



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 41 (ending 12 October).

- [Community influenza surveillance](#)
  - In week 41, syndromic surveillance indicators for influenza remained low.
  - Three new acute respiratory outbreaks have been reported in the past seven days across the UK, two in care homes (not tested) and one in a school (adenovirus/ parainfluenza).
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 41, overall weekly influenza-like illness GP consultations remained low in Wales (5.0 per 100,000), Scotland (7.5 per 100,000) and Northern Ireland (11.3 per 100,000).
  - Daily GP In Hours influenza-like illness consultation rates for influenza are low in week 41.
  - 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](#)
  - Three new admissions to ICU/HDU with confirmed influenza (three A unknown subtype) were reported through the USISS mandatory ICU surveillance scheme across the UK (130 Trusts in England) in week 41.
  - One new hospitalised confirmed influenza case (influenza B) was reported through the USISS sentinel hospital network across England (24 Trusts).
- [All-cause mortality data](#)
  - In week 41 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 41 2014, two influenza positive detections were recorded through the DataMart scheme (one A(H3) and one B, a positivity of 0.3%).
- [Vaccination](#)
  - Up to week 41 2014 in 54.8% 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: 18.7% in under 65 years in a clinical risk group, 16.4% in pregnant women, 33.8% in 65+ year olds, 3.8% in all 2 year olds, 4.3% in all 3 year olds and 3.1% in all 4 year olds.
- [International situation](#)
  - Globally, the southern hemisphere influenza season seems to be coming to an end, although high activity continued to be reported in Oceania associated with A(H1N1)pdm09 and A(H3N2) viruses.
  - Elsewhere, including Europe, influenza activity remained low, except for some tropical countries in the Americas.

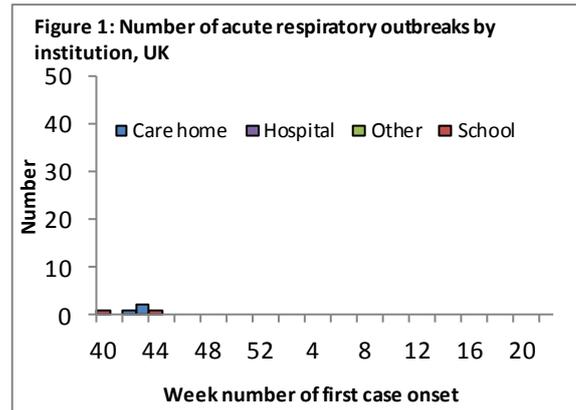
**In week 40 influenza syndromic indicators remained low and two new acute respiratory outbreaks have been reported in the last seven days.**

- PHE Real-time Syndromic Surveillance

-In week 41 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](#).

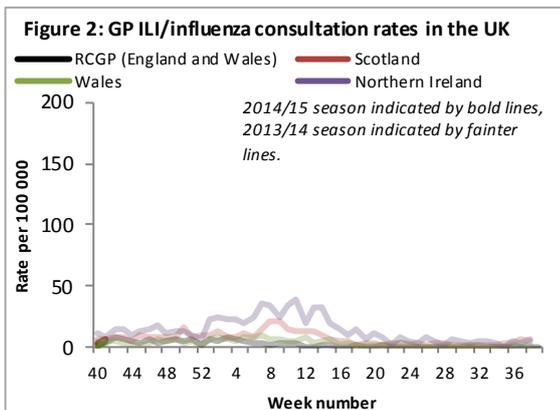
- Acute respiratory disease outbreaks

-Three new acute respiratory outbreaks were reported in the last seven days (Figure 1); one in a school in the North of England PHE Region (adenovirus/parainfluenza), and two from care homes in the Midlands and East of England PHE Region (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 41 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 11.3 per 100,000 in week 41 (Figure 2).  
 -The highest rates were seen in 15-44 year olds (16.1 per 100,000), 75+ year olds (15.5 per 100,000) and 1-4 year olds (10.3 per 100,000).

Wales

-The Welsh influenza rate was low at 5.0 per 100,000 in week 41 (Figure 2).  
 -ILI consultations were reported in 15-44 year olds (7.1 per 100,000), 45-64 year olds (7.3 per 100,000) and 75+ year olds (4.1 per 100,000).

Scotland

-The Scottish ILI rate was low at 7.5 per 100,000 in week 41 (Figure 2).  
 -The highest rates were seen in 15-44 year olds (8.9 per 100,000), 65-74 olds (8.2 per 100,000) and 45-64 year olds (7.9 per 100,000).

