



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

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Summary

Indicators of influenza activity are at minimal levels suggesting no community transmission at present, though RSV is currently circulating.

- Overall weekly influenza GP consultation rates across the UK
 - In week 46 (ending 17 November 2013), overall weekly influenza GP consultations remained low in England (7.5 per 100,000), Wales (3.5 per 100,000), Scotland (8.2 per 100,000) and Northern Ireland (14.4 per 100,000)).
 - In week 46 there have been national increases in acute respiratory infection syndromic indicators, particularly in children, in line with seasonal expectations. This is consistent with increasing respiratory syncytial virus (RSV) activity.
 - One new acute respiratory outbreak has been reported in the past seven days in a care home (not tested).
- Flusurvey, an online flu surveillance system, has been launched for 2013/14. For further information and to register, please see the [website](#).
- Virology
 - In week 46 2013, four influenza positive detections were recorded through the DataMart scheme (one A(H1N1)pdm09, two A(H3) and one A(not subtyped), positivity of 0.6% compared to 1.4% in week 45)
 - No samples were positive through the UK sentinel schemes.
- Disease severity and mortality
 - One new admission to ICU/HDU with confirmed influenza (one A unknown subtype) was reported through the USISS mandatory ICU surveillance scheme across the UK (146 Trusts in England) in week 46. One new hospitalised confirmed influenza case (one A(H1N1)pdm09) was reported through the USISS sentinel hospital network across England (27 Trusts).
 - In week 46 2013, no excess all-cause mortality was seen across the UK through the EuroMOMO algorithm. This data is provisional due to the time delay in death registration.
- Vaccination
 - Up to week 46 2013 in 78.2% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2013/14 influenza vaccine in targeted groups was as follows: 31.1% in all 2 year olds, 27.9% in all 3 year olds, 41.1% in under 65 years in a clinical risk group, 32.0% in all pregnant women and 64.4% in 65+ year olds.
 - Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 35.0% were vaccinated by 31 October 2013 from 94.9% of Trusts, compared to 28.4% vaccinated the previous season by 31 October 2012.
- International situation
 - Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low.

In week 46 (ending 17 November 2013), overall weekly influenza GP consultations remained low in England, Wales, Scotland and Northern Ireland.

- Influenza/Influenza-Like-Illness (ILI)

RCGP (England and Wales)

-The overall ILI consultation rate from RCGP for England and Wales increased in week 46 2013 (7.5 per 100,000) compared to week 45 (4.2 per 100,000) (Figure 1*). ILI rates increased in the South region (from 6.6 to 11.8 per 100,000) and remained stable in the North (from 3.2 to 4.3 per 100,000) and Central regions (from 2.5 to 4.7 per 100,000).

-In week 46 2013, the highest rates were seen in 15-44 year olds (9.7 per 100,000) and 65-74 year olds (7.0 per 100,000).

Figure 1: RCGP ILI consultation rates, England and Wales

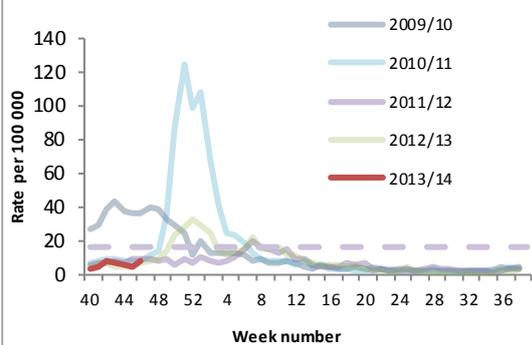


Figure 2: RCGP ILI consultation rates, by age group, E&W

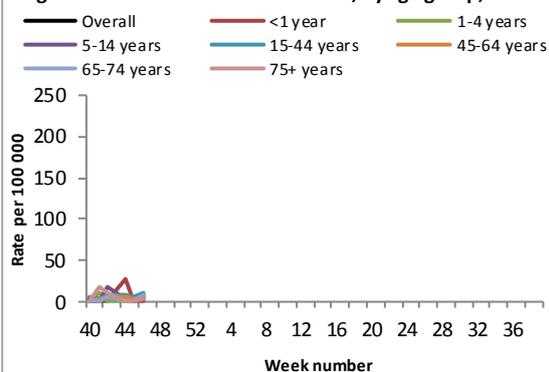
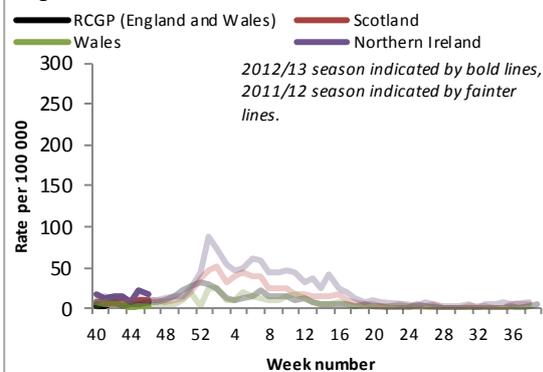


