



This report is published weekly on the [PHE website](#). For further information on the surveillance schemes mentioned in this report, please see the [PHE website](#) and the [related links](#) at the end of this document.

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## Summary

### Influenza activity is at low levels in week 42 (ending 19 October).

- [Community influenza surveillance](#)
  - In week 42, syndromic surveillance indicators for influenza remained low.
  - No new acute respiratory outbreaks have been reported in the past seven days across the UK.
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 42, overall weekly influenza-like illness GP consultations remained low in Wales (6.8 per 100,000), Scotland (6.6 per 100,000) and Northern Ireland (10.3 per 100,000).
  - Weekly GP In Hours influenza-like illness consultation rates for influenza are low in week 42.
  - 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](#)
  - One new admission to ICU/HDU with confirmed influenza (one A unknown subtype) was reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (133 Trusts in England) in week 42.
  - Four new hospitalised confirmed influenza cases (one influenza A(H3N2), two influenza A unknown subtype and one influenza B) were reported through the USISS sentinel hospital network across England (24 Trusts).
- [All-cause mortality data](#)
  - In week 42 2014, no excess all-cause mortality by week of death was seen across the UK through the EuroMOMO algorithm.
- [Microbiological surveillance](#)
  - Two samples were positive for influenza through the UK GP sentinel swabbing schemes (one A(H3) and one A(H1N1)pdm09).
  - In week 42 2014, 12 influenza positive detections were recorded through the DataMart scheme (six A(H3), four B and 2 A(not subtyped), a positivity of 1.6% compared to 0.3% the previous week).
- [Vaccination](#)
  - Up to week 42 2014 in 66.0% 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: 25.2% in under 65 years in a clinical risk group, 22.4% in pregnant women, 44.6% in 65+ year olds, 8.1% in all 2 year olds, 8.8% in all 3 year olds and 6.5% in all 4 year olds.
- [International situation](#)
  - Globally, influenza activity remained low, with the exception of some tropical countries in the Americas and some Pacific Islands.
  - Influenza activity in the European Region is typically low at this time of year.

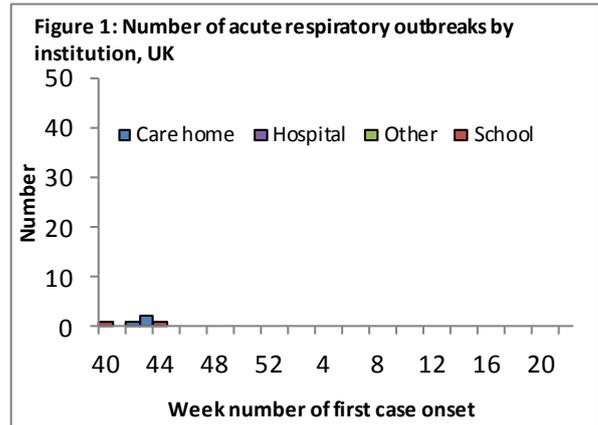
**In week 42 influenza syndromic indicators remained low and no new acute respiratory outbreaks have been reported in the last seven days.**

- PHE Real-time Syndromic Surveillance

-In week 42 syndromic surveillance indicators for influenza remained low. There are further increases for a number of respiratory indicators across all syndromic surveillance systems in line with seasonally expected levels.  
 -For further information, please see the syndromic surveillance [webpage](#).

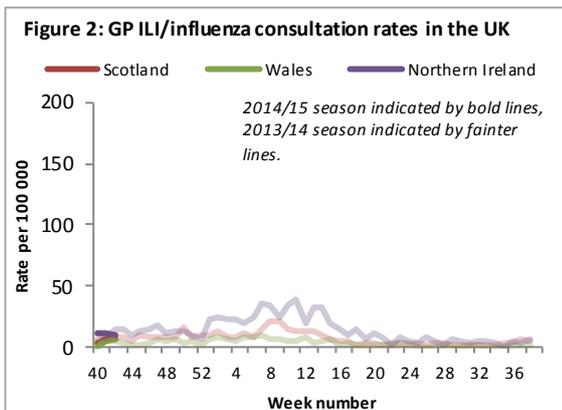
- Acute respiratory disease outbreaks

-No new acute respiratory outbreaks were reported in the last seven days (Figure 1). So far in the 2014/15 flu season, five outbreaks (three in care homes and two in schools) have been reported in the UK (one flu A(H3), two rhinovirus, one adenovirus/parainfluenza, and one not tested).  
 -Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [Respscidsc@phe.gov.uk](mailto:Respscidsc@phe.gov.uk).



