# Public Health England

## PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

## 17 November 2016 – Week 46 report (up to week 45 data)

This report is published weekly on the <u>PHE website</u>. For further information on the surveillance schemes mentioned in this report, please see the <u>PHE website</u> and the <u>related links</u> at the end of this document.

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### Summary

## During week 45 (ending 13 November 2016), influenza activity is at low levels and Respiratory Syncytial Virus (RSV) continues to circulate.

### • Community influenza surveillance

- Through the GP In Hours Syndromic Surveillance system, GP consultations increased for a range of respiratory conditions including upper and lower respiratory tract infection and pneumonia.
- Eleven new acute respiratory outbreaks have been reported in the past 7 days. Eight outbreaks were from care
  homes where one tested positive for enterovirus. Two outbreaks were from schools where one tested positive for
  influenza A(H3N2). 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 45, the overall weekly influenza-like illness (ILI) GP consultation rate was 6.4 per 100,000 in England compared to 8.5 per 100,000 in the previous week. ILI rates were low in the devolved administrations.
- Influenza-confirmed hospitalisations
  - In week 45, there were eight admissions to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09,1 influenza A(H3N2), 5 influenza A(not subtyped) and 1 influenza B) were reported across the UK (130/156 Trusts in England) through the USISS mandatory ICU scheme.
  - In week 45, no hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network (14 NHS Trusts across England).
  - No confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 45.
- All-cause mortality data
  - In week 45 2016, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England overall and by age group and across the devolved administrations.
- Microbiological surveillance
  - Three samples tested positive for influenza (3 influenza A(H3N2)) through GP sentinel schemes across the UK, with an overall positivity of 2.9% in week 45.
  - Twenty-eight influenza positive detections were recorded through the DataMart scheme (20 influenza A(H3N2) and 5 influenza A(not subtyped) and 3 influenza B). A positivity of 2.4% was seen in week 45, with the highest positivity seen in the 15-44 year olds (2.2%). This is below the all-age threshold for 2016/17 season of 8.6%.
  - Through the DataMart scheme, it has been noted that RSV is now circulating with an overall positivity of 13.4% in week 45 compared to 12.3% in week 44. The highest positivity was in the <5 year olds at 36.5% in week 45.</li>
- Vaccination
  - Up to week 45 2016, in 88.8% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows: 38.6% in under 65 years in a clinical risk group, 36.9% in pregnant women, 62.2% in 65+ year olds. In 91.5% of GP practices reporting to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine was as follows: 27.7% in all 2 year olds, 28.9% in all 3 year olds and 22.9% in all 4 year olds.
  - Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 40.4% were vaccinated by 31 October 2016, compared to 32.4% vaccinated in the previous season by 31 October 2015.
  - Provisional data from the first monthly collection of influenza vaccine uptake for children of school years 1, 2 and 3 age show the provisional proportion of children in England who received the 2016/17 influenza vaccine via school, pharmacy or GP practice by 31 October 2016 in targeted groups was as follows: 14.5% in children of school Year 1 age (5-6 years); 13.9% in children of school Year 2 age (6-7 years); 13.2% in children of school Year 3 age (7-8 years).
- International situation
  - Globally, influenza activity in temperate southern hemisphere countries is back at inter-seasonal levels.
    - Influenza activity in the temperate zone of the northern hemisphere remains at inter-seasonal levels.

### **Community surveillance**

During week 45, GP consultations increased for a range of respiratory conditions including upper and lower respiratory tract infection and pneumonia. Eleven new acute respiratory outbreaks were reported in the past 7 days.

PHE Real-time Syndromic Surveillance

- During week 45, GP consultations increased for a range of respiratory conditions including upper and lower respiratory tract infection and pneumonia

- For further information, please see the syndromic surveillance webpage.

Acute respiratory disease outbreaks

- Eleven new acute respiratory outbreaks have been reported in the past 7 days. Eight outbreaks were from care homes where one tested positive for enterovirus. Two outbreaks were from schools where one tested positive for influenza A(H3N2). 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.

