



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 46 2014 (ending 16 November), however RSV continues to circulate, predominantly in under five year olds.

- [Community influenza surveillance](#)
 - In week 46 syndromic surveillance indicators for influenza remained low. Selected respiratory indicators continued to rise across all systems during week 46, particularly in infants; in line with seasonal expectations and recent increases in laboratory reports for respiratory syncytial virus (RSV).
 - Six new acute respiratory outbreaks have been reported in the past seven days, two in hospitals (one parainfluenza and one not tested) two in care homes (one A(H3) and one not tested) and one in a primary school (flu A(H3)).
- [Overall weekly influenza GP consultation rates across the UK](#)
 - In week 46, overall weekly influenza-like illness GP consultations remained low in Wales (8.4 per 100,000), Scotland (7.3 per 100,000) and Northern Ireland (8.7 per 100,000)).
 - Weekly GP In Hours influenza-like illness consultation rates for influenza are low in week 46.
 - 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](#)
 - Four new admissions to ICU/HDU with confirmed influenza (three A unknown subtype and one B) were reported through the USSS mandatory ICU/HDU surveillance scheme across the UK (136 Trusts in England) in week 46.
 - Five new hospitalised confirmed influenza cases (two A unknown subtype, two B and one influenza A(H3N2)) were reported through the USSS sentinel hospital network across England (24 Trusts).
- [All-cause mortality data](#)
 - In week 46 2014, no excess all-cause mortality by week of death was seen across the UK through the EuroMOMO algorithm.
- [Microbiological surveillance](#)
 - Three samples were positive for influenza through the UK GP sentinel swabbing schemes in week 46 (two A(H3) and one B).
 - In week 46 2014, eleven influenza positive detections were recorded through the DataMart scheme (seven A(H3), three A(not subtyped) and one B, a positivity of 1.2% compared to 0.9% the previous week). RSV positivity was elevated at 31.8% in week 46 in children <5 years of age.
- [Vaccination](#)
 - Up to week 46 2014 in 81% 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: 40.3% in under 65 years in a clinical risk group, 35.5% in pregnant women, 64.6% in 65+ year olds, 25.8% in all 2 year olds, 27.5% in all 3 year olds and 21.6% in all 4 year olds.
 - Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 36.8% were vaccinated by 31 October 2014 from 96.6% of Trusts, compared to 35.0% vaccinated the previous season by 31 October 2013.
- [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.

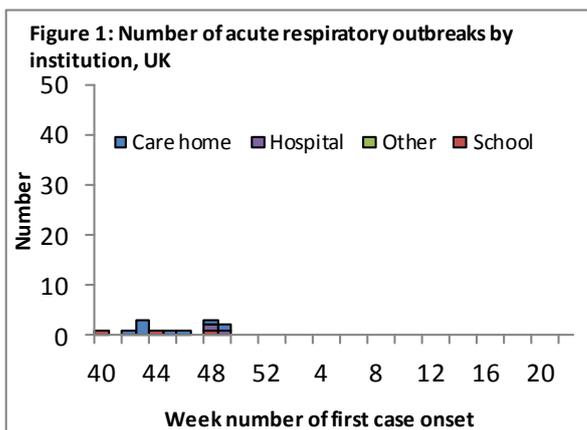
In week 46 influenza syndromic indicators remained low and six new acute respiratory outbreaks were reported in the last seven days.

- PHE Real-time Syndromic Surveillance

-In week 46 syndromic surveillance indicators for influenza remained low. Selected respiratory indicators continued to rise across all systems during week 46, 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](#).

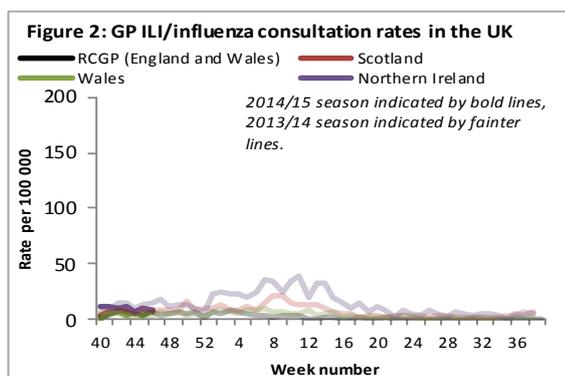
- Acute respiratory disease outbreaks

-Six new acute respiratory outbreaks have been reported in the past seven days, two in hospitals (one parainfluenza and one not tested) two in care homes (one A(H3) and one not tested) and one in a primary school (flu A(H3)). So far in the 2014/15 flu season, 13 outbreaks (eight in care homes, three in schools and two in hospitals) have been reported in the UK including three with flu A(H3) infection, one flu A (untyped), three rhinovirus, one parainfluenza, one adenovirus/parainfluenza, one enterovirus and three not tested
 -Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respscidsc@phe.gov.uk.



