



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.

Report contents:

| [Summary](#) | [Community surveillance](#) | [GP consultation rates](#) | [Hospitalisations](#) | [All-cause mortality](#) | [Microbiological surveillance](#) | [Vaccination](#) | [International](#) | [Acknowledgements](#) | [Related links](#) |

## Summary

**Influenza activity is at low levels in week 45 2014 (ending 9 November), however RSV continues to circulate, predominantly in under five year olds.**

- [Community influenza surveillance](#)
  - In week 45 syndromic surveillance indicators for influenza remained low. Selected respiratory indicators continued to rise across all systems during week 45, particularly in infants; in line with seasonal expectations and recent increases in laboratory reports for respiratory syncytial virus (RSV).
  - No new acute respiratory outbreaks have been reported in the past seven days.
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 45, overall weekly influenza-like illness GP consultations remained low in Wales (4.5 per 100,000), Scotland (9.6 per 100,000) and Northern Ireland (10.8 per 100,000).
  - Weekly GP In Hours influenza-like illness consultation rates for influenza are low in week 45.
  - There is no RCGP weekly data available this week because of continuing data quality issues. Work is being done to resolve these problems and it is hoped a normal service will resume in the coming weeks.
- [Influenza-confirmed hospitalisations](#)
  - Two new admissions to ICU/HDU with confirmed influenza were reported through the USSS mandatory ICU/HDU surveillance scheme across the UK (143 Trusts in England) in week 45.
  - Seven new hospitalised confirmed influenza cases (one influenza A(H1N1pdm09), four influenza A(H3N2) and two influenza B) were reported through the USSS sentinel hospital network across England (26 Trusts).
- [All-cause mortality data](#)
  - In week 45 2014, no excess all-cause mortality by week of death was seen across the UK through the EuroMOMO algorithm.
- [Microbiological surveillance](#)
  - No samples were positive for influenza through the UK GP sentinel swabbing schemes in week 45.
  - In week 45 2014, seven influenza positive detections were recorded through the DataMart scheme (three A(H3), three B and one A(H1N1)pdm09, a positivity of 0.9% compared to 1.5% the previous week). RSV positivity was elevated at 23.8% in week 45 in children <5 years of age.
- [Vaccination](#)
  - Up to week 45 2014 in 59% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows: 38.7% in under 65 years in a clinical risk group, 32.9% in pregnant women, 61.6% in 65+ year olds, 21.8% in all 2 year olds, 23.2% in all 3 year olds and 18.3% in all 4 year olds.
- [International situation](#)
  - Globally, influenza activity remained low, with the exception of some Pacific Islands.
  - Influenza activity in the European Region is typically low at this time of year and there is no indication that the influenza season has started.

**In week 45 influenza syndromic indicators remained low and no new acute respiratory outbreaks were reported in the last seven days.**

- PHE Real-time Syndromic Surveillance

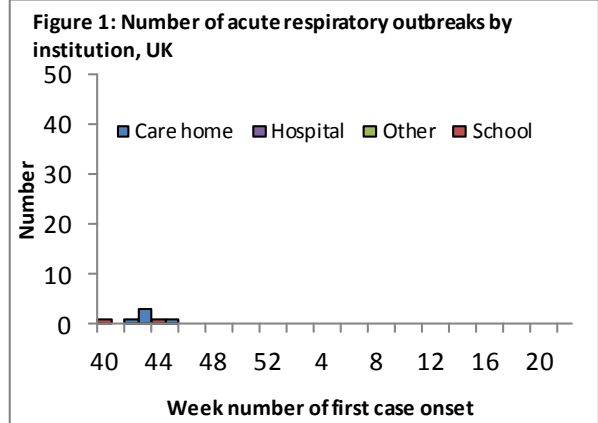
-In week 45 syndromic surveillance indicators for influenza remained low. Selected respiratory indicators continued to rise across all systems during week 45, particularly in infants; in line with seasonal expectations. This is consistent with increased RSV positivity in under five year olds through the Respiratory Datamart System (see page 5).

