



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 48 (ending 1 December 2013), overall weekly influenza GP consultations remained low in England (5.6 per 100,000), Wales (4.9 per 100,000), Scotland (8.7 per 100,000) and Northern Ireland (11.9 per 100,000)).
  - In week 48 there have been further national increases in acute respiratory infection syndromic indicators, particularly in children <5 years old, 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).
- Virology
  - In week 48 2013, five influenza positive detections were recorded through the DataMart scheme (three A(H1N1)pdm09 and two B, positivity of 0.4% compared to 0.8% in week 47).
  - One sample was positive for influenza A(H1N1)pdm09 through the English sentinel schemes.
- Disease severity and mortality
  - Three new admissions to ICU/HDU with confirmed influenza (two A unknown subtype and one B) were reported through the USSS mandatory ICU surveillance scheme across the UK (144 Trusts in England) in week 48. No new hospitalised confirmed influenza cases were reported through the USSS sentinel hospital network across England (28 Trusts).
  - In week 48 2013, no excess all-cause mortality was seen across the UK through the EuroMOMO algorithm and none has been reported since week 40 2013. This data is provisional due to the time delay in death registration.
- Vaccination
  - Up to week 48 2013 in 80.3% 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: 36.5% in all 2 year olds, 32.9% in all 3 year olds, 45.7% in under 65 years in a clinical risk group, 35.6% in all pregnant women and 68.8% 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
  - Overall influenza activity in North America has increased but remains at low levels throughout the region.
  - European countries continue to report low levels of influenza activity.

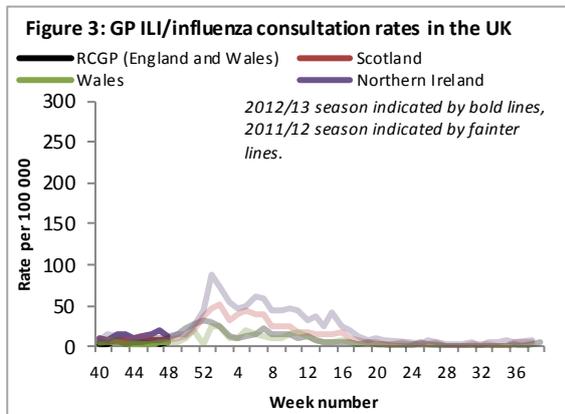
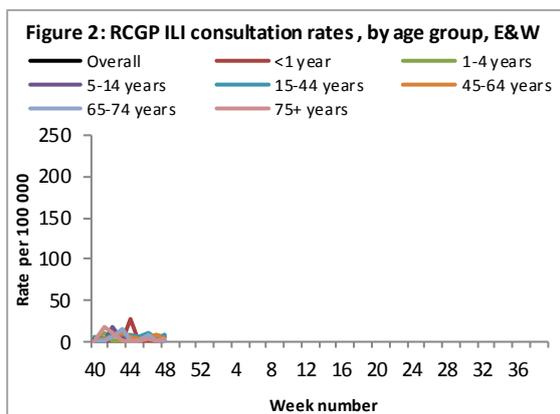
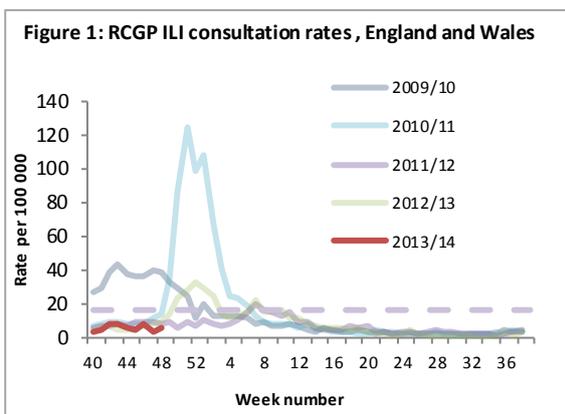
In week 48 (ending 1 December 2013), overall weekly influenza GP consultations remained low in England, Wales, Scotland and Northern Ireland.