Figure 3: GP ILI/influenza consultation rates in the UK



Northern Ireland

-The Northern Ireland influenza rate remained stable from 13.2 per 100,000 in week 45 to 14.4 per 100,000 in week 46 (Figure 3).

-In week 46 2013, the highest rates were seen in 65-74 year olds (from 12.2 to 23.9 per 100,000) and 15-44 year olds (from 22.2 to 17.9 per 100,000).

Wales

-The Welsh influenza rate remained stable from 2.6 per 100,000 in week 45 to 3.5 per 100,000 in week 46 (Figure 3).

-The highest rate was seen in 5-14 year olds (from 0.0 to 6.0 per 100,000) followed by 45-64 year olds (from 2.4 to 6.0 per 100,000).

Scotland

-The Scottish ILI rate remained stable from 10.4 per 100,000 in week 45 to 8.2 per 100,000 in week 46 (Figure 3).

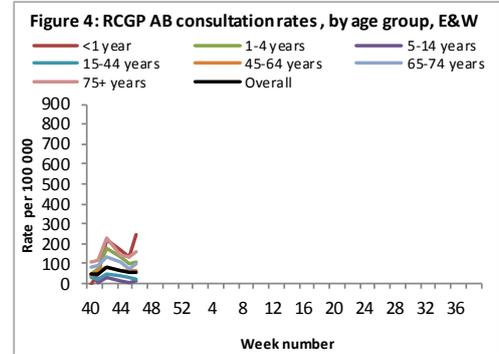
-The highest rate was seen in 15-44 year olds (from 10.1 to 10.1 per 100,000) followed by 65-74 year olds (from 9.3 to 9.0 per 100,000).

*The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold calculated for RCGP ILI consultation rates for 2013/14 is 15.6 per 100,000.

- Other respiratory indicators

Acute bronchitis (AB)

The overall weekly consultation rate for acute bronchitis (AB) in England and Wales through the RCGP scheme increased slightly from 54.2 per 100,000 in week 45 to 59.1 per 100,000 in week 46 (Figure 4). The highest rates were seen in <1 year olds (247.6 per 100,000), 75+ year olds (160.0 per 100,000) and 1-4 year olds (110.5 per 100,000).



Community surveillance

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In week 46 there have been national increases in acute respiratory infection syndromic indicators and one new acute respiratory outbreak has been reported.

- PHE Real-time Syndromic Surveillance

-In week 46 there have been national increases in acute respiratory infection syndromic indicators, particularly in children, in line with seasonal expectations. This is consistent with increasing respiratory syncytial virus (RSV) activity.

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

- Acute respiratory disease outbreaks

-One new acute respiratory outbreak was reported in the last seven days in England in a care home which was not tested (Midlands and East of England PHE Region). So far this season, all thirteen outbreaks have been reported in care homes (where tested, one influenza A not sub-typed, three rhinovirus, one RSV and one parainfluenza).

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respcidsc@phe.gov.uk.

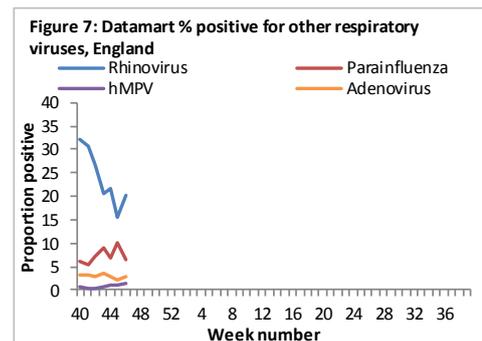
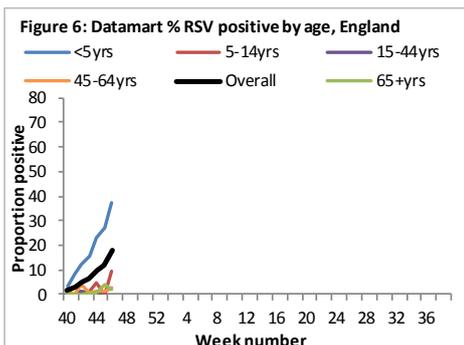
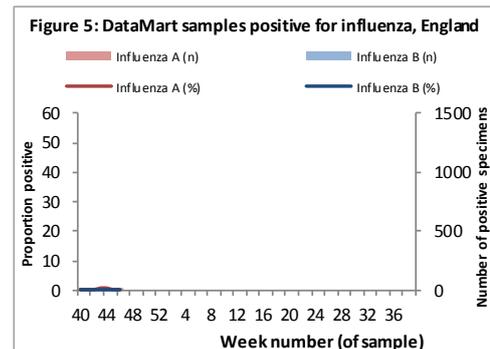
Microbiological surveillance