-For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

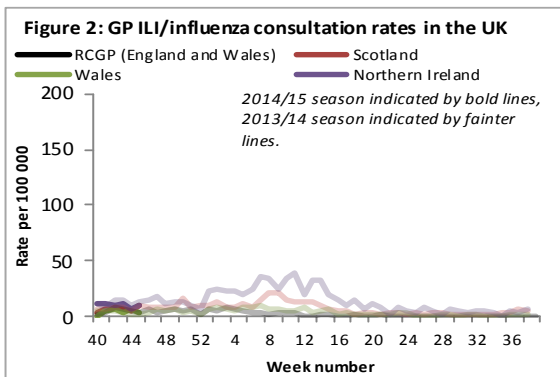
-No new acute respiratory outbreaks have been reported in the last seven days. So far in the 2014/15 flu season, seven outbreaks (five in care homes and two in schools) have been reported in the UK (one flu A(H3), two rhinovirus, one adenovirus/parainfluenza, one enterovirus and two not tested).

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



**In week 45 overall weekly influenza GP consultations remained low in Wales, Scotland and Northern Ireland.**

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza rate was low at 10.8 per 100,000 in week 45 (Figure 2).

-The highest rates were seen in <one year olds (103.1 per 100,000 (NB. there is a low denominator for this age group), 15-44 year olds (14.1 per 100,000) and 45-64 year olds (10.0 per 100,000).

Wales

-The Welsh influenza rate was low at 4.5 per 100,000 in week 45 (Figure 2).

-The highest rates were seen in 5-14 year olds (8.6 per 100,000), 15-44 year olds (5.7 per 100,000) and 75+ year olds (4.9 per 100,000).

Scotland

-The Scottish ILI rate was low at 9.6 per 100,000 in week 45 (Figure 2).

-The highest rates were seen in 15-44 year olds (12.0 per 100,000), 65-74 year olds (10.4 per 100,000) and 45-64 year olds (9.6 per 100,000).

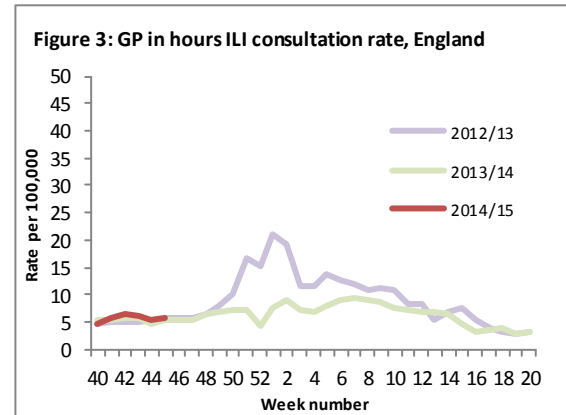
### RCGP (England and Wales)

-There is no RCGP weekly data available this week because of continuing data quality issues. Work is being done to resolve these problems and it is hoped a normal service will resume in the coming weeks.

### GP In Hours Syndromic Surveillance System (England)

-The weekly ILI consultation rate per 100,000 population through the GP In Hours Syndromic Surveillance system remained low in week 45 and similar to levels in previous years for the time of year (Figure 3).

-For further information, please see the syndromic surveillance [webpage](#).



### Influenza confirmed hospitalisations

[Back to top](#)

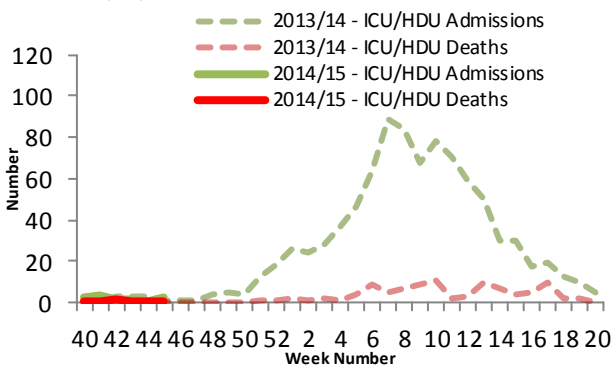
In week 45, two new admissions of confirmed influenza cases to ICU/HDU were reported through the national USISS mandatory ICU scheme across the UK (143 Trusts in England). Seven new hospitalised confirmed influenza cases (one influenza A(H1N1pdm09), four influenza A(H3N2) and two influenza B) have been reported through the USISS sentinel hospital network across England (26 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 infection admitted to ICU/HDU. In addition a sentinel network (USISS sentinel hospital network) of acute NHS trusts has been 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.