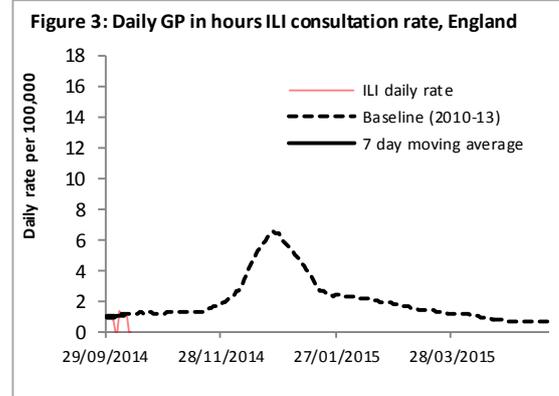
RCGP (England and Wales)

-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 week.

GP In Hours Syndromic Surveillance System (England)

-The daily 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**

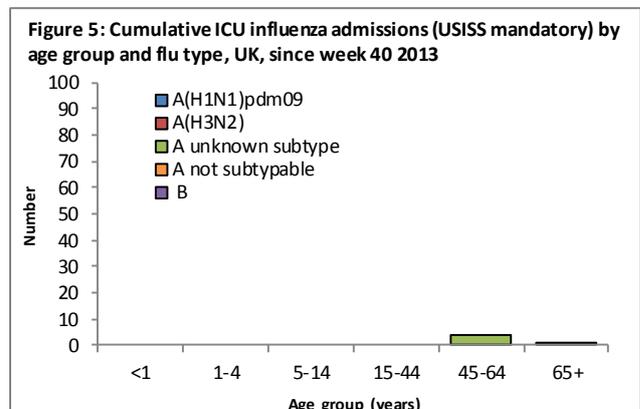
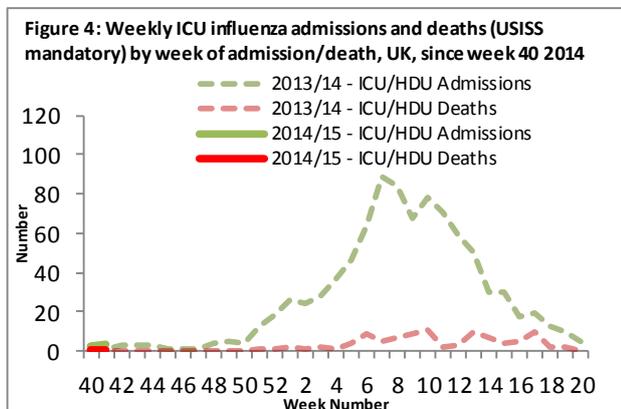
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In week 41, three new admissions of confirmed influenza cases to ICU/HDU (three A unknown subtype) were reported through the national USISS mandatory ICU scheme across the UK (130 Trusts in England). One new hospitalised confirmed influenza case (influenza B) has 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 41)

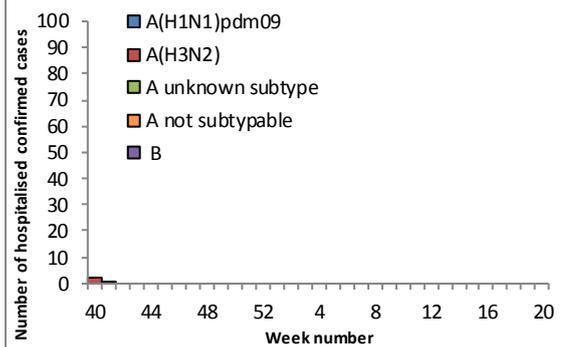
-In week 41, three new admissions to ICU/HDU with confirmed influenza infection (three A unknown subtype) were reported across the UK (130/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 4 and 5). No new confirmed influenza deaths were reported in week 41 2014.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 41)

-In week 41, one new hospitalised confirmed influenza case (influenza B) was 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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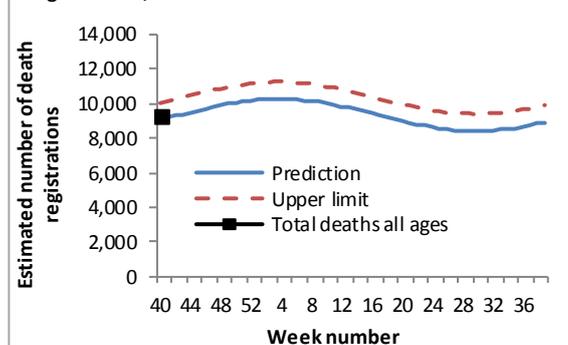
In week 41 2014, no excess all-cause mortality by week of death was seen in England through the EuroMOMO algorithm.