#### 100 ■ Care Home ■ Hospital ■ School ■ Other 80 ਭੂ 60 40 20 n 52 48 4 8 20 40 44 12 16 Week of report

Figure 2: FluSurvey ILI incidence by age group, UK

<a>20yrs</a>

500

450

400

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<del>ව</del>ු250

200

150 100

50

0

#### 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.

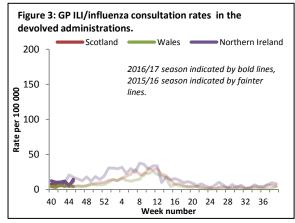
- The overall ILI rate (all age groups) for week 45 was 46.6 per 1,000 (75/1,536 people reported at least 1 ILI), with the 20-44 yeas age group reporting a higher rate of 54.0 per 1.000.

- 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

In week 45, overall weekly influenza-like illness GP consultations remained low, with decreases seen in England and Wales but increases were noted in Northern Ireland and Scotland.

Influenza/Influenza-Like-Illness (ILI)



### Northern Ireland

-The Northern Ireland ILI rate has increased and is at 14.6 per 100,000 in week 45 compared to 4.7 per 100,000 in week 44 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).

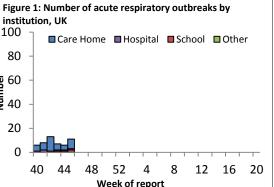
-The highest rates were seen in the 75+ year olds (29.2 per 100,000) and 45-64 year olds (18.1 per 100,000).

lHh 40 44 48 52 4 8 12 16 20 Week number

**20-44yrs** 

45+yrs

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### Wales

-The Welsh ILI rate has decreased at 4.3 per 100,000 in week 45 compared to 6.3 per 100,000 in week 44 (Figure 3). This remains below the baseline threshold (10.3 per 100,000).

- The highest rates were seen in the 45-64 year olds (6.5 per 100,000) and 65-74 year olds (5.1 per 100,000).

### RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance has decreased and is at 6.4 per 100,000 in week 45 compared to 8.5 per 100,000 in week 44. This is below the baseline threshold (14.3 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 45-64 year olds (8.0 per 100,000) and 15-44 year olds (7.8 per 100,000).

\*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.

GP In Hours Syndromic Surveillance System (England)

-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system has decreased at 5.5 per 100,000 in week 45 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 45 across England by Local Authorities, using influenza-like illness surveillance thresholds.

Thresholds are calculated using a standard methodology for setting ILI thresholds across Europe (the "Moving Epidemic Method" (MEM)) and are based on six previous influenza seasons (excluding the 2009/10 H1N1 pandemic)

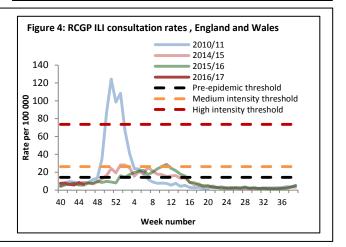
-For further information, please see the syndromic surveillance webpage.

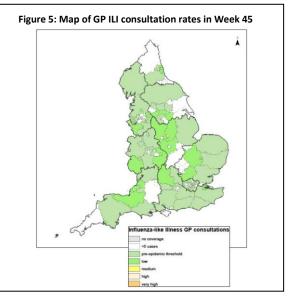
### Influenza confirmed hospitalisations

Scotland

-The Scottish ILI rate has increased and is at 12.1 per 100,000 in week 45 compared to 5.8 per 100,000 in week 44 (Figure 3). This remains below baseline threshold (36.1 per 100,000).

-The highest rates were seen in 45-64 year olds (15.8 per 100,000) and 15-44 year olds (13.5 per 100,000).