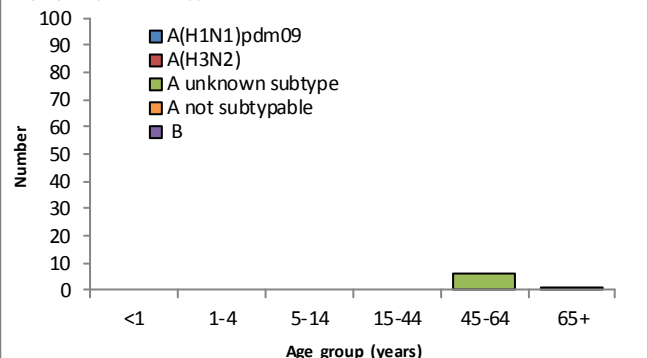
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 45)

-In week 45, two new admissions to ICU/HDU with confirmed influenza infection were reported across the UK (143/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 4 and 5). No new confirmed influenza deaths were reported in week 45 2014. A total of nine admissions (eight A unknown subtype and one A(H3)) and one confirmed influenza death have been reported since week 40 2014.

**Figure 4: Weekly ICU influenza admissions and deaths (USISS mandatory) by week of admission/death, UK, since week 40 2014**



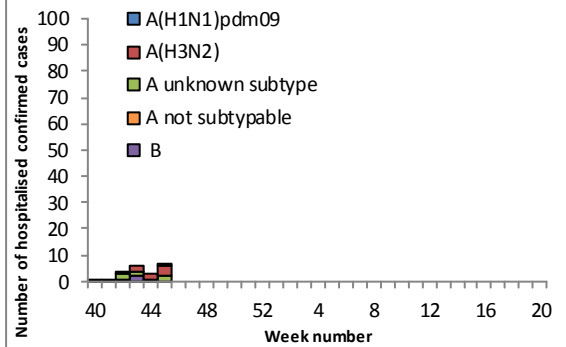
**Figure 5: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2013**



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

-In week 45, seven new hospitalised confirmed influenza cases (one influenza A(H1N1pdm09), four influenza A(H3N2) and two influenza B) were reported through the USISS sentinel hospital network from 26 NHS Trusts across England (Figure 6). A total of 22 hospitalised confirmed influenza admissions (10 A(H3N2), six A unknown subtype, five B and one A(H1N1pdm09)) have been reported since week 40.

Figure 6: Weekly hospitalised cases (USISS sentinel) by flu type, England, since week 40 2013



**All-cause mortality data**

[| Back to top |](#)

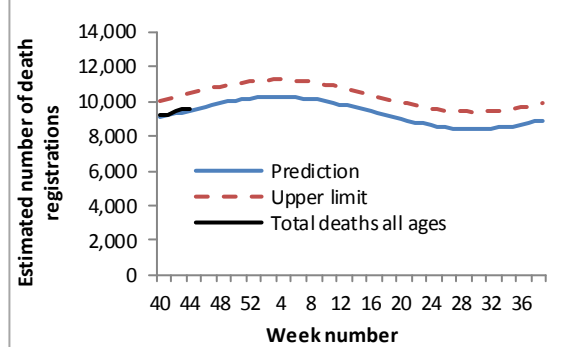
**In week 45 2014, no excess all-cause mortality by week of death was seen in England through the EuroMOMO algorithm.**

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 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 2014, an estimated 9,586 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is similar to the 9,603 estimated death registrations in week 43 but remains below the 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 7).

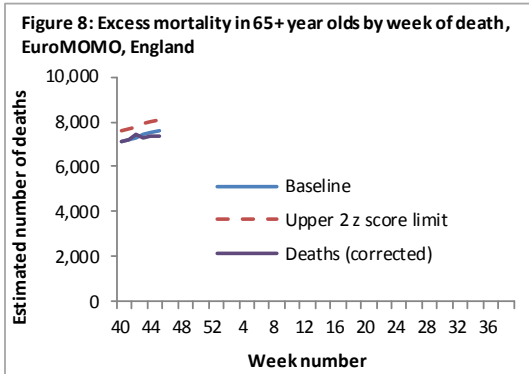
Figure 7: Observed & predicted all-cause death registrations, E&W



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

-In week 45 2014, no excess mortality by date of death above the upper 2 z-score threshold was seen in 65+ year olds in England after correcting ONS disaggregate data for reporting delay with the standardised EuroMOMO algorithm (Figure 8, Table 1), in other age groups or by PHE region. This data is provisional due to the time delay in registration; numbers may vary from week to week.