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In week 46 2013, four influenza positive detections were recorded through the DataMart scheme (one A(H1N1)pdm09, two A(H3) and one A(not subtyped)) and no samples were positive through the UK sentinel schemes.

- Respiratory DataMart System (England)

-In week 46 2013, out of the 708 respiratory specimens reported through the Respiratory Datamart System, one (0.1%) was positive for flu A (H1N1)pdm09, two (0.3%) positive for flu A (H3), one (0.1%) was positive for flu A (not subtyped), and no samples were positive for influenza B (Figure 5). Positivity for rhinovirus increased from 15.5% in week 45 to 20.3% in week 46; positivity decreased for parainfluenza (from 10.0% to 6.5%). The overall positivity for RSV continued to increase from 11.5% in week 45 to 17.9% in week 46, with the highest positivity reported in the <5 years with an increase from 27.1% in week 45 to 37.4% in week 46. Other respiratory viruses remained at low levels: (adenovirus 2.7% and hMPV 1.4%) (Figures 6 and 7).



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

-No samples from England, Scotland and Northern Ireland were positive for influenza in week 46 (Table 1). No samples were tested through the Welsh scheme.

Table 1: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
43	2/75 (2.7%)	0/47 (0%)	0/2 (-)	0/0 (-)
44	1/44 (2.3%)	0/44 (0%)	0/0 (-)	0/0 (-)
45	1/51 (2.0%)	0/49 (0%)	0/5 (-)	0/0 (-)
46	0/53 (0%)	0/18 (0%)	0/2 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Virus characterisation

-Since week 40, six influenza A(H1N1)pdm09 viruses similar to the A/California/07/2009 vaccine strain has been antigenically characterised by PHE Respiratory Virus Unit (RVU).

- Antiviral susceptibility

In week 46 2013, four influenza samples were tested for antiviral susceptibility in the UK, with no virus found to be resistant.

- Antimicrobial susceptibility

-In the 12 weeks up to 10 November 2013, 81% or greater of all lower respiratory tract isolates of *Staphylococcus aureus*, *Streptococcus pneumoniae* and *Haemophilus influenzae* reported as tested were susceptible to the antibiotics tetracycline and co-amoxiclav (Table 2). There have been no significant changes in susceptibility in recent years.

Table 2: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 10 Nov 2013, E&W

Organism	Tetracyclines		Co-amoxiclav	
	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
<i>S. aureus</i>	3,072	92	178	89
<i>S. pneumoniae</i>	1,691	81	1785*	90*
<i>H. influenzae</i>	7,313	98	6,826	92

* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other beta-lactams such as co-amoxiclav.

Influenza confirmed hospitalisations

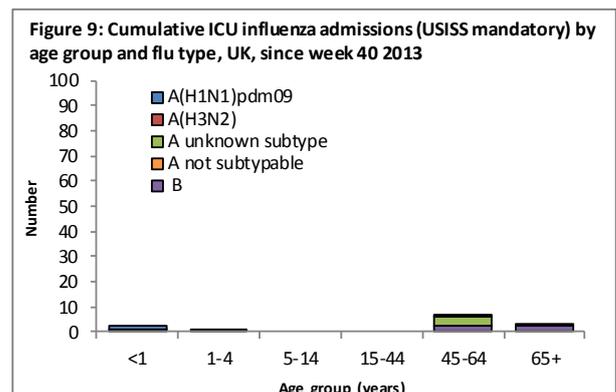
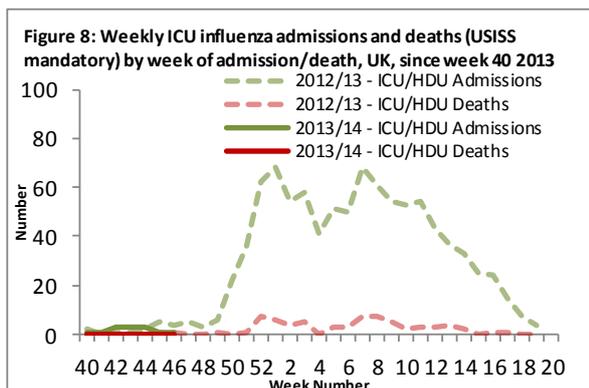
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In week 46, one new admission of confirmed influenza cases to ICU/HDU (one A unknown subtype) and no confirmed influenza deaths in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (146 Trusts in England). One new hospitalised confirmed influenza case has been reported through the USISS sentinel hospital network across England (one A(H1N1)pdm09) (27 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.