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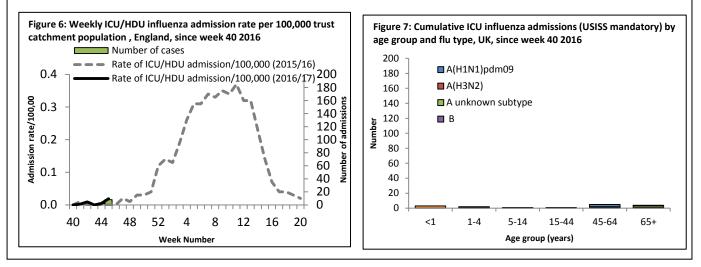
In week 45, there were eight admissions to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09,1 influenza A(H3N2), 5 influenza A(not subtyped) and 1 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (130 Trusts). No hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network across England (14 Trusts).

A national mandatory collection (USISS mandatory ICU scheme) is operating in cooperation with the Department of Health to report the number of confirmed influenza cases admitted to Intensive Care Units (ICU) and High Dependency Units (HDU) and number of confirmed influenza deaths in ICU/HDU across the UK. A confirmed case is defined as an individual with a laboratory confirmed influenza influenza infection admitted to ICU/HDU. In addition a sentinel network (USISS sentinel hospital network) of acute NHS trusts is established in England to report weekly laboratory confirmed hospital admissions. Further information on these systems is available through the website. Please note data in previously reported weeks are updated and so may vary by week of reporting

 Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 45)

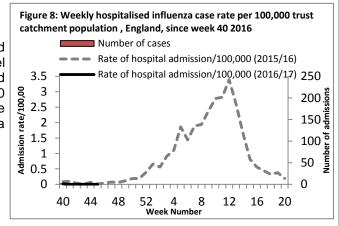
- In week 45, there were eight admissions to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09,1 influenza A(H3N2), 5 influenza A(not subtyped) and 1 influenza B) were reported across the UK (130/156 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.02 per 100,000 compared to a rate of 0.01 per 100,000 in week 44 (Figures 6 and 7). No confirmed influenza deaths were reported in week 45 2016.

A total of sixteen admissions (2 influenza A(H3N2), 4 influenza A(H1N1)pdm09, 3 influenza A(unknown subtype) and 6 influenza A(not subtyped) and 1 influenza B) and no confirmed deaths have been reported since week 40 2016.



### USISS sentinel weekly hospitalised confirmed influenza cases, England (week 45)

- In week 45, there were no hospitalised confirmed influenza cases reported through the USISS sentinel hospital network from 14 NHS Trusts across England (Figure 8), a rate of 0.00 per 100,000 compared to 0.00 per 100,000 in the previous week. A total of one hospitalised confirmed influenza admission (influenza A(H3N2)) has been reported since week 40 2016.



• USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 45)

- In week 45, there were no confirmed influenza admissions reported from the six Severe Respiratory Failure (SRF) centres in the UK. There have been no admissions reported since week 40 2016.

### All-cause mortality data

In week 45, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England. In the devolved administrations, no significant excess mortality was noted in week 44 2016.

Seasonal mortality is seen each year in the UK, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory viruses, in particular influenza. Weekly mortality surveillance presented here aims to detect and report acute significant weekly excess mortality above normal seasonal levels in a timely fashion. Excess mortality is defined as a significant number of deaths reported over that expected for a given point in the year, allowing for weekly variation in the number of deaths. The aim is not to assess general mortality trends or precisely estimate the

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excess attributable to different factors, although some end-of-winter estimates and more in-depth analyses (by age, geography etc.) are undertaken.

### • Excess overall all-cause mortality, England and Wales

-- In week 44 2016, an estimated 10,152 all-cause deaths were registered in England and Wales (source: <u>Office for</u> <u>National Statistics</u>). This is a slight decrease compared to the 9,724 estimated death registrations in week 43 2016.

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

-In week 45 2016 in England, no excess mortality by date of death above the upper 2 z-score threshold was seen in England after correcting ONS disaggregate data for reporting delay with the standardised <u>EuroMoMo</u> algorithm (Table 1). No significant excess was seen in any age groups or subnationally. This data is provisional due to the time delay in registration; numbers may vary from week to week.