-No excess mortality above the threshold through the same standardised algorithm was seen across Wales, Scotland or Northern Ireland in week 45 (Table 2).



**Table 1: Excess mortality by age group, England\***

Age group (years)	Excess detected in week 45 2014?	Weeks with excess in 2014/15
<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

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

Country	Excess detected in week 45 2014?	Weeks with excess in 2014/15
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

NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 3 + 4

## Microbiological surveillance

[Back to top](#)

In week 45 2014, no samples were positive for influenza through the UK GP sentinel schemes. Seven influenza positive detections were recorded through the DataMart scheme (three A(H3), three B and one A(H1N1)pdm09).

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

-In week 45, no samples across the UK were positive for influenza (Table 3).

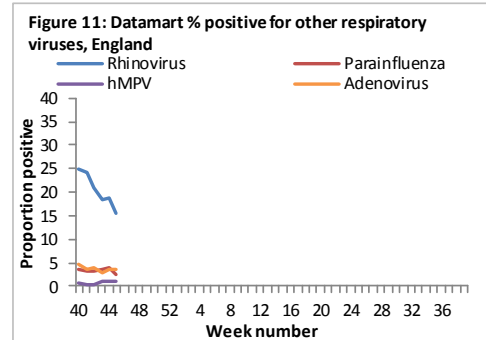
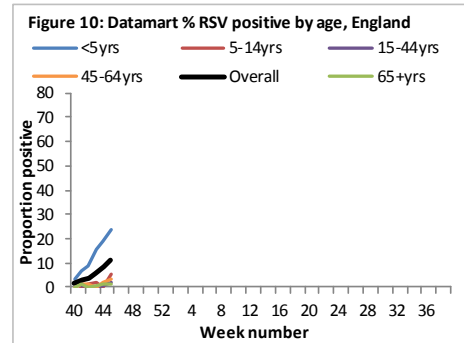
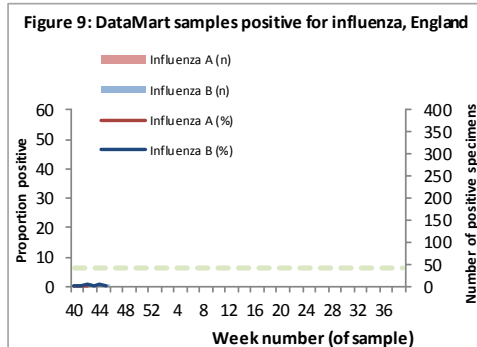
**Table 3: Sentinel influenza surveillance in the UK**

Week	England	Scotland	Northern Ireland	Wales
42	1/31 (3.2%)	1/42 (2.0%)	0/0 (-)	0/0 (-)
43	0/27 (0.0%)	2/47 (4.3%)	0/1 (-)	0/1 (-)
44	3/65 (4.6%)	1/51 (2.0%)	3/4 (-)	0/0 (-)
45	0/45 (0.0%)	0/35 (0.0%)	0/0 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 45 2014, out of the 798 respiratory specimens reported through the Respiratory DataMart System, seven samples (0.9%) were positive for influenza (one A(H1N1)pdm09, three A(H3), and three B, (Figure 9\*)). The overall positivity for RSV was 11.1% in week 45, with the highest positivity reported in the <5 years (an increase from 18.9% to 23.8% in week 45, Figure 10). Positivity for rhinovirus decreased to 15.5% in week 45, while other positivity for respiratory viruses remained at low levels: adenovirus 3.6%, parainfluenza 2.5% and hMPV 1.0%, Figure 11).



\*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 for the start of influenza activity for Datamart % positive as calculated through the Moving Epidemic Method is 6%.

- Virus characterisation

Since week 40 2014, the PHE Respiratory Virus Unit (RVU) has isolated and antigenically characterised three influenza A(H3N2) viruses, all of which were similar to the A/Texas/50/2012 H3N2 Northern Hemisphere 2014/15 vaccine strain.

