) of 480 sentinel specimens tested positive for influenza viruses: 5 un-subtyped A viruses and 5 B viruses of which 3 were not ascribed to a lineage and 2 were B/Yamagata.

For week 41/2017, 5 influenza-infected cases were reported by countries that conduct surveillance based on hospitalized laboratory-confirmed influenza cases in intensive care units or other wards: 3 cases in ICU in the United Kingdom (one A(H1N1)pdm09, 1 un-subtyped A and one B viruses) and 2 in Ireland (1 un-subtyped A and 1 B virus) from other wards.

For week 41/2017, 8 307 specimens from non-sentinel sources were tested (such as hospitals, schools, non-sentinel primary care facilities, nursing homes and other institutions), of which 108 were positive for influenza viruses. Of the 108 detections, there were 77 type A and 31 type B viruses (Table 12). Among sub-typed A viruses, the vast majority (94%) were A(H3N2) viruses.

For week 41/2017, data from the 20 countries or regions reporting to the EuroMOMO project indicated all-cause mortality at expected levels for this time of the year.

- United States of America updated on 20 October 2017 (Centre for Disease Control report)

During week 41, influenza activity was low in the United States.

The most frequently identified influenza virus type reported by public health laboratories during week 41 was influenza A. The percentage of respiratory specimens testing positive for influenza in clinical laboratories is low.

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.

The proportion of outpatient visits for influenza-like illness (ILI) was 1.3%, which is below the national baseline of 2.2%.

- Canada updated on 20 October 2017 (Public Health Agency report)

Overall, influenza activity remains at inter-seasonal levels across the country in week 41.

The percentage of laboratory tests positive for influenza remains higher for this time of year compared to previous seasons. The majority of influenza detections continue to be A(H3N2).

Influenza-related hospitalizations, primary care consultations for ILI and regions reporting sporadic activity are in the higher range of expected levels for this time of year.

In week 41, 1.8% of visits to healthcare professionals were due to influenza-like illness.

In week 41, four influenza-associated hospitalizations were reported by participating provinces and territories.

To date this season, 35 influenza-associated hospitalizations have been reported, all of which were associated with influenza A, and 22 cases (63%) were in adults 65 years of age or older.

- Global influenza update updated on 16 October 2017 (WHO website)

Influenza activity remained at low levels in the temperate zone of the northern hemisphere. Declining levels of influenza activity were reported in the temperate zone of the southern hemisphere and in some countries of South and South East Asia. In Central America and the Caribbean, low influenza activity was reported in a few countries. Worldwide, influenza A(H3N2) and B viruses accounted for the majority of influenza detections.

In temperate South America, influenza and respiratory syncytial virus (RSV) activity continued a downward trend throughout most of the sub-region.

In Southern Africa, influenza activity continued to decrease in South Africa, with influenza B viruses most frequently detected.

In Oceania, seasonal influenza activity started to decline, with influenza A(H3N2) predominant, followed by B viruses.

In tropical South America, influenza and RSV activity remained at low levels overall.

In the Caribbean and Central American countries, respiratory illness indicators and influenza activity remained low in general but RSV activity remained high in several countries.

In Southern Asia, decreasing levels of influenza activity were reported in India and Bhutan, with A(H1N1)pdm09 most frequently detected.

In South East Asia, influenza activity appeared to decrease in general, with some exceptions. Influenza activity increased in Cambodia and remained high in Lao PDR, with influenza A(H3N2) viruses predominantly detected.

In Western Asia, influenza activity continued to increase in Oman, with influenza A(H1N1)pdm09 and A(H3N2) viruses co-circulating. Increased influenza A detections were reported in Bahrain in recent weeks.

In East Asia, influenza activity remained low in general. In Northern Africa, little to no influenza virus detections was reported.

In Western Africa, influenza detections continued to be reported, with all seasonal influenza subtypes present in the region. In Middle Africa, elevated ILI activity was reported in Cameroon. In Eastern Africa, influenza detections and ILI activity increased sharply in Réunion Island (French Overseas Department), with influenza B viruses predominant.

In Central Asia, there were no updated reports on virus detections or respiratory illness indicators.

In Europe, little to no influenza activity was reported.

In North America, overall influenza virus activity remained low with detections of predominantly influenza A(H3N2) and B viruses in the past few weeks.

The WHO GISRS laboratories tested more than 56,528 specimens from 18 September 2017 to 01 October 2017. 3,496 were positive for influenza viruses, of which 2,566 (73.4%) were typed as influenza A and 930 (26.6%) as influenza B. Of the sub-typed influenza A viruses, 260 (15.1%) were influenza A(H1N1)pdm09 and 1,460 (84.9%) were influenza A(H3N2). Of the characterized B viruses, 192 (81%) belonged to the B-Yamagata lineage and 45 (19%) to the B-Victoria lineage.

- Avian Influenza latest update on 27 September 2017 (WHO website)

Influenza A(H5) viruses

Since the last update on 25 July 2017, one new laboratory-confirmed human case of influenza A(H5N1) virus infection was reported to WHO from Indonesia.

Since 2003, a total of 860 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 454 deaths, have been reported to WHO from 16 countries. The last human cases of A(H5N1) virus infection reported from Indonesia occurred in 2015.

Influenza A(H5) subtype viruses have the potential to cause disease in humans and thus far, no human cases, other than those with influenza A(H5N1) and A(H5N6) viruses, have been reported to WHO. 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. For more information on the background and public health risk of these viruses, please see
the WHO assessment of risk associated with influenza A(H5N8) virus here.

Influenza A(H7N9)

Between 25 July to 27 September 2017, 7 laboratory-confirmed human cases of influenza A(H7N9) virus infection were reported to WHO from China.

As of 27 September 2017, a total of 1564 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 612 deaths, have been reported to WHO.

Influenza A(H9N2)
Since 25 July 2017, one laboratory-confirmed human cases of A(H9N2) virus infection was reported to WHO from China.

Influenza A(H1N2) variant viruses
Two human infections with influenza A(H1N2)v viruses were detected in the state of Ohio in the United States (U.S).

Influenza A(H3N2) variant viruses
Since 25 July 2017, 19 human infections with influenza A(H3N2)v viruses were detected in the U.S. in several states.

Since reporting of novel influenza A viruses became nationally notifiable in 2005, 403 human infections with influenza A(H3N2)v viruses have been reported to the U.S. CDC and 31 of these occurred in 2017.

- Middle East respiratory syndrome coronavirus (MERS-CoV) latest update on 25 October 2017

Up to 25 October 2017, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in the UK. On-going surveillance has identified 1,084 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Between 31 August and 26 September 2017, the national IHR focal point of Saudi Arabia reported nine additional cases of Middle East Respiratory Syndrome (MERS), including four deaths. In addition, four deaths from previously reported cases were reported.

Globally, since September 2012, WHO has been notified of 2,090 laboratory-confirmed cases of infection with MERS-CoV, including at least 730 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 low.

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Related links | Back to top |

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)
- 2017/18 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)