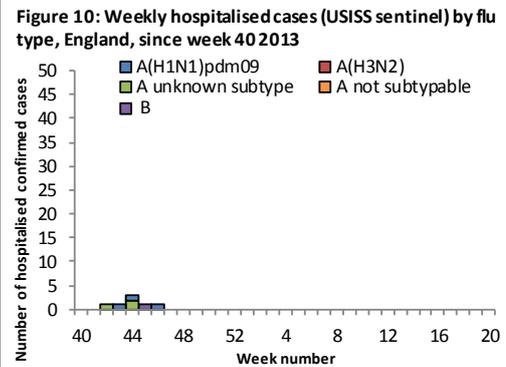
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 46)

-In week 46, one new admission to ICU/HDU with confirmed influenza infection (one A unknown subtype) was reported across the UK (146/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 8 and 9). No new confirmed influenza deaths were reported in week 46 2013. A total of 13 admissions (two A(H1N1)pdm09, five A(unknown) and six B) and no confirmed influenza deaths have been reported since week 40 2013.



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

-In week 46, one new hospitalised confirmed influenza case (one A(H1N1)pdm09) was reported through the USISS sentinel hospital network from 27 NHS Trusts across England (Figure 10). A total of seven hospitalised confirmed influenza admissions (three A(H1N1)pdm09, three A unknown and one B) have been reported since week 40 2013.



All-cause mortality data

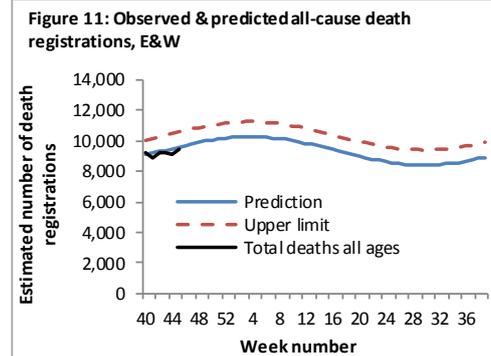
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In week 46, no excess in all-cause mortality was seen across the UK overall, by age group or by region.

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 2013, an estimated 9,449 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is more than the 9,107 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 11).



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

-In week 46 2013, 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 12, Table 3). This data is provisional due to the time delay in registration and so numbers may vary from week to week.

-No excess mortality above the threshold through the same standardised algorithm was seen subnationally or in the devolved administrations (Table 4).

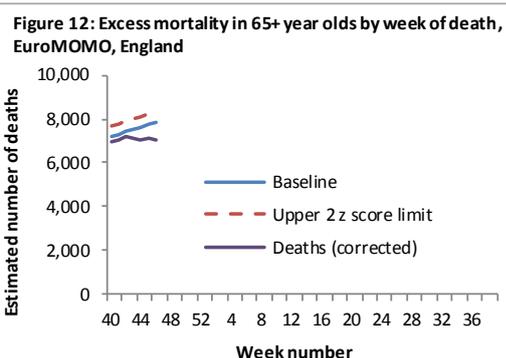


Table 3: Excess mortality by age group, England*

Age group (years)	Excess detected in week 46 2013?	Weeks with excess in 2013/14
<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