- Antiviral susceptibility

Since week 40 2014, two influenza viruses (1 A(H1N1)pdm09 and 1B) have been tested for oseltamivir susceptibility in the UK, both are sensitive. The flu B virus was also tested against zanamivir and is sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 2 November 2014, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired pneumonia (CAP) and the choice of antibiotics reflects the British Thoracic Society empirical guidelines for management of CAP in adults.

**Table 4: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 2 Nov 2014, E&W**

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	1,777	90
	Macrolides	1,800	79
	Tetracycline	1,691	81
<i>H. influenzae</i>	Amoxicillin/ampicillin	7,541	73
	Co-amoxiclav	7,086	93
	Macrolides	2,166	11
	Tetracycline	7,368	98
<i>S. aureus</i>	Methicillin	3,587	92
	Macrolides	3,373	69
MRSA	Clindamycin	165	42
	Tetracycline	263	86
MSSA	Clindamycin	1,418	81
	Tetracycline	2,643	93

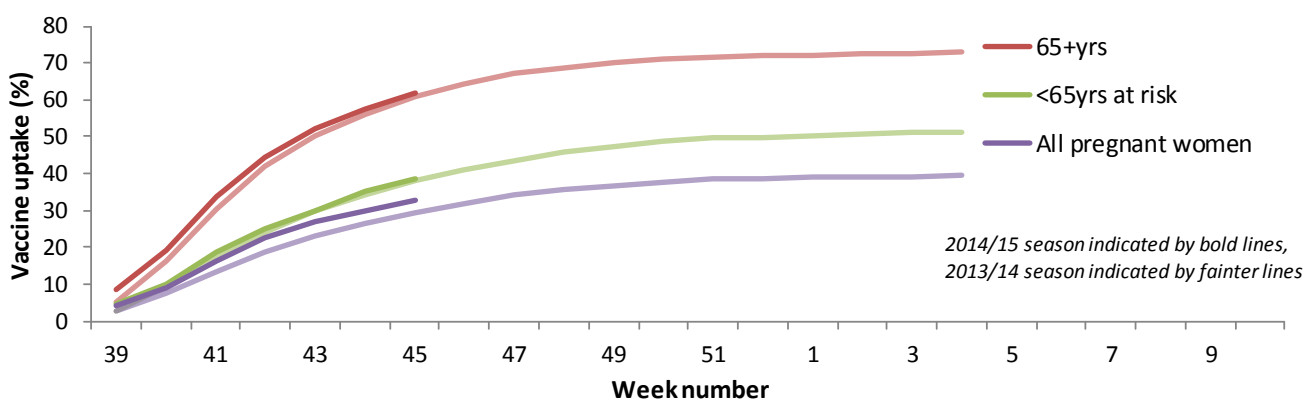
\*Macrolides = erythromycin, azithromycin and clarithromycin

## Vaccination

[| Back to top](#)

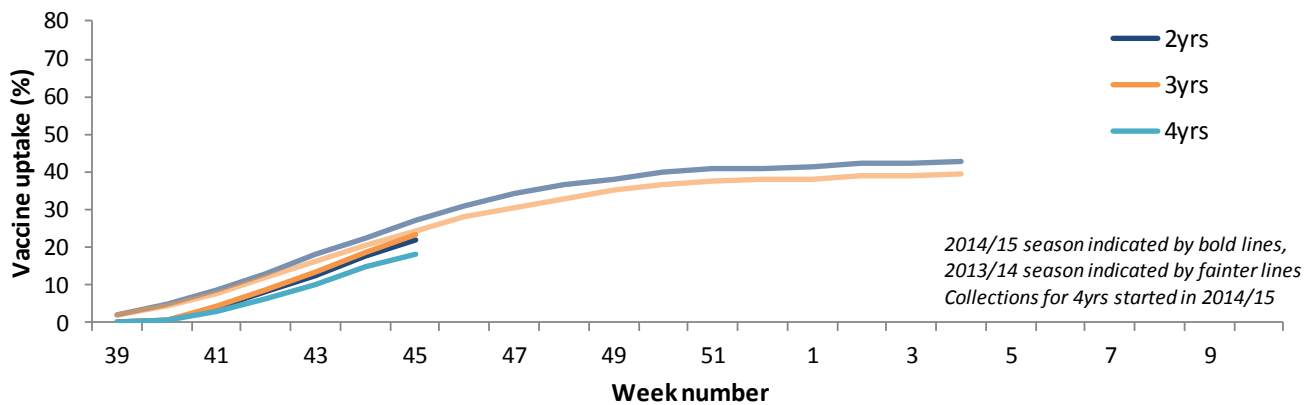
- Up to week 45 2014 in 59% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows (Figure 12):
  - 38.7% in under 65 years in a clinical risk group
  - 32.9% in pregnant women
  - 61.6% in 65+ year olds