**In week 42 overall weekly influenza GP consultations remained low in England, Wales, Scotland and Northern Ireland.**

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza rate was low at 10.3 per 100,000 in week 42 (Figure 2).  
 -The highest rates were seen in 15-44 year olds (14.1 per 100,000), 65-74 olds (11.9 per 100,000) and 45-64 year olds (10.0 per 100,000).

Wales

-The Welsh influenza rate was low at 6.8 per 100,000 in week 42 (Figure 2).  
 -The highest rates were seen in 45-64 year olds (12.3 per 100,000), 65-74 year olds (9.6 per 100,000) and 75+ year olds (7.6 per 100,000).

Scotland

-The Scottish ILI rate was low at 6.6 per 100,000 in week 42 (Figure 2).  
 -The highest rates were seen in 15-44 year olds (8.7 per 100,000), under one year olds (8.0 per 100,000) and 45-64/65-74 year olds (6.4 per 100,000).

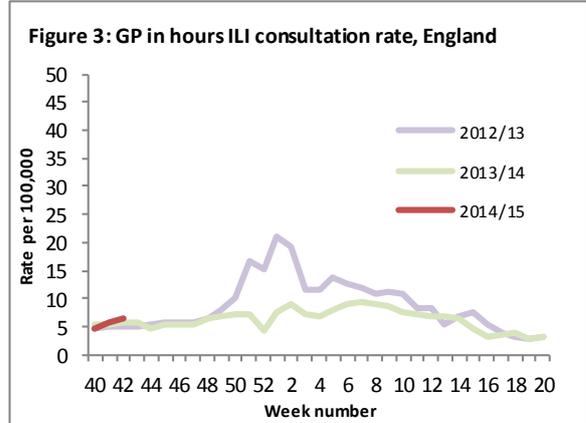
RCGP (England and Wales)

-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 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**

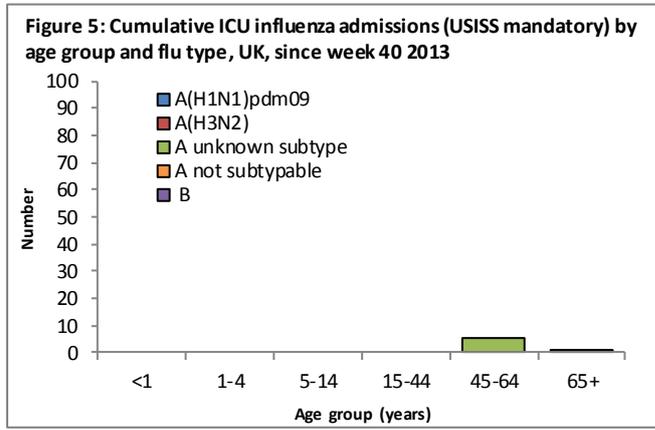
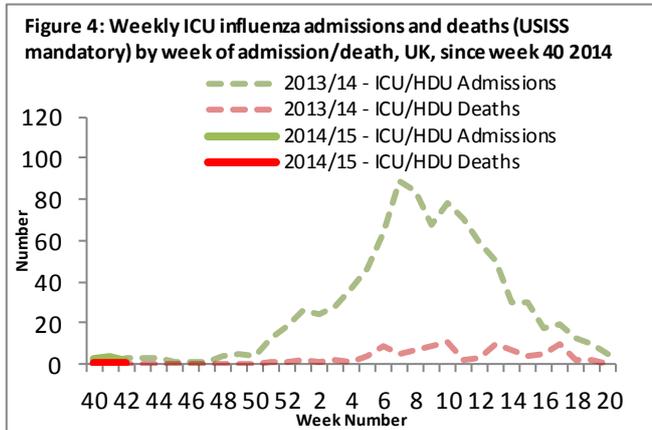
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**In week 42, one new admission of confirmed influenza cases to ICU/HDU (one A unknown subtype) was reported through the national USISS mandatory ICU scheme across the UK (133 Trusts in England). Four new hospitalised confirmed influenza cases (one influenza A(H3N2), two influenza A unknown subtype and one influenza B) 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 42)