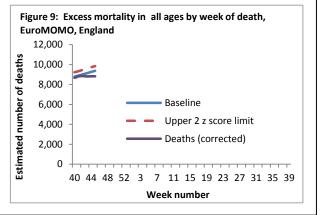
- In the devolved administrations, no significant excess mortality above the threshold was seen in week 44 2016 (Table 2).

### Table 2: Excess mortality by UK country\*

Country	Excess detected in week 45 2016?	Weeks with excess in 2016/17		
England	×	NA		
Wales	×	NA		
Scotland	×	NA		
Northern Ireland * Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold				
NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2				

#### Table 1: Excess mortality by age group, England\* Excess detected Weeks with excess in Age group (years) in week 45 2016? 2016/17 <5 × NA 5-14 NA × 15-64 NA × 65+ NA

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



### Microbiological surveillance

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In week 45 2016, three sample tested positive for influenza (3 influenza A(H3N2)) through the UK GP sentinel schemes a positivity of 2.9%. Twenty-eight positive detections were recorded through the DataMart scheme (20 influenza A(H3N2), 5 influenza A(not subtyped) and 3 influenza B).

-In week 45, three sample tested positive for influenza (3 influenza A(H3N2)) through the UK GP sentinel swabbing schemes, with an overall positivity of 2.9% compared to 1.1% in week 44 (Table 3).

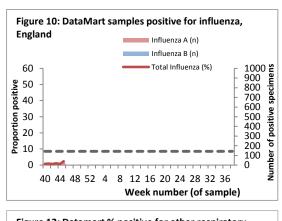
Since week 40 2016, seven samples (5 A(H3N2), 1 A(untyped) and 1 B) have tested positive for influenza through this scheme.

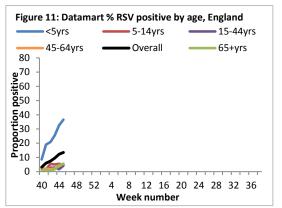
Table 3: Sei	ntinel influenza	surveillance	in the UK
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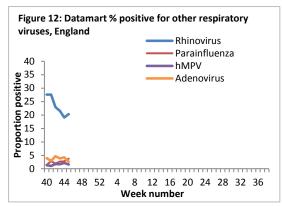
Week	England	Scotland	Northern Ireland	Wales
41	0/75 (0%)	0/69 (0%)	0/3 (-)	0/3 (-)
42	0/81 (0%)	0/78 (0%)	0/2 (-)	1/3 (-)
43	1/81 (1.2%)	0/81 (0%)	0/1 (-)	0/2 (-)
44	0/76 (0%)	1/97 (1%)	1/2 (-)	0/1 (-)
45	3/66 (4.5%)	0/33 (0%)	0/6 (-)	0/0 (-)
NB. Proportion positive omitted when fewer than 10 specimens tested				

• Respiratory DataMart System (England)

In week 45 2016, out of the 940 respiratory specimens reported through the Respiratory DataMart System, 28 samples (2.4%) were positive for influenza (20 influenza A(H3N2), 5 influenza A(not subtyped) and 3 influenza B) (Figure 10). The highest positivity was in the 15-44 year olds at 2.2%. The overall positivity for RSV continued to increase from 12.3% in week 44 to 13.4% in week 45. The highest positivity was noted in the <5 year olds at 36.5% in week 45 compared to 32.7% in week 44 (Figure 11). Positivity for rhinovirus increased slightly from 19.1% in week 44 to 20.4% in week 45. Positivity for parainfluenza increased from 2.8% in week 44 to 3.8% in week 45. Positivities for adenovirus and human metapneumovirus (hMPV) decreased at 2.6% and 1.6% respectively in week 45 (Figure 12).







\*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 2016/17.