In week 46 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 8.7 per 100,000 in week 46 (Figure 2).
 -The highest rates were seen in 1-4 year olds (19.7 per 100,000), 45-64 year olds (15.9 per 100,000) and 5-14 year olds (8.2 per 100,000).

Wales

-The Welsh influenza rate was low at 8.4 per 100,000 in week 46 (Figure 2).
 -The highest rates were seen in 45-64 year olds (13.4 per 100,000), 75+ year olds (9.2 per 100,000) and 15-44 year olds (8.1 per 100,000).

Scotland

-The Scottish ILI rate was low at 7.3 per 100,000 in week 46 (Figure 2).
 -The highest rates were seen in 15-44 year olds (10.2 per 100,000), 75+ year olds (7.7 per 100,000) and 45-64 year olds (6.7 per 100,000).

RCGP (England and Wales)

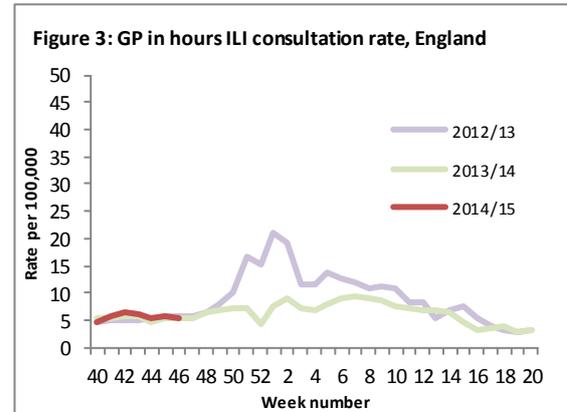
-There is no RCGP weekly data available this week because of continuing data quality issues. Work is being done to resolve these problems and it is hoped a normal service will resume in the coming weeks.

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 46 and similar to levels in previous years for the time of year (Figure 3).

-Please note: a data issue is currently being investigated which has resulted in a decrease in GP consultation rates from 12/11/14 onwards. Therefore, data should be interpreted with some caution.

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



Influenza confirmed hospitalisations

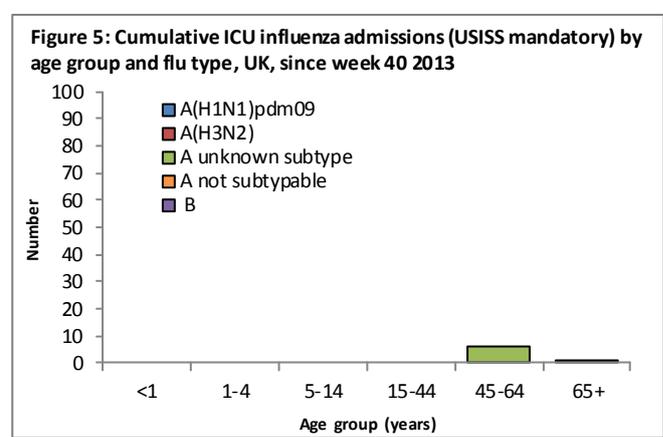
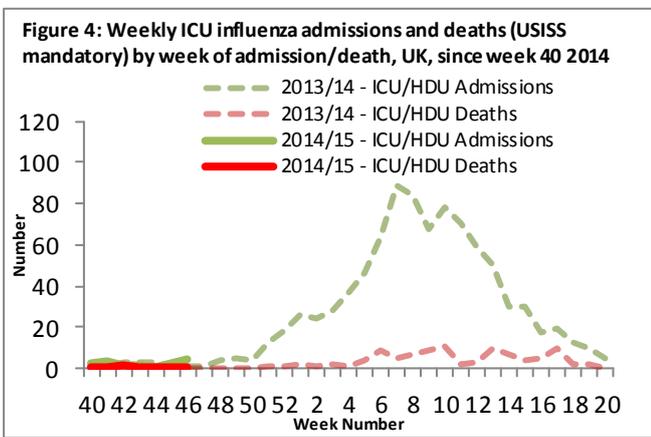
[| Back to top |](#)