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 40 2014, an estimated 9,271 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly more than the 9,048 estimated death registrations in week 39 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 41 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 41 (Table 2).

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

Age group (years)	Excess detected in week 41 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

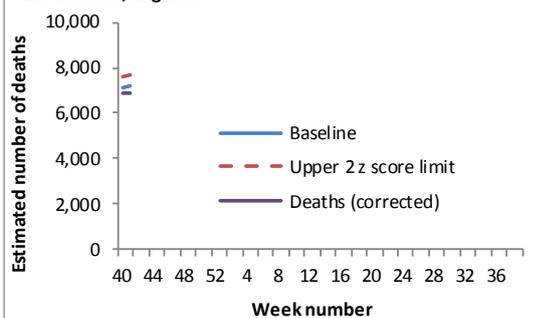
**Table 2: Excess mortality by UK country\***

Country	Excess detected in week 41 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

**Figure 8: Excess mortality in 65+ year olds by week of death, EuroMOMO, England**



## Microbiological surveillance

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No samples were positive for influenza through the UK GP sentinel schemes. In week 41 2014, two influenza positive detections were recorded through the DataMart scheme (one A(H3) and one B).

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

-In week 41, no samples from England were positive for influenza. No samples from Scotland, Northern Ireland and the Welsh schemes were positive for influenza (Table 3).

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

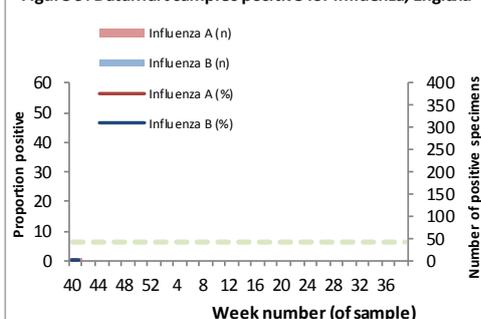
Week	England	Scotland	Northern Ireland	Wales
40	0/9 (-)	0/28 (0%)	0/0 (-)	0/0 (-)
41	0/20 (0%)	0/25 (0%)	0/0 (-)	0/4 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

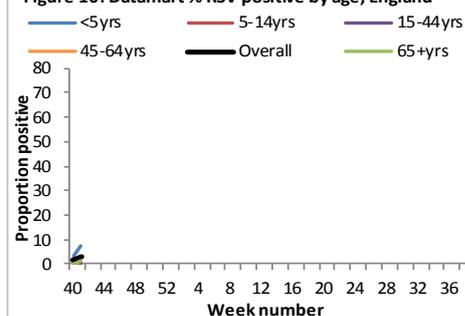
- Respiratory DataMart System (England)

In week 41 2014, out of the 687 respiratory specimens reported through the Respiratory DataMart System, two samples (0.3%) were positive for influenza (one A(H3) and one B, (Figure 9\*)). The overall positivity for RSV was 2.8% in week 41, with the highest positivity reported in the <5 years (increase from 3.3% to 7.3% in week 41, Figure 10). Positivity for rhinovirus remained high at 23.7% in week 41, while other respiratory viruses remained at low levels (adenovirus 3.9%, parainfluenza 3.1% and hMPV 0.5%, Figure 11).

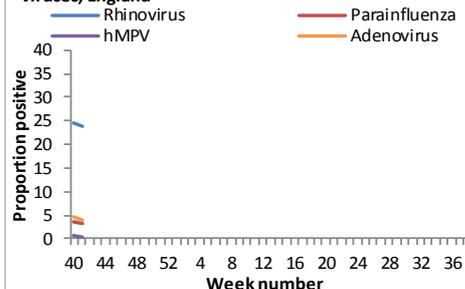
**Figure 9: DataMart samples positive for influenza, England**



**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 5 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 5 Oct 2014, E&W**

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	1,616	90
	Macrolides	1,630	78
	Tetracycline	1,529	80
<i>H. influenzae</i>	Amoxicillin/ampicillin	7,284	74
	Co-amoxiclav	6,868	93
	Macrolides	2,003	13
	Tetracycline	7,105	98
<i>S. aureus</i>	Methicillin	3,509	91
	Macrolides	3,280	69
MRSA	Clindamycin	190	46
	Tetracycline	274	88
MSSA	Clindamycin	1,380	80
	Tetracycline	2,588	93