**Figure 12: Cumulative weekly influenza vaccine uptake by target group in England**



- The childhood universal influenza vaccination programme has extended from 2-3 year olds in 2013/14 to 2-4 year olds in 2014/15. Up to week 45 2014 in 59% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows (Figure 13):
  - 21.8% in all 2 year olds
  - 23.2% in all 3 year olds
  - 18.3% in all 4 year olds

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



## International Situation

[Back to top](#)

Globally, influenza activity remained low, with the exception of some Pacific Islands. Influenza activity in the European Region is typically low at this time of year and there is no indication that the influenza season has started.

- [Europe](#) 7 November 2014 (Joint ECDC-WHO Influenza weekly update)

Influenza activity in the European Region is typically low at this time of year and there is no indication that the influenza season has started in the Region.

In the fifth week of the surveillance season, all 41 countries submitting data reported low intensity influenza activity, but eight countries reported sporadic cases and two countries, increasing trends. For week 44/2014, of 459 sentinel influenza-like illness (ILI) and acute respiratory infections (ARI) specimens tested across 27 countries, 11 (2%) from five countries tested positive for influenza. No hospitalised laboratory-confirmed influenza cases were reported. All 41 countries submitting data for week 44/2014 reported low intensity of influenza activity, with eight countries reporting sporadic influenza detections. Two countries (Azerbaijan, and Bulgaria) reported increasing trends while the remainder reported stable or decreasing trends.

For week 44/2014, 459 sentinel specimens were tested in 27 countries, with 11 detections (2%) reported by five countries. Three were influenza A(H3N2), two influenza A(H1N1), three influenza A unsubtype, one B Yamagata and two B Victoria. In addition, 64 specimens from non-sentinel sources tested positive for influenza virus; 35 were type A and 29 type B. Eight type A influenza viruses were subtyped: seven as A(H3N2) and one as A(H1N1)pdm09. Over the last five weeks, influenza viruses have been detected in 25 specimens tested in the sentinel system. Eighteen were positive for type A influenza virus; 13 were A(H3N2); two were A(H1N1), and three were not subtyped. Seven were positive for type B influenza virus. This week, six countries reported 138 specimens positive for RSV, an increase of 45 in the previous week. Last season, most RSV detections in the Region were reported between November and February.

For week 44/2014, no severe influenza cases were reported. Since week 40/2014, three countries (Ireland, Spain and the United Kingdom) have reported hospital data. A total of 11 laboratory-confirmed, hospitalized influenza cases have been reported: one in Ireland, three in Spain and seven in the United Kingdom. All seven cases reported by the United Kingdom were admitted to intensive care units (ICUs), were aged 19–64 years and tested positive for influenza A virus, with three viruses being subtyped as A(H3N2). Where ages were provided for the cases from Ireland and Spain, three were in people older than 70 years; one was aged 10–19 years, and one 19–64 years.

No indications of increased mortality due to influenza have been reported through the European monitoring of excess mortality for public health action (EuroMOMO – <http://www.euromomo.eu>).

- [United States of America](#) 7 November 2014 (Centre for Disease Control report)

During week 44 (October 26 – November 1, 2014), influenza activity was low in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 1.5%, which is below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. Puerto Rico experienced high ILI activity; one state experienced low ILI activity; New York City and 49 states experienced minimal ILI activity; and the District of Columbia had insufficient data. The geographic spread of influenza in Guam was reported as widespread; two states reported regional activity; Puerto Rico and three states reported local activity; the District of Columbia and 40 states reported sporadic activity; five states reported no influenza activity; and the U.S. Virgin Islands did not report.

During week 44, 5.7% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.2% for week 44.

Of 8,439 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 44, 504 (6.0%) were positive for influenza. (273 influenza A subtype not performed, 110 influenza B, 120 influenza A(H3) and one influenza A(H1N1)pdm09).

No influenza-associated pediatric deaths were reported to CDC during week 44. To date, one influenza-associated pediatric death has been reported for the 2014-2015 season.