### • 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.

Since the start of the 2016/17 winter influenza season in week 40 2016, the PHE Respiratory Virus Unit has characterised two A(H1N1)pdm09 influenza viruses: one genetically and one antigenically. The A(H1N1)pdm09 virus genetically characterised belongs in the genetic subgroup 6B.1, which was the predominant genetic subgroup in the 2015/16 season. The virus antigenically analysed is similar to the A/California/7/2009 Northern Hemisphere 2016/17 (H1N1)pdm09 vaccine strain.

Genetic characterisation of 12 A(H3N2) influenza viruses since week 40 showed that they all belong to genetic subclade 3C.2a, with 9 belonging to a cluster within this genetic subclade designated as 3C.2a1. Viruses within this cluster are antigenically similar to other 3C.2a subclade viruses, which was the majority group circulating during the 2015/16 season. The Northern Hemisphere 2016/17 influenza A(H3N2) vaccine strain A/HongKong/4801/2014 belongs in genetic subclade 3C.2a.

One influenza B virus has been analysed genetically since week 40/2015 and has been characterised as belonging to the B/Yamagata/16/88-lineage. One influenza B virus has been isolated and antigenically characterised since week 40 2016. This virus was characterised as belonging to the B/Yamagata/16/88-lineage and was antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2016/17 Northern Hemisphere quadrivalent vaccine.

### • Antiviral susceptibility

Since week 40 2016, one influenza A(H1N1)pdm09 and one influenza B (Yamagata) viruses have been tested for oseltamivir and zanamivir susceptibility, both of them were sensitive to oseltamivir and zanamivir.

### Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 13 November 2016, 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 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12
weeks up to 13 November 2016, E&W

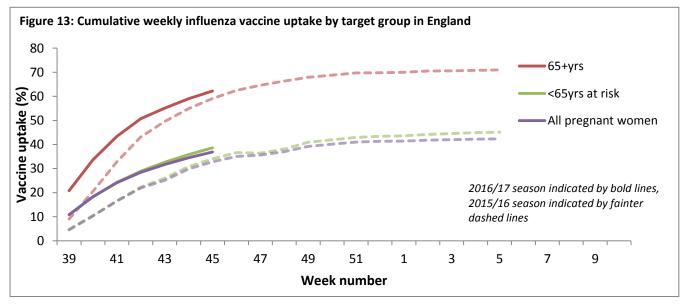
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)	
	Penicillin	2,617		88
S. pneumoniae	Macrolides	2,933		80
	Tetracycline	2,841		82
H. influenzae	Amoxicillin/ampicillin	12,066		70
	Co-amoxiclav	12,311		87
	Macrolides	4,800		13
	Tetracycline	12,138		98
S. aureus	Methicillin	5,592		92
	Macrolides	6,043		68
MRSA	Clindamycin	289		41
	Tetracycline	434		85
MSSA	Clindamycin	2,926		77
	Tetracycline	4,782		93

\*Macrolides = erythromycin, azithromycin and clarithromycin

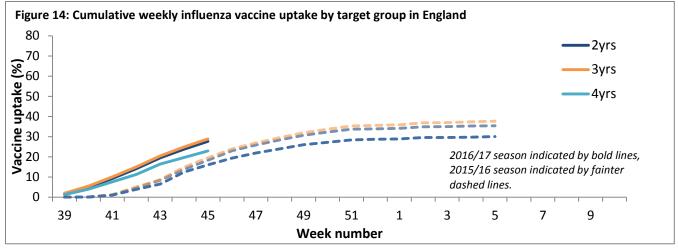
### Vaccination

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- Up to week 45 2016 in 88.8% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
  - 38.6% in under 65 years in a clinical risk group
  - o 36.9% in pregnant women
  - 62.2% in 65+ year olds



- In 2016/17, all two-, three- and four-year-olds continue to be eligible for flu vaccination. In addition, the programme has been extended to children of school years 1, 2 and 3 age. Up to week 45 2016 in 91.5% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine in targeted groups was as follows (Figure 14):
  - 27.7% in all 2 year olds
  - o 28.9% in all 3 year olds
  - o 22.9% in all 4 year olds



- Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 40.4% were vaccinated by 31 October 2016 from 95.8% of Trusts, compared to 32.4% vaccinated in the previous season by 31 October 2015. The report provides uptake at national, area team and CCG level.
- Provisional data from the first monthly collection of influenza vaccine uptake for children of school years 1, 2 and 3 age (from a sample of 89.5% of all Local Authorities in England) show the provisional proportion of children in England who received the 2016/17 influenza vaccine via school, pharmacy or GP practice by 31 October 2016 in targeted groups was as follows:
  - 14.5% in children of school Year 1 age (5-6 years)
  - o 13.9% in children of school Year 2 age (6-7 years)
  - 13.2% in children of school Year 3 age (7-8 years)

### International Situation

Influenza activity in temperate southern hemisphere countries is back at inter-seasonal levels. Influenza activity in the temperate zone of the northern hemisphere remains at inter-seasonal levels.

• Europe updated on 04 November 2016 (Joint ECDC-WHO Influenza weekly update)

In week 44/2016, influenza activity remained low in the region, with few specimens testing positive for influenza viruses (1% of sentinel specimens), and is at a level similar to that observed for the same period in recent seasons.

For week 44/2016, 11 of 734 sentinel specimens tested (1%) were positive for influenza virus (Table below). Of these, 10 (91%) were type A and 1 was type B. All 6 subtyped influenza A viruses were A(H3N2).

For week 44/2016, of those countries, territories and regions that conduct surveillance based on hospitalized laboratory-confirmed influenza cases in intensive care units or other wards, or sentinel severe acute respiratory infections (SARI), Ukraine reported 2 influenza virus-positive cases (one subtyped as A(H3N2)) and Kosovo (in accordance with Security Council resolution 1244 (1999)) 1 (subtyped as A(H3N2)).

For week 44/2016, 137 specimens from non-sentinel sources (such as hospitals, schools, non-sentinel primary care units, nursing homes and other care institutions) tested positive for influenza viruses. Similar to the previous week, 93% were type A and 7% type B. Of 19 influenza A viruses subtyped, 16 (84%) were A(H3N2).

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• United States of America updated on 10 November 2016 (Centre for Disease Control report)

During week 44, influenza activity was low in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 44 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories was low.

Nationwide during week 44, the proportion of outpatient visits for influenza-like illness (ILI) was 1.4%, which is below the national baseline of 2.2%.

• <u>Canada</u> updated on 10 November 2016 (Public Health Agency report)

Influenza activity is at interseasonal levels with the majority regions in Canada reporting low activity.

A total of 147 positive influenza detections were reported in week 44. Influenza A(H3N2) continues to be the most common subtype detected.

In week 44, 1.4% of visits to sentinel healthcare professionals were due to influenza-like symptoms, a slight increase from week 43.

Nine laboratory-confirmed influenza outbreaks were reported in week 44.

Ten hospitalizations were reported in week 44; all due to influenza A(H3N2). The first influenza-associated deaths of the season were reported in week 44, but cumulative counts remain low (less than five deaths).

• <u>Global influenza update</u> updated on 14 November 2016 (WHO website)

In temperate South America, influenza and respiratory syncytial virus (RSV) activity continue to decrease throughout the sub-region.

In South Africa and Oceania, influenza virus activity is now at inter-seasonal levels.

In African countries, few reported surveillance activity in this period. Senegal and Kenya reported influenza A virus detections, and Côte d'Ivoire reported influenza B virus detections.

In the Caribbean countries, influenza and other respiratory virus activity remained low except in Cuba where influenza A(H3N2) and influenza B viruses continue to be detected.

In Central America, influenza virus activity remained low but RSV continued to circulate in several countries as the predominant respiratory virus.

In tropical South America, respiratory virus activities remained low with exception of French Guyana where influenza A(H3N2) viruses detections increased slightly.

In tropical countries of South Asia, influenza activity was low.