In week 46, four new admissions of confirmed influenza cases (three A unknown subtype and one B) to ICU/HDU were reported through the national USISS mandatory ICU scheme across the UK (136 Trusts in England). Five new hospitalised confirmed influenza cases (two A unknown subtype, two B and one influenza A(H3N2)) have been reported through the USISS sentinel hospital network across England (24 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 46)

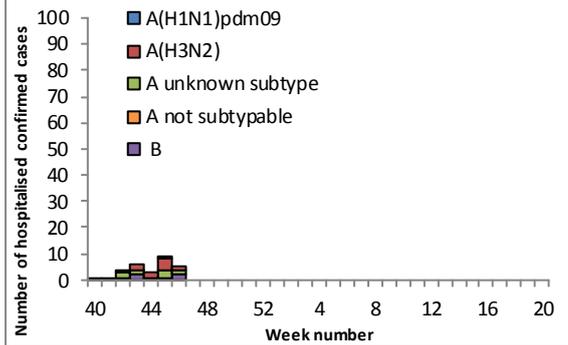
-In week 46, four new admissions to ICU/HDU with confirmed influenza infection (three A unknown and one B) were reported across the UK (136/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 4 and 5) compared to two in week 45. No new confirmed influenza deaths were reported in week 46 2014. A total of 13 admissions (11 A unknown subtype, one A(H3) and one B) and one confirmed influenza death have been reported since week 40 2014.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 46)

-In week 46, five new hospitalised confirmed influenza cases (two influenza A unknown subtype, two B and one influenza A(H3N2)) were reported through the USISS sentinel hospital network from 24 NHS Trusts across England (Figure 6). A total of 29 hospitalised confirmed influenza admissions (11 A(H3N2), nine A unknown subtype, eight 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](#)

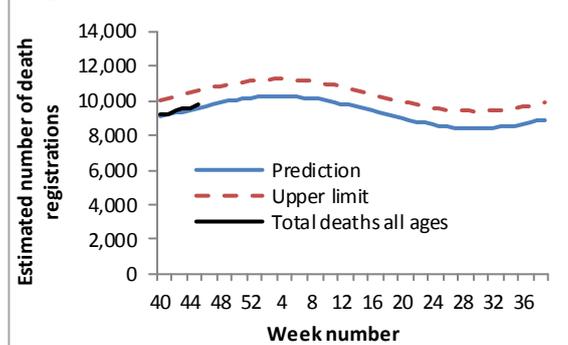
In week 46 2014, no excess all-cause mortality by week of death was seen in England through the EuroMOMO algorithm.

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 45 2014, an estimated 9,753 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly higher than the 9,586 estimated death registrations in week 44 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 46 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 46 (Table 2).

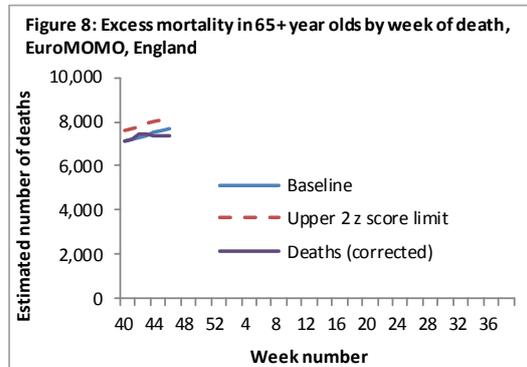


Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 46 2014?	Weeks with excess in 2014/15
<5	x	NA
5-14	x	NA
15-64	x	NA
65+	x	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 46 2014?	Weeks with excess in 2014/15
England	x	NA
Wales	x	NA
Scotland	x	NA
Northern Ireland	x	NA

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

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 46 2014, three samples were positive for influenza through the UK GP sentinel schemes (two A(H3) and one B). Eleven influenza positive detections were recorded through the DataMart scheme (seven A(H3), three A(not subtyped) and one B).

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

-In week 46, three samples were positive for influenza in England (two A(H3) and one B). No samples in Scotland, Northern Ireland or Wales were positive for influenza (Table 3).