- Influenza/Influenza-Like-Illness (ILI)

RCGP (England and Wales)

-The overall ILI consultation rate from RCGP for England and Wales increased slightly in week 48 2013 (5.5 per 100,000) compared to week 47 (3.5 per 100,000) (Figure 1\*). ILI rates increased in the South region (from 2.6 to 9.2 per 100,000) and remained stable in the North (3.2 per 100,000) and Central regions (3.0 per 100,000).

-In week 48 2013, the highest rates were seen in 5-14 year olds (8.2 per 100,000) and 15-44 year olds (7.5 per 100,000).



Northern Ireland

-The Northern Ireland influenza rate decreased from 18.8 per 100,000 in week 47 to 11.9 per 100,000 in week 48 (Figure 3).

-In week 48 2013, the highest rates were seen in 65-74 year olds (from 24.2 to 24.1 per 100,000) and 75+ year olds (from 15.1 to 14.9 per 100,000).

Wales

-The Welsh influenza rate remained stable from 6.4 per 100,000 in week 47 to 4.9 per 100,000 in week 48 (Figure 3).

-The highest rate was seen in 15-44 year olds (from 8.6 to 8.1 per 100,000) followed by 45-64 year olds (from 5.8 to 5.4 per 100,000).

Scotland

-The Scottish ILI rate remained stable from 7.8 per 100,000 in week 47 to 8.7 per 100,000 in week 48 (Figure 3).

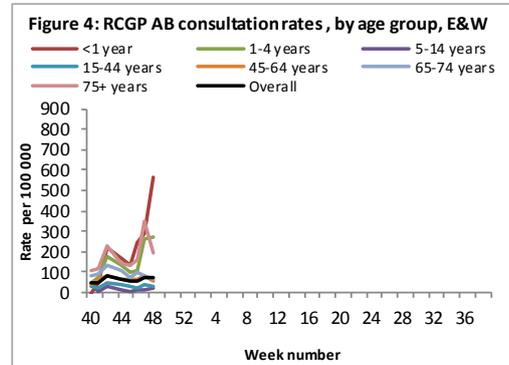
-The highest rate was seen in 1-4 year olds (from 11.5 to 19.6 per 100,000) followed by 75+ year olds (from 3.6 to 11.5 per 100,000).

\*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 remained stable at 70.6 per 100,000 in week 48 (Figure 4). The highest rates were seen in <1 year olds (562.8 per 100,000) and 1-4 year olds (269.1 per 100,000).



### Community surveillance

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**In week 48 there have been further national increases in acute respiratory infection syndromic indicators and one new acute respiratory outbreak has been reported.**

- PHE Real-time Syndromic Surveillance

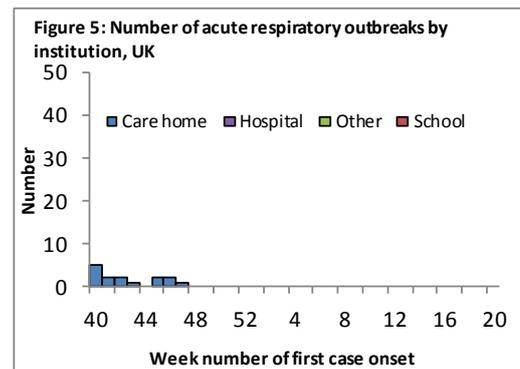
-In week 48 there have been further national increases in acute respiratory infection syndromic indicators, particularly in children <5 years old, in line with seasonal expectations. This is consistent with increasing respiratory syncytial virus (RSV) activity.

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

- Acute respiratory disease outbreaks

-One new acute respiratory outbreak was reported in the last 7 days in a care home in South of England and it was not tested. So far this season, all 16 outbreaks have been reported in care homes (where tested, one influenza A not sub-typed, three rhinovirus, one RSV and one parainfluenza) (Figure 5).

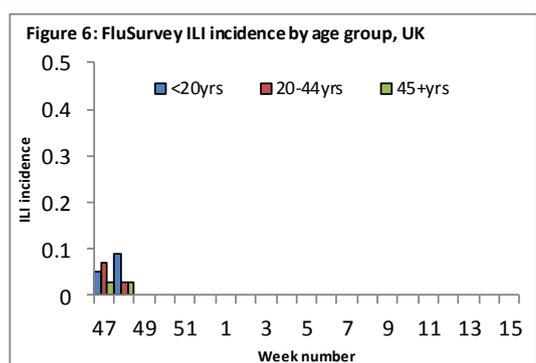
-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [Respcidsc@phe.gov.uk](mailto:Respcidsc@phe.gov.uk).