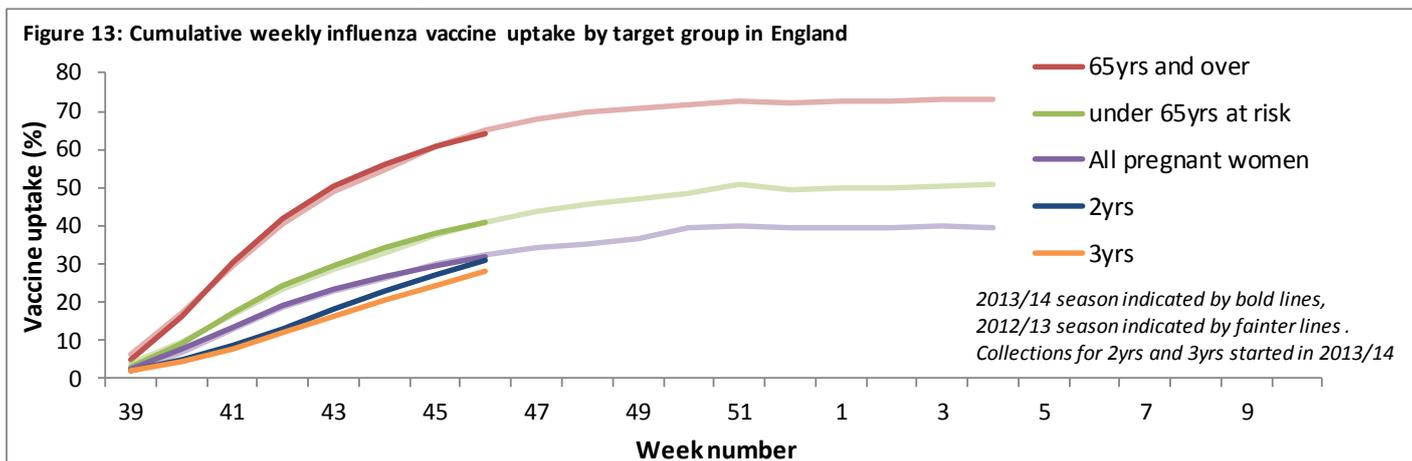
Table 4: Excess mortality by UK country*

Country	Excess detected in week 46 2013?	Weeks with excess in 2013/14
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

- Up to week 46 2013 in 78.2% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2013/14 influenza vaccine in targeted groups was as follows (Figure 13):
 - 31.1% in all 2 year olds
 - 27.9% in all 3 year olds
 - 41.1% in under 65 years in a clinical risk group
 - 32.0% in all pregnant women
 - 64.3% in 65+ year olds



- In the first monthly collection up to 31 October 2013, provisional cumulative seasonal influenza vaccine uptake from 87.9% of GP practices was 54.9% in 65 years and over, 33.1% in under 65 year olds at risk, 25.8% in all pregnant women, 21.9% in all 2 year olds and 19.9% in all 3 year olds. The [report](#) provides uptake to Area Team level and in key targeted groups.
- Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 35.0% were vaccinated by 31 October 2013 from 94.9% of Trusts, compared to 28.4% vaccinated the previous season by 31 October 2012. The [report](#) provides uptake to Trust level.

International Situation

Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low.

- [Europe](#) 15 November 2013 (European Centre for Disease Prevention and Control report)

For week 45/2013, clinical data were reported by 27 countries, all of which experienced low-intensity influenza activity, the lowest category of reporting. Geographic patterns of influenza activity were reported as sporadic by Denmark, France, Norway, Slovakia, Sweden and the UK (Scotland). All other countries reported no activity. Increasing trends were reported by Bulgaria, Poland, the UK (Northern Ireland and Scotland), while all other countries reported stable trends. The incidence of ILI/ARI was below epidemic thresholds in all countries.

For week 45/2013, 19 countries tested a total of 375 sentinel specimens, of which seven (1.9 %) were positive for influenza virus. Five were subtyped as A(H1)pdm09 and two as A(H3). In addition, 33 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were found to be positive for influenza virus, 27 type A viruses and six type B. Of 13 subtyped influenza A viruses, eight were A(H1)pdm09 and five A(H3). Of the seven antigenic characterisations of influenza A viruses reported for sentinel and non-sentinel specimens since week 40/2013, three have been characterised as A(H1)pdm09 A/California/7/2009 (H1N1)-like, and three A(H1)pdm09 and one as B(Yamagata) lineage virus could not be attributed to any of the reportable categories.

Since week 40/2013, three countries have reported 14 hospitalised laboratory-confirmed influenza cases. For week 45/2013, one hospitalised laboratory-confirmed influenza B case was reported by the UK. Of the 14 hospitalised laboratory-confirmed influenza cases reported since week 40/2013, seven cases were related to influenza type A and seven to type B.