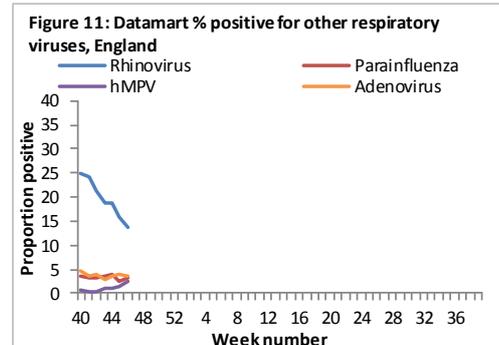
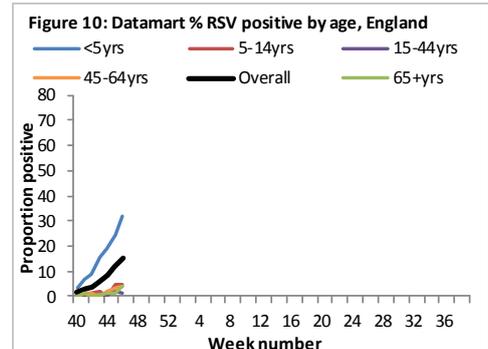
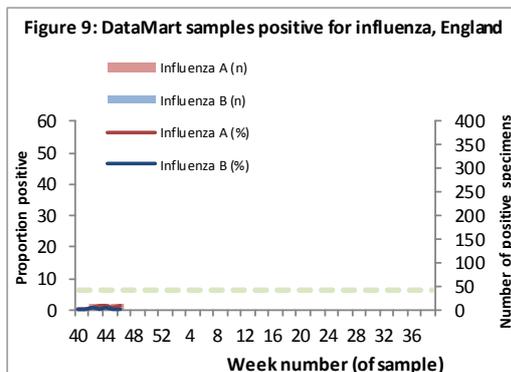
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
43	0/27 (0.0%)	2/47 (4.3%)	0/1 (-)	0/1 (-)
44	3/70 (4.3%)	1/51 (2.0%)	3/4 (-)	0/0 (-)
45	0/63 (0.0%)	0/58 (0.0%)	0/0 (-)	0/0 (-)
46	3/41 (7.3%)	0/22 (0.0%)	0/0 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 46 2014, out of the 890 respiratory specimens reported through the Respiratory DataMart System, 11 samples (1.2%) were positive for influenza (seven A(H3), three A(not subtyped) and 1 B, (Figure 9*). The overall positivity for RSV was 15.4% in week 46, with the highest positivity reported in the <5 years (with an increase from 24.6% to 31.8% in week 46, Figure 10). Positivity for rhinovirus decreased to 13.7% in week 46, while other respiratory viruses remained at low levels: adenovirus 3.5%, parainfluenza 3.2% and hMPV 2.5%, 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, four influenza viruses (2 A(H3N2), 1 A(H1N1)pdm09 and 1B) have been tested for oseltamivir susceptibility in the UK and all are sensitive. The two flu A(H3N2) and the flu B virus were also tested against zanamivir and are all sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 9 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 9 Nov 2014, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	1,673	90
	Macrolides	1,703	79
	Tetracycline	1,602	82
<i>H. influenzae</i>	Amoxicillin/ampicillin	7,005	73
	Co-amoxiclav	6,563	93
	Macrolides	2,010	11
<i>S. aureus</i>	Tetracycline	6,843	98
	Methicillin	3,325	92
	Macrolides	3,131	68
MRSA	Clindamycin	154	42
	Tetracycline	243	85
MSSA	Clindamycin	1,330	80
	Tetracycline	2,438	93

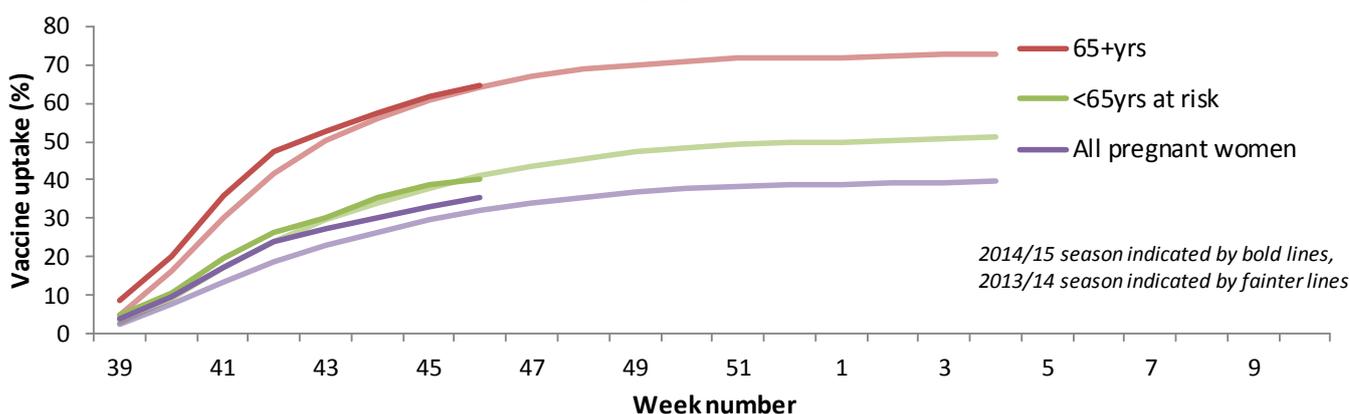
*Macrolides = erythromycin, azithromycin and clarithromycin