- FluSurvey

-Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey project (<http://flusurvey.org.uk>) run by the London School of Hygiene and Tropical Medicine. Please see the website for information on how to register.

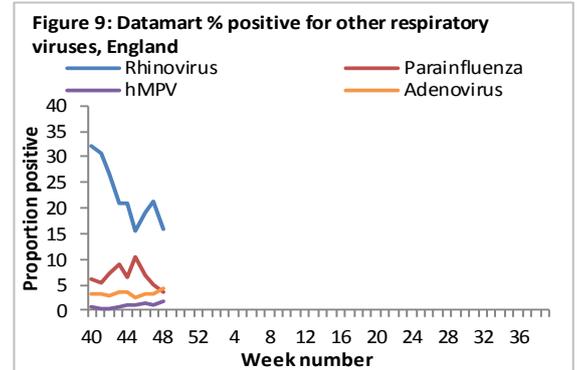
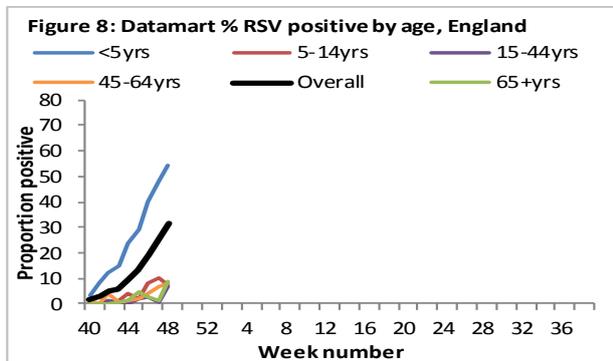
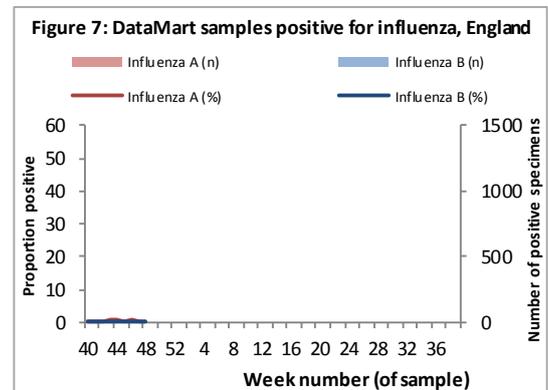
In week 48, the incidence of ILI reports was highest in <20 year olds (Figure 6).



In week 48 2013, five influenza positive detections were recorded through the DataMart scheme (three A(H1N1)pdm09 and two B) and one sample was positive through the UK sentinel schemes for A(H1N1)pdm09 (positivity of 1.9%).

- Respiratory DataMart System (England)

-In week 48 2013, out of the 1127 respiratory specimens reported through the Respiratory Datamart System, three (0.3%) were positive for flu A (H1N1) pdm09 and two samples were positive for influenza B (Figure 7). The overall positivity for RSV continued to increase from 25.3% in week 47 to 31.5% in week 48, with the highest positivity reported in the <5 years with an increase from 49.2% in week 47 to 54.1% in week 48 (Figure 8). Positivity for rhinovirus decreased from 20.3% in week 47 to 15.9% in week 48. Positivity decreased for parainfluenza (from 5.2% to 3.7%). Other respiratory viruses remained at low levels: adenovirus 4.2% and hMPV 1.8% (Figure 9).



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

-One sample from the English swabbing schemes was positive for influenza A(H1N1)pdm09 and one sample from Scotland was positive for influenza B in week 48 (Table 1). No samples were tested through the Northern Ireland and Welsh schemes.