In South East Asia, a decreasing trend in influenza detection was observed, although influenza activity continued to be reported in Lao People's Democratic Republic (PDR), Thailand and Cambodia. Influenza activity also increased in southern China, with influenza A(H3N2) virus predominating.

In Western Asia influenza detections remained low.

In North America and Europe, influenza activity was low with few influenza virus detections and ILI levels below seasonal thresholds. In the United States, RSV activity continued to be reported.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 65,111 specimens between 17 October 2016 and 30 October 2016. 2,215 were positive for influenza viruses, of which 1,866 (84.2%) were typed as influenza A and 349 (15.8%) as influenza B. Of the sub-typed influenza A viruses, 73 (5.3%) were influenza A(H1N1)pdm09 and 1,306 (94.7%) were influenza A(H3N2). Of the characterized B viruses, 15 (30.0%) belonged to the B-Yamagata lineage and 35 (70.0%) to the B-Victoria lineage.

• <u>Avian Influenza</u> latest update on 03 October 2016 (WHO website)

### Influenza A(H5) viruses

Since 2003, a total of 856 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 452 deaths, have been reported to WHO from 16 countries. Although other influenza A(H5) viruses have the potential to cause disease in humans, no human cases have been reported so far. According to reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9), continue to be detected in birds in West Africa, Europe and Asia.

### Influenza A(H7N9)

Since the last update on 19 July 2016, China reported five laboratory-confirmed human cases of A(H7N9) virus infection to WHO on <u>11 August 2016</u>, including one fatal case. One cluster of three cases was reported for which the possibility of human-to-human transmission for two cases in the cluster cannot be excluded.

A total of 798 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 320 deaths, have been reported to WHO.

• <u>Middle East respiratory syndrome coronavirus (MERS-CoV)</u> latest update on 11 November 2016

Between <u>15 and 29 October 2016</u> the National IHR Focal Point of Saudi Arabia reported thirteen (13) additional cases of Middle East Respiratory Syndrome (MERS) including four (4) fatal cases.

Up to 16 November 2016, 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 877 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,826 laboratory-confirmed cases of infection with MERS-CoV, including at least 649 related deaths. Further information on management and guidance of possible cases is available <u>online</u>. The latest ECDC MERS-CoV risk assessment can be found <u>here</u>, where it is highlighted that risk of widespread transmission of MERS-CoV remains low.

### Acknowledgements

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This report was prepared by the Influenza section, Respiratory Diseases Department, Centre for Infectious Disease Surveillance and Control, Public Health England. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the PHE Real-time Syndromic Surveillance team, the PHE Respiratory Virus Unit, the PHE Modelling and Statistics unit, the PHE Dept. of Healthcare Associated Infection & Antimicrobial Resistance, PHE regional microbiology laboratories, Office for National Statistics, the Department of Health, Health Protection Scotland, National Public Health Service (Wales), the Public Health Agency Northern Ireland, the Northern Ireland Statistics and Research Agency, QSurveillance<sup>®</sup> and EMIS and EMIS practices contributing to the QSurveillance<sup>®</sup> database.

### **Related links**

### Weekly consultation rates in national sentinel schemes

- Sentinel schemes operating across the UK
- RCGP scheme
- Northern Ireland surveillance (<u>Public Health Agency</u>)
- Scotland surveillance (<u>Health Protection Scotland</u>)
- Wales surveillance (<u>Public Health Wales</u>)
- <u>Real time syndromic surveillance</u>
- MEM threshold <u>methodology paper</u> and <u>UK pilot paper</u>

### Community surveillance

- Outbreak reporting
- <u>FluSurvey</u>
- <u>MOSA</u>

### Disease severity and mortality data

- USISS system
- EuroMOMO mortality project

### Vaccination

- Seasonal influenza vaccine programme (<u>Department of Health Book</u>)
- Childhood flu programme information for healthcare practitioners (<u>Public Health England</u>)
- 2016/17 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)