Vaccination

[| Back to top |](#)

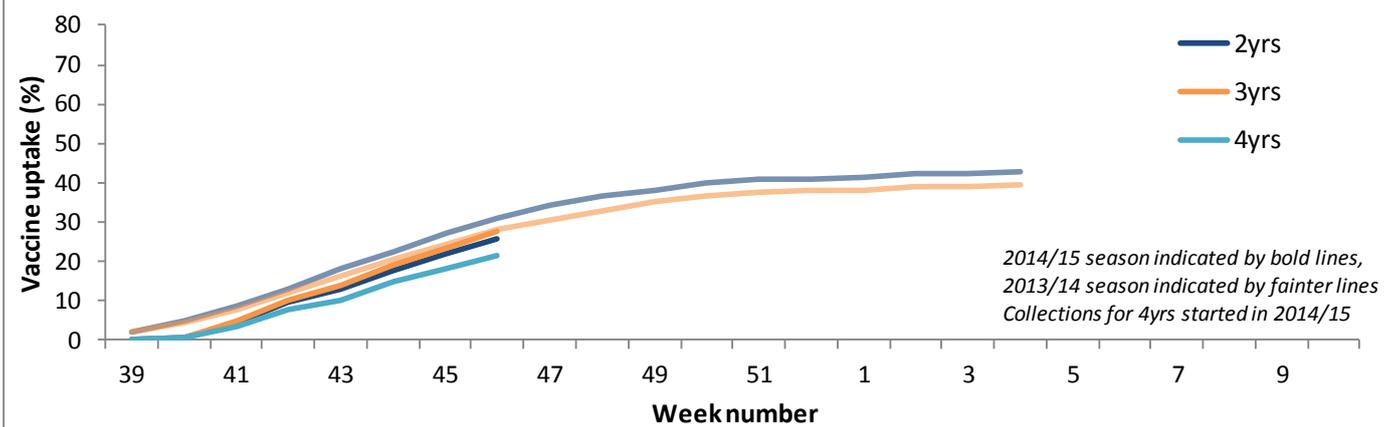
- Up to week 46 2014 in 81% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows (Figure 12):
 - 40.3% in under 65 years in a clinical risk group
 - 35.5% in pregnant women
 - 64.6% 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 46 2014 in 81% 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):
 - 25.8% in all 2 year olds
 - 27.5% in all 3 year olds
 - 21.6% in all 4 year olds

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



- Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 36.8% were vaccinated by 31 October 2014 from 96.6% of Trusts, compared to 35.0% vaccinated the previous season by 31 October 2013. The [report](#) provides uptake at national, geographical area, area team (on behalf of primary care and independent sector healthcare providers) and individual Trust level.

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](#) 14 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.

For week 45/2014, all 39 countries submitting data reported low intensity influenza activity, but seven countries reported sporadic cases and two countries increasing trends. For week 45/2014, Of the 477 sentinel influenza-like illness (ILI) and acute respiratory infection (ARI) specimens tested across 28 countries, seven (1%) from five countries tested positive for influenza. No hospitalised laboratory-confirmed influenza cases were reported. All 39 countries submitting data for week 45/2014 reported low intensity of influenza activity, with seven countries reporting sporadic ILI/ARI activity. Two countries (Romania and Uzbekistan) reported increasing trends while the remainder reported stable or decreasing trends.