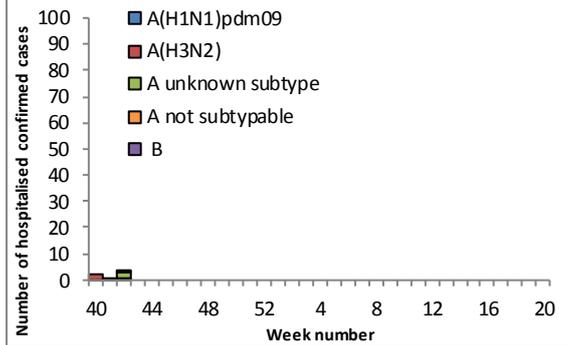
-In week 42, one new admission to ICU/HDU with confirmed influenza infection (one A unknown subtype) were reported across the UK (133/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 4 and 5). No new confirmed influenza deaths were reported in week 42 2014.



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

-In week 42, four new hospitalised confirmed influenza cases (one influenza A(H3N2), two influenza A unknown subtype and one influenza B) were reported through the USISS sentinel hospital network from 24 NHS Trusts across England (Figure 6).

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



**All-cause mortality data**

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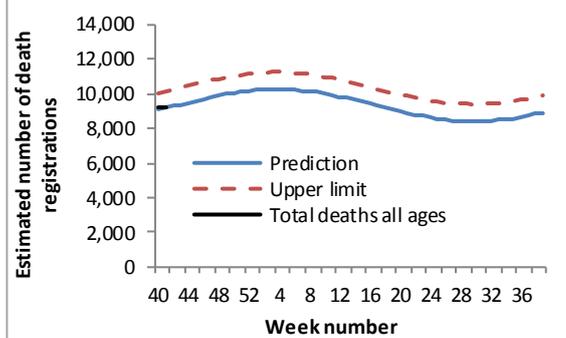
**In week 42 2014, no excess all-cause mortality by week of death was seen in England through the EuroMOMO algorithm.**

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 41 2014, an estimated 9,173 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly less than the 9,271 estimated death registrations in week 40 and 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 42 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 42 (Table 2).

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

Age group (years)	Excess detected in week 42 2014?	Weeks with excess in 2014/15
<5	x	NA
5-14	x	NA
15-64	x	NA
65+	x	NA

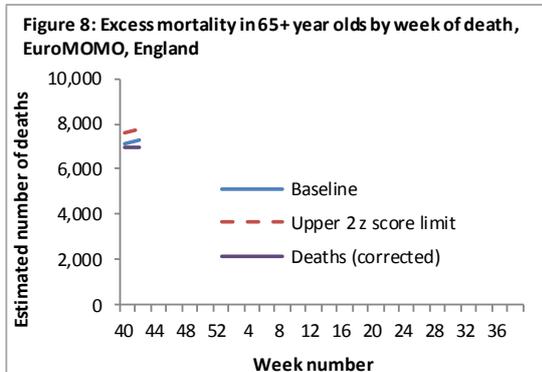
\* Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold

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

Country	Excess detected in week 42 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

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Two samples were positive for influenza through the UK GP sentinel schemes (one A(H3) and one A(H1N1)pdm09). In week 42 2014, 11 influenza positive detections were recorded through the DataMart scheme (six A(H3), five B and two A(not subtyped)).

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

-In week 42, one sample from England was positive for influenza (one A(H3)). One sample from Scotland was positive for influenza (one A(H1N1)pdm09) while no samples were tested in Northern Ireland and Wales (Table 3).

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

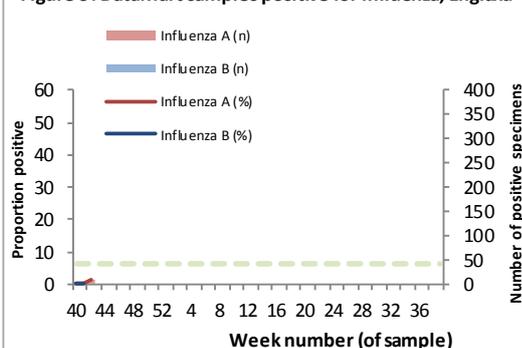
Week	England	Scotland	Northern Ireland	Wales
40	0/9 (-)	0/30 (0%)	0/0 (-)	0/0 (-)
41	1/27 (3.7%)	4/50 (8.0%)	0/0 (-)	0/4 (-)
42	1/31 (3.2%)	1/22 (4.5%)	0/0 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