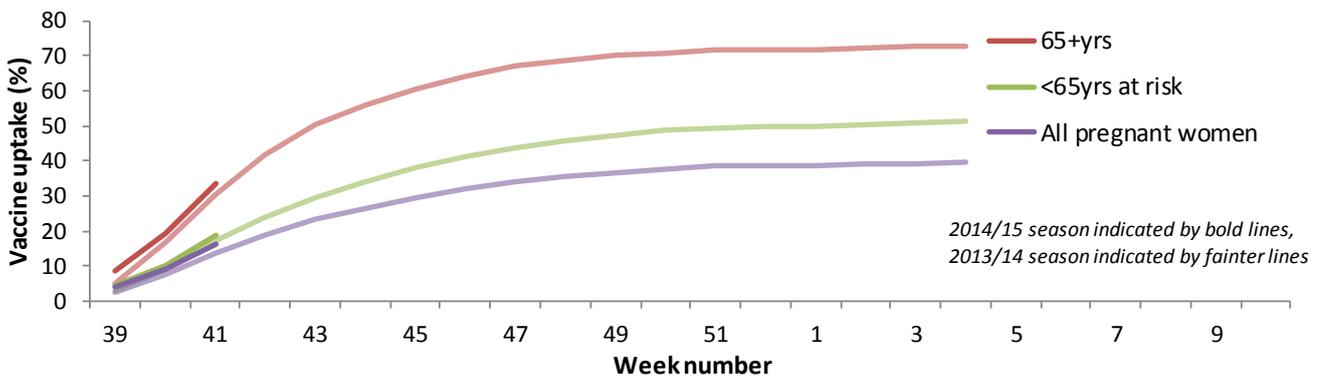
\*Macrolides = erythromycin, azithromycin and clarithromycin

## Vaccination

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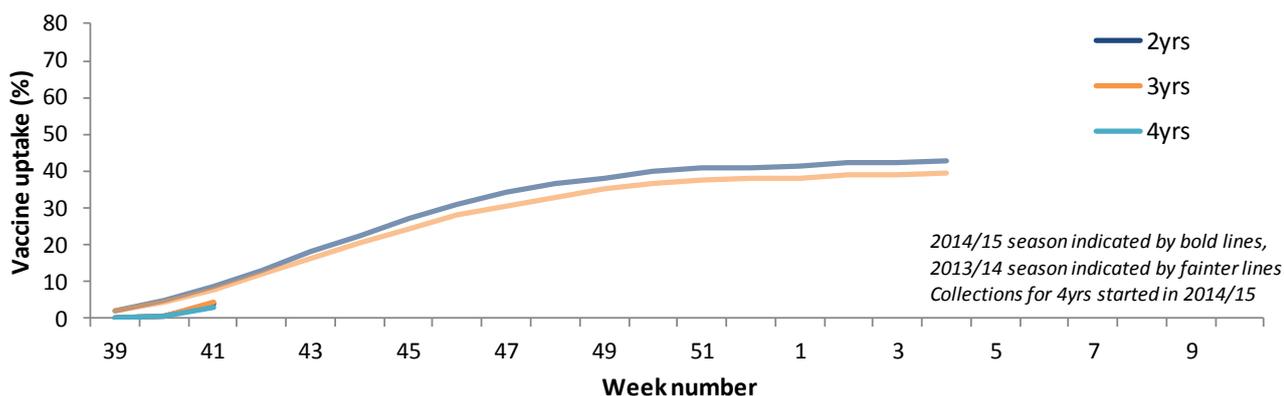
- Up to week 41 2014 in 54.8% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows (Figure 12):
  - 18.7% in under 65 years in a clinical risk group
  - 16.4% in pregnant women
  - 33.8% 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 41 2014 in 54.8% 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):
  - 3.8% in all 2 year olds
  - 4.3% in all 3 year olds
  - 3.1% in all 4 year olds

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



## International Situation

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Globally, the southern hemisphere influenza season seems to be coming to an end, although high activity continued to be reported in Oceania associated with A(H1N1)pdm09 and A(H3N2) viruses. Elsewhere, including Europe, influenza activity remained low, except for some tropical countries in the Americas.