Since week 40/2014, ten antigenic characterisations of influenza viruses have been reported: two A(H1N1)pdm09 A/California/7/2009-like, five A(H3N2) A/Texas/50/2012-like, one B/Massachusetts/02/2012 and one B/Wisconsin/1/2010 (both B/Yamagata/16/88-lineage). One A(H3N2) virus was not categorised. Thirteen viruses have been genetically characterised and all have belonged to the A(H3N2) A/Texas/50/2012 subgroup (3C). None of the viruses characterised have differed significantly from the current vaccine viruses recommended by WHO.

For week 45/2014, 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 by three countries (Ireland, Spain and 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).

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](#) 14 November 2014 (Centre for Disease Control report)

During week 45 (November 2 - 8, 2014), influenza activity was low in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 1.6%, which is below the national baseline of 2.0%. All 10 regions reported ILI below region-specific baseline levels. Puerto Rico experienced moderate ILI activity; two states experienced low ILI activity; New York City and 48 states experienced minimal ILI activity; and the District of Columbia had insufficient data. The geographic spread of influenza in Guam was reported as widespread; three states reported regional activity; Puerto Rico, the U.S. Virgin Islands, and 13 states

reported local activity; the District of Columbia and 31 states reported sporadic activity; and three states reported no influenza activity.

During week 45, 6.0% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.3% for week 45.

Of 9,138 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 45, 678 (7.4%) were positive for influenza. (373 influenza A subtype not performed, 111 influenza B, 192 influenza A(H3) and two influenza A(H1N1)pdm09).

No influenza-associated paediatric deaths were reported to CDC during week 45. To date, one influenza-associated paediatric death has been reported for the 2014-2015 season.

- [Canada](#) 14 November 2014 (Public Health Agency report)

As expected, overall influenza activity in week 45 increased from the previous week. Yukon reported activity for the first time this season but only at sporadic levels. A (H3N2) continues to be the most common type of influenza affecting Canadians. To date, 40-55% of influenza laboratory detections and hospitalizations have been in seniors ≥ 65 years of age. In week 45, two regions, in Ontario and Alberta, reported localized activity and 13 regions reported sporadic activity.

The number of positive influenza tests increased sharply to 106 influenza detections (3.5% of tests) in week 45. To date, 85% of influenza detections have been influenza A, and the vast majority of those subtyped have been A (H3). Among cases of influenza A with reported age, the largest proportion was in adults ≥ 65 years of age (44%). Cases of influenza B have been reported among younger age-groups, with 28% being children < 5 years of age.

The national influenza-like-illness (ILI) consultation rate decreased in week 45 to 23.1 consultations per 1,000. The rates were highest among those < 20 years of age in week 45. The rates since mid-June have been above the expected range for this time of year.

Since the start of the 2014-15 season, 73 laboratory-confirmed influenza-associated hospitalizations have been reported from participating provinces and territories*; 69 were cases of influenza A, of which the majority were A (H3N2); 55% were patients ≥ 65 years of age. No ICU admissions were reported. Eight deaths with influenza A have been reported: one child < 5 years of age and seven adults ≥ 45 years of age. Detailed clinical information (e.g. underlying medical conditions) is not known for these cases.. Further data is available [here](#).

- [Global influenza update](#) 17 November 2014 (WHO website)

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

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

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

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

In Africa and western and eastern Asia, influenza activity was low.

In tropical Asia, influenza activity was low with influenza B predominant in Viet Nam.

In the southern hemisphere, influenza activity remained low except in several Pacific Islands where ILI activity remained high.

- Enterovirus D68 (EV-D68) 12 November 2014

From mid-August to 12 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 The District of Columbia. Reports from most states over the last five weeks have indicated reduced EV-D68-like illness activity. However, EV-D68 infections could continue through late autumn.

In the UK, 13 cases (of laboratory confirmed EV-D68 infection mainly in young children have been reported since 2012 ([12 cases](#) up to 1st October 2014 and one reported in the past week). As also highlighted by ECDC, there is a moderate risk that EV-D68 is currently circulating in Europe but this will be mostly undetected as cases can often be asymptomatic/mildly symptomatic and the virus is not currently part of routine respiratory screening. Clinicians should be alert to unusual clusters of severe unexplained respiratory or neurological illness.

- [Avian Influenza](#) 15 November 2014 (WHO website)

Influenza A(H7N9)

The most recent human infections with influenza A(H7N9) were reported by WHO on [15 November 2014](#) (three 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 |](#)

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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](#))