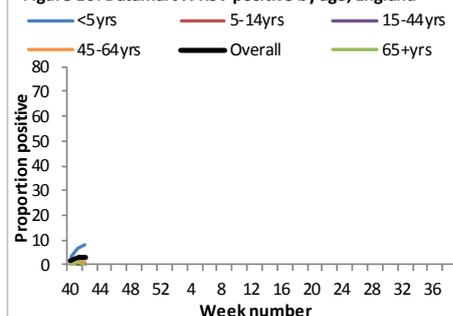
- Respiratory DataMart System (England)

In week 42 2014, out of the 757 respiratory specimens reported through the Respiratory DataMart System, 12 samples (1.6%) were positive for influenza (six A(H3), two A(not subtyped) and four B, (Figure 9\*\*)). The overall positivity for RSV was 3.1% in week 42, with the highest positivity reported in the <5 years (increase from 6.9% to 8.3% in week 42, Figure 10). Positivity for rhinovirus remained high at 21.1% in week 42 but decreased slightly, while other respiratory viruses remained at low levels: adenovirus 3.7%, parainfluenza 3.5% and hMPV 0%, Figure 11).

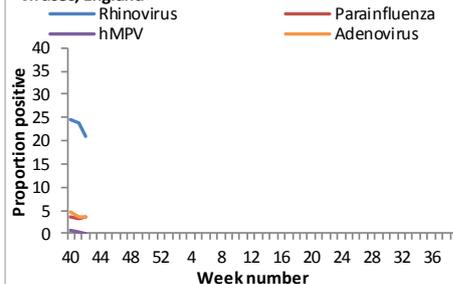
**Figure 9: DataMart samples positive for influenza, England**



**Figure 10: Datamart % RSV positive by age, England**



**Figure 11: Datamart % positive for other respiratory viruses, England**



\*The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold 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 2 influenza A(H3N2) viruses, both of which were similar to the A/Texas/50/2012 H3N2 Northern Hemisphere 2014/15 vaccine strain.

- Antiviral susceptibility

Since week 40 2014, no influenza viruses were tested for antiviral susceptibility in the UK.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 12 October 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 12 Oct 2014, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	1,598	90
	Macrolides	1,602	79
	Tetracycline	1,501	81
<i>H. influenzae</i>	Amoxicillin/ampicillin	7,218	74
	Co-amoxiclav	6,785	93
	Macrolides	1,963	13
<i>S. aureus</i>	Tetracycline	7,039	98
	Methicillin	3,531	92
	Macrolides	3,313	69
MRSA	Clindamycin	178	44
	Tetracycline	266	85
MSSA	Clindamycin	1,426	80
	Tetracycline	2,623	93

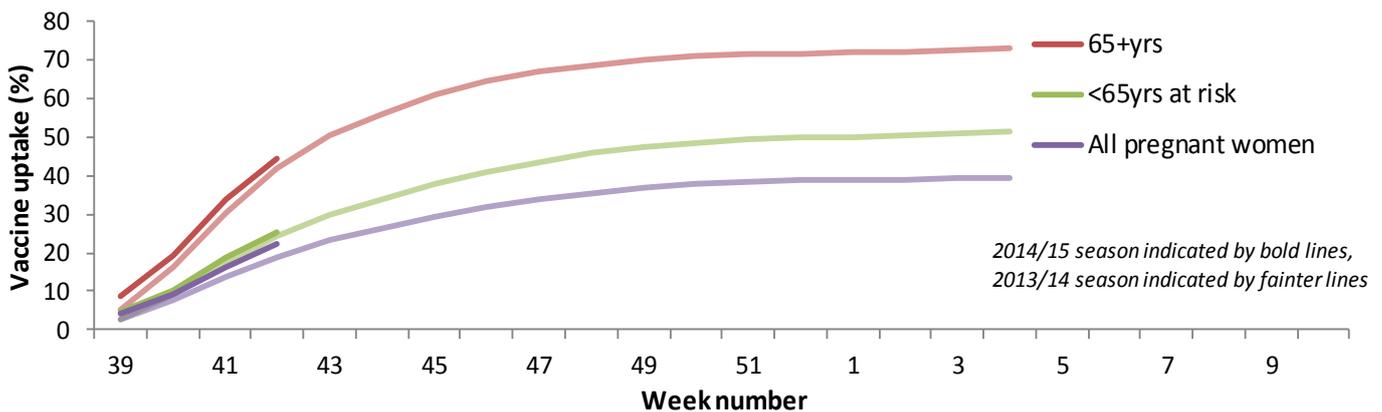
\*Macrolides = erythromycin, azithromycin and clarithromycin