- [United States of America](#) 15 November 2013 (Centre for Disease Control report)

During week 45 2013, influenza activity increased slightly in the United States

Nationwide during week 45, 1.6% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI). This percentage is below the national baseline of 2.0%. (*ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and cough and/or sore throat.*) On a regional level, the percentage of outpatient visits for ILI ranged from 0.3% to 3.0% during week 45. One region (Region 6) reported a proportion of outpatient visits for ILI above their region-specific baseline level. Two states experienced moderate ILI activity, four states experienced low ILI activity, 44 states and New York City experienced minimal ILI activity and the District of Columbia had insufficient data.

During week 45, 6.1% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.4% for week 45. Two influenza-associated pediatric deaths were reported to CDC during week 45. One was associated with an influenza A and B virus coinfection and occurred during week 43 (week ending October 26, 2013) and one was associated with an influenza A virus for which no subtyping was performed and occurred during week 42 (week ending October 19, 2013). A total of two influenza-associated pediatric deaths for the 2013-2014 season have been reported.

Of 4,257 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, 231 (5.4%) were positive for influenza. By type, 203 (87.9%) were influenza A (sixty four (31.5%) A(H1N1)pdm09, 121 subtyping not performed and 18 (8.9%) A(H3)) and 28 (12.1%) were influenza B.

- [Canada](#) 15 November 2013 (Public Health Agency report)

Influenza activity in Canada continued to increase in week 45. One region in Quebec reported localized activity and 16 regions (in BC(2), AB(3), SK(2), MB(2), ON(4), QC(2) and NL(1)) reported sporadic activity. The national influenza-like-illness (ILI) consultation rate increased slightly from 17.2/1,000 in week 44 to 18.6/1,000 in week 45, but was similar to the previous two weeks. One new influenza outbreak in a long-term care facility was reported in week 45. To date this season, a total of seven influenza-associated paediatric hospitalizations have been reported by the IMPACT network. One ICU admission was required in a child 2-4 years of age with influenza B. No deaths have been reported. To date this season, eight influenza-associated hospitalizations have been reported by the PCIRN-SOS network, all with influenza A. The majority have been adults over 45 years of age. ICU admission was required for one hospitalization and no deaths have been reported

- [Global influenza update](#) 11 November 2013 (WHO website)

Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low. Influenza transmission in southern Asia was low. In Hong Kong Special Administrative Region, China, and in the south of China influenza detections decreased. In South East Asia, influenza activity decreased in Thailand and Viet Nam, but increased in Cambodia and Lao People's Democratic Republic. In this area, co-circulation of influenza A(H1N1)pdm09, influenza A(H3N2) and influenza B virus was reported.

In the Caribbean region of Central America and tropical South America countries, reported cases of influenza A infection remained at low levels among most Caribbean islands and Central American countries, with increased reports of influenza B in certain countries. Respiratory syncytial virus (RSV) continued to predominate in certain countries, but the RSV activity largely remained within expected seasonal levels.

Influenza activity peaked in the temperate countries of South America and in South Africa in late June. Temperate South American countries reported cases of A(H1N1)pdm09 A (H3N2) and influenza B, and acute respiratory activity remained low.

In Australia and New Zealand, numbers of influenza viruses detected and rates of influenza-like illness decreased. Co-circulation of influenza A(H1N1)pdm09, A(H3N2) and B viruses was reported in both countries.

- [Avian Influenza](#) 6 November 2013 (WHO website)

Influenza A(H7N9)

Up to 6 November 2013, [139](#) cases of human infection with influenza A(H7N9) from China have been reported by WHO, including 45 deaths (case fatality ratio=32%). The most recent two cases had contact with live poultry and were admitted to hospital on 31 October. One is a three year old boy from Guandong

Province and is currently in a stable condition while the second is a 64 year old woman from Zhejiang Province and is currently in a critical condition. So far there is no evidence of sustained human-to-human transmission. 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 7 October 2013, 641 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 15 countries, of which 380 (59%) died.

- Novel coronavirus 18 November 2013

Up to 18 November 2013, 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 108 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 153 confirmed cases have been reported internationally. This results in a current global total of [157 cases](#), 66 of which have died (case fatality ratio=42%). 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[®] and EMIS and EMIS practices contributing to the QSurveillance[®] 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](#)
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Community surveillance

- [Outbreak reporting](#)
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Disease severity and mortality data

- [USISS](#) system
- [EuroMOMO](#) mortality project

Vaccination

- 2012/13 seasonal influenza vaccine programme ([Department of Health Green Book](#))
- Childhood flu programme Q&A for healthcare professionals ([Public Health England](#))
- 2013/14 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))