- [Europe](#) 10 October 2014 (Joint ECDC-WHO Influenza weekly update)

As is usual for this time of the year, influenza activity in the European region is very low even though there are some indications of influenza activity.

In week 40 2014, epidemiological data were reported by 33 countries, all of which reported low intensity. Four countries (Azerbaijan, Lithuania, Poland and parts of the United Kingdom (Northern Ireland and Scotland)) reported sporadic geographic spread and two countries reported increasing trends (Bulgaria and the United Kingdom (Northern Ireland)).

17 countries tested 222 sentinel specimens, of which two (1%) were positive for influenza. Neither of the positive sentinel specimens was typed/subtyped. In addition, 21 non-sentinel source specimens tested positive for influenza, 13 were influenza type A and eight were influenza type B. Of four influenza A viruses subtyped, all were A(H3N2). In both sentinel and non-sentinel systems, there were 44 RSV detections.

Of 330 sentinel specimens tested across 14 countries, 10 were positive for influenza virus. Eight were influenza A viruses and two were type B.

In week 40/2014, two countries (Spain and the United Kingdom) reported four hospitalised laboratory-confirmed influenza cases with two cases in the UK admitted to intensive care unit.

From the European mortality monitoring project ([www.euromomo.eu](http://www.euromomo.eu)), all-cause mortality has been within the normal range for most reporting countries over recent weeks.

- [United States of America](#) 10 October 2014 (Centre for Disease Control report)

During week 40 (September 28-October 4, 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 high ILI activity, all 50 states and New York City experienced minimal ILI activity and the District of Columbia had insufficient data. The geographic spread of influenza in Guam was reported as widespread; Puerto Rico reported regional activity; three states reported local activity; 28 states, the District of Columbia, and the U.S. Virgin Islands reported sporadic activity; 18 states reported no influenza activity; and one state did not report.

During week 40, 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 40.

Of 6,192 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 40, 199 (3.2%) were positive for influenza (90 influenza A subtype not reported, 77 influenza B and 32 influenza A(H3)).

No influenza-associated pediatric deaths were reported in week 40.

- [Canada](#) 10 October 2014 (Public Health Agency report)

Several influenza indicators (activity levels, influenza detections, ILI and hospitalizations) continued to increase in weeks 39 and 40. Influenza activity was reported in several regions in six provinces (BC, AB, SK, MB, ON & QC) over the two-week period. In week 39, six influenza outbreaks and two ILI outbreaks were reported. No new outbreaks were reported in week 40.

The number of positive influenza tests increased during weeks 39 and 40. The percent positive for influenza detections remains low, and reached 1.2% in week 40. To date, 84% 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 ≥65 years of age (55%).

In weeks 39 and 40, two new laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network. To date this season, five hospitalizations have been reported by the IMPACT network, all cases of influenza A (three A(H3N2) and two A(unknown)). Two cases were admitted to the ICU. The age distribution of cases ranged from 2 to 16 years.

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

Globally, the southern hemisphere influenza season seems to be coming to an end, with still high activity in Oceania. Elsewhere influenza activity remained low, except for some tropical countries in the Americas.

In Europe and North America, 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 following influenza A(H3N2) activity in August and September

In the southern hemisphere, influenza activity decreased in most countries. In the temperate zone of South America, influenza-like illness (ILI) decreased and was still mainly associated with RSV. Influenza A(H3N2) virus was the most detected influenza virus. In Australia and New Caledonia, the influenza season continued with high activity associated with A(H1N1)pdm09 and A(H3N2) viruses. ILI activity increased in several of the Pacific Islands.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 21,796 specimens. 1,540 were positive for influenza viruses, of which 1,049 (68.1%) were typed as influenza A and 491 (31.9%) as influenza B. Of the sub-typed influenza A viruses, 289 (38.9%) were influenza A(H1N1)pdm09 and 454 (61.1%) were influenza A(H3N2). Of the characterized B viruses, 52 (96.3%) belonged to the B-Yamagata lineage and 2 (3.7%) to the B-Victoria lineage.

- Enterovirus D68 (EV-D68) 15 October 2014

From mid-August to 13 October 2014, 691 persons (mostly children) in the USA and 75 in Canada were confirmed to have respiratory illness caused by EV-D68. 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](#) 15 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 15 October 2014

Up to 9 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 849 confirmed cases have been reported internationally. This results in a current global total of [853 cases](#), with cases recently reported in [Saudi Arabia](#) and [Austria](#). 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](#))