## Vaccination

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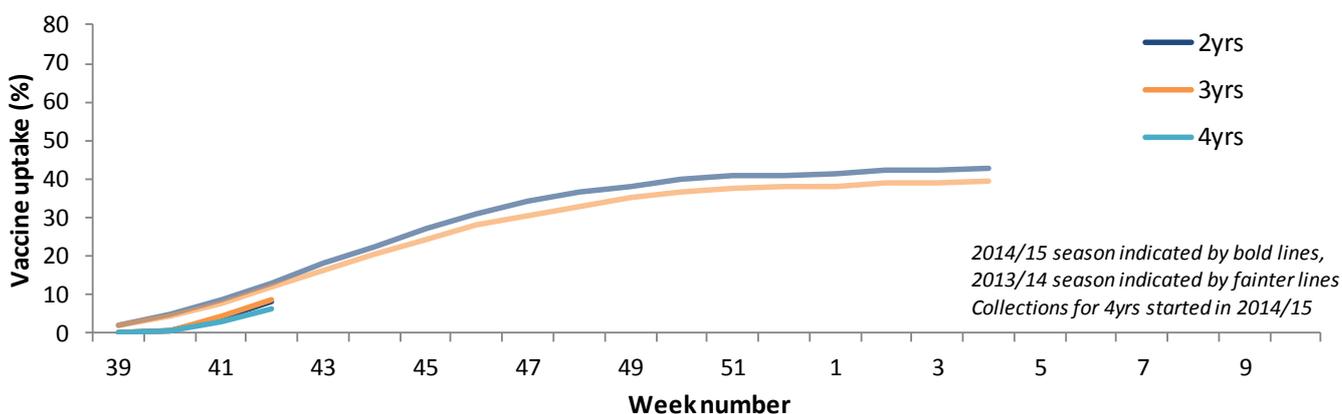
- Up to week 42 2014 in 66.0% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows (Figure 12):
  - 25.2% in under 65 years in a clinical risk group
  - 22.4% in pregnant women
  - 44.6% 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 42 2014 in 66.0% 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):
  - 8.1% in all 2 year olds
  - 8.8% in all 3 year olds
  - 6.5% in all 4 year olds

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



## International Situation

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Globally, influenza activity remained low, with the exception of some tropical countries in the Americas and some Pacific Islands. Influenza activity in the European Region is typically low at this time of year.

- [Europe](#) 17 October 2014 (Joint ECDC-WHO Influenza weekly update)

Influenza activity in the European Region is typically low at this time of year.

26 countries reported ILI data (23 in week 40) and 19 reported ARI data (19 for week 40). The ILI rates increased in 15 countries from the previous week, while eight reported decreasing rates. For ARI, 13 countries experienced increasing rates and six reported decreasing rates. The ILI/ARI rates for countries in the European Union (EU)/European Economic Area (EEA) are in a comparable range, as in week 41 of the 2013–2014 season, but they remain below the baseline in all countries. All countries reported low intensity; eight reported sporadic geographic spread and Finland reported local activity.

Out of 383 sentinel specimens tested in 24 countries for week 41/2014, four (1%) detections were reported by three countries. Three were subtyped as influenza A(H3N2) and one influenza A virus was not subtyped. In addition, 20 specimens from non-sentinel sources tested positive for influenza; 10 were influenza type A and 10 type B. Six influenza A viruses were subtyped: five as A(H3N2) and one as A(H1N1)pdm09. Over the last two weeks, 7 (1%) influenza viruses were detected among 697 specimens tested in the sentinel system. All were positive for influenza A virus: 6 were A(H3N2) and one was not subtyped. Nine countries reported 53 specimens positive for respiratory syncytial virus (RSV) from ILI/ARI or other sources, a slight increase from the previous week. Most RSV detections in the Region are reported between November and February.