- [Canada](#) 7 November 2014 (Public Health Agency report)

Influenza activity continued to increase in week 44; mostly in the western and central provinces. So far this season, A(H3N2) has been the most common type of influenza affecting Canadians. To date, 45-50% of influenza laboratory detections and hospitalizations have been in seniors  $\geq 65$  years of age. In week 44, one region in Ontario reported localized activity and 16 regions reported sporadic activity.

The number of positive influenza tests increased to 61 influenza detections (2.0% of tests) in week 44. To date, 83% of influenza detections have been influenza A, and the vast majority of those subtyped have been A(H3). Among cases with reported age, the largest proportion was in those  $\geq 65$  years of age (45%). Children  $< 5$  years accounted for 17% of all cases.

The national influenza-like-illness (ILI) consultation rate decreased in week 44 to 25.6 consultations per 1,000. The rates were highest among those  $< 20$  years of age in week 44. The rates since mid-June have been above the expected range for this time of year..

Since the start of the 2014-15 season, 59 laboratory-confirmed influenza-associated hospitalizations have been reported from participating provinces and territories\*; 55 were cases of influenza A, of which the majority were A(H3N2); 49% were patients  $\geq 65$  years of age. No ICU admissions were reported. Six deaths with influenza A have been reported in adults  $\geq 45$  years of age. There is a reporting delay from some regions that have not yet begun submission of weekly reports. Further data is available [here](#).

- [Global influenza update](#) 3 November 2014 (WHO website)

Globally, influenza activity was low, with the exception of some Pacific Islands.

In North America, influenza activity began to increase slightly but remained low.

In Europe overall influenza activity remained at inter-seasonal levels.

In tropical countries of the Americas, influenza detections decreased with respiratory syncytial virus (RSV) causing most influenza-like illness (ILI) and severe acute respiratory infections (SARI).

In Africa, eastern and, western Asia, influenza activity was low. In tropical Asia, influenza activity continued to decrease or remained low with influenza B predominant in India and Viet Nam.

In the southern hemisphere, influenza activity reached inter-seasonal levels except in several Pacific Islands where ILI activity remained high.

- Enterovirus D68 (EV-D68) 6 November 2014

From mid-August to 6 November 2014, [1,116 persons](#) (mostly children) in the USA were confirmed to have respiratory illness caused by EV-D68 and cases have also been reported in Canada. This represents an increase in the number of confirmed and suspected cases associated with EV-D68 compared to reports from previous years. In addition, there has been a report of a cluster of neurological illness possibly associated with EV-D68 in nine children in [North America](#) and several media reports of further small clusters which are currently under investigation by public health authorities. ECDC have released a [rapid risk assessment](#) of the situation.

In the UK, [12 cases](#) of laboratory confirmed EV-D68 infection mainly in young children have been reported since 2012. There is a moderate risk that EV-D68 is currently circulating within the UK but will be mostly undetected as cases can be asymptomatic/mildly symptomatic and the virus is not currently part of routine respiratory screening. Awareness has been raised around the symptoms resulting from infection and the potential clustering of cases of respiratory and neurological illness.



- [Avian Influenza](#) 6 November 2014 (WHO website)

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

The most recent human infections with influenza A(H7N9) were reported by WHO on [29 October 2014](#) (two cases). So far, the overall risk associated with the H7N9 virus has not changed. WHO does not advise special screening at points of entry with regard to this event, nor does it currently recommend any travel or trade restrictions.

For further updates please see the WHO website and for advice on clinical management please see information available [online](#).

### **Influenza A(H5N1)**

From 2003 through 2 October 2014, 668 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 16 countries, of which 393 (59%) died.

- Novel coronavirus 5 November 2014

Up to 5 November 2014, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in England. On-going surveillance has identified 224 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 909 confirmed cases have been reported internationally, resulting in a current global total of [909 cases](#), with the most recent cases reported from Kingdom of Saudi Arabia. Further information on management and guidance of possible cases is available [online](#).

## **Acknowledgements**

[| Back to top |](#)

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, NHS Direct, 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**

[| Back to top |](#)

### **Weekly consultation rates in national sentinel schemes**

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

### **Community surveillance**

- [Outbreak reporting](#)
- [FluSurvey](#)
- [MOSA](#)

### **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](#))
- 2014/15 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))