For week 41/2014, the United Kingdom reported three confirmed influenza cases that were admitted to intensive care units. Since week 40/2014, two countries (Spain and the United Kingdom) have reported hospital data. They reported a total of eight laboratory-confirmed influenza cases (with six admitted to intensive care units): three in Spain and five in the United Kingdom. Influenza A was detected in all cases; two viruses were characterized as A(H3N2). Spain provided the ages of the cases; three were in people older than 70 years and one, 10–19 years.

All-cause mortality has been within the normal range for the reporting countries during the past weeks (see European monitoring of excess mortality for public health action (EuroMOMO)).

- [United States of America](#) 17 October 2014 (Centre for Disease Control report)

During week 41 (October 5–11, 2014), influenza activity was low in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 1.3%, 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, New York City and 49 states experienced minimal ILI activity and the District of Columbia and one state had insufficient data. The geographic spread of influenza in Guam was reported as widespread; Puerto Rico and four states reported local activity; 36 states and the District of Columbia reported sporadic activity; and the U.S. Virgin Islands and 10 states reported no influenza activity.

During week 41, 5.4% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.0% for week 41.

Of 7,655 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 41, 282 (3.7%) were positive for influenza (134 influenza A subtype not performed, 118 influenza B, 28 influenza A(H3) and two influenza A(H1N1)pdm09).

No influenza-associated pediatric deaths were reported in week 41.

- [Canada](#) 17 October 2014 (Public Health Agency report)

Influenza indicators (activity levels, influenza detections, ILI and hospitalizations) in some regions across Canada continued to increase in week 41. The majority of regions in Canada reported no activity; however, three regions reported localized activity and 13 regions reported sporadic activity. In week 41, one new outbreak of influenza B was reported in a long-term care facility.

The number of positive influenza tests continued to increase in week 41 to 50 influenza detections (1.7% of tests). To date, 86% of influenza detections have been influenza A, and the majority of those subtyped have been A(H3). Among cases with reported age, the largest proportion was in those  $\geq 65$  years of age (56%).

Since the start of the 2014/15 season, 25 laboratory-confirmed influenza-associated hospitalizations have been reported from participating provinces and territories; 24 were cases of influenza A, of which the majority were A(H3N2); 56% were patients  $\geq 65$  years of age. No ICU admissions were reported. Two deaths with influenza A(H3N2) have been reported in adults  $\geq 45$  years of age. There is a reporting delay from some regions that have not yet begun surveillance and/or submission of weekly reports. Further data is available [here](#).

- [Global influenza update](#) 6 October 2014 (WHO website)

Globally, influenza activity remained low, with the exception of some tropical countries in the Americas and some Pacific Islands.

In Europe and North America, overall influenza activity remained at inter-seasonal levels.

In tropical countries of the Americas, influenza B co-circulated with respiratory syncytial virus (RSV).

In Africa and western Asia, influenza activity was low.

In eastern Asia, influenza activity in most countries remained low or decreased after some influenza A(H3N2) activity in August and September.

In tropical Asia, influenza activity continued to decrease or remain low with influenza A(H3N2) predominant.

In the southern hemisphere, influenza activity decreased in general except in several Pacific Islands where ILI activity remained high. In the temperate zone of South America, influenza-like illness (ILI) decreased and continued to be associated with RSV. Influenza A(H3N2) virus was the most frequently detected influenza virus. In Australia and New Zealand Influenza activity also decreased.

- Enterovirus D68 (EV-D68) 22 October 2014

From mid-August to 21 October 2014, [938 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](#) 22 October 2014 (WHO website)

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

The most recent human infections with influenza A(H7N9) were reported by WHO on [2 September 2014](#) (two cases). The source of infection is still under investigation. So far, there is no evidence of sustained human-

to-human transmission. 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 to 27 July 2014, 667 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 16 countries, of which 393 (59%) died.

- Novel coronavirus 22 October 2014

Up to 22 October 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 200 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 873 confirmed cases have been reported internationally, resulting in a current global total of [877 cases](#). Between 29 September and 11 October, [Saudi Arabia](#) have reported seven cases, including one death, from different cities. The tracing of household contacts is ongoing for these cases. Further information on management and guidance of possible cases is available [online](#).

## 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, 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

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### 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](#))