Table 1: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
45	1/54 (1.9%)	0/51 (0%)	0/5 (-)	0/0 (-)
46	0/76 (0%)	0/59 (0%)	0/4 (-)	0/0 (-)
47	0/33 (0%)	0/51 (0%)	1/8 (-)	0/0 (-)
48	1/53 (1.9%)	1/21 (4.8%)	0/0 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Virus characterisation

- Since week 40 2013, the PHE Respiratory Virus Unit (RVU) has isolated and antigenically characterised 13 influenza A(H3N2) viruses, all similar to the A/Texas/50/2012 H3N2 2013/14 vaccine strain, and 6 influenza A(H1N1)pdm09 viruses similar to the A/California/07/2009 vaccine strain for 2013/14. One influenza B isolate, belonging to the B-Yamagata lineage has been characterised.

- Antiviral susceptibility

Since week 40 2013, thirteen and six influenza samples have been tested for Osetamivir and Zanamivir susceptibility, respectively, in the UK, and no virus has been found to be resistant so far in this season.

- Antimicrobial susceptibility

-In the 12 weeks up to 24 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 24 Nov 2013, E&W

Organism	Tetracyclines		Co-amoxiclav	
	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
<i>S. aureus</i>	3,184	92	179	88
<i>S. pneumoniae</i>	1,825	81	1906*	90*
<i>H. influenzae</i>	7,627	98	7,122	92

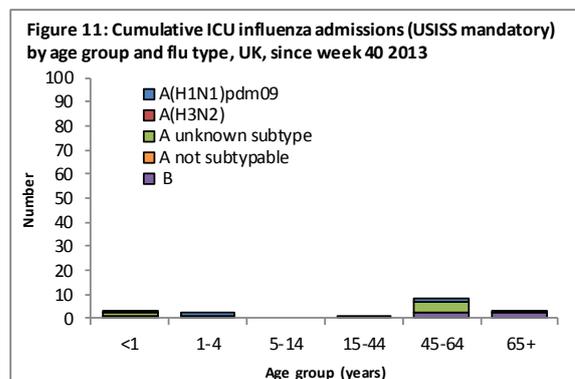
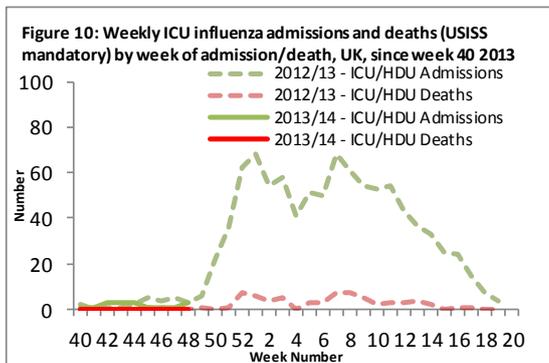
\* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other beta-lactams such as co-amoxiclav.

**In week 48, three new admissions of confirmed influenza cases to ICU/HDU (two A unknown subtype and one B) and no confirmed influenza deaths in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (144 Trusts in England). No new hospitalised confirmed influenza cases have been reported through the USISS sentinel hospital network across England (28 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.

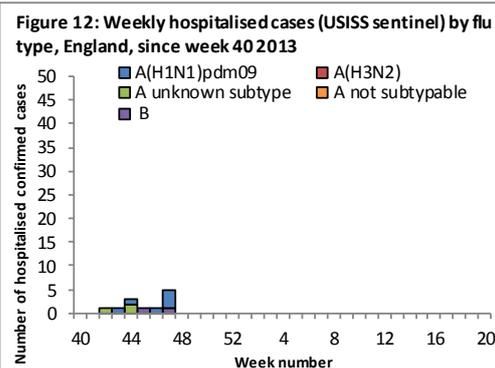
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 48)

-In week 48, three new admissions to ICU/HDU with confirmed influenza infection (two A unknown subtype and one B) were reported across the UK (144/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 10 and 11). No new confirmed influenza deaths were reported in week 48 2013. A total of 17 admissions (three A(H1N1)pdm09, seven A(unknown) and seven B) and no confirmed influenza deaths have been reported since week 40 2013.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 48)

-In week 48, no new hospitalised confirmed influenza case were reported through the USISS sentinel hospital network from 28 NHS Trusts across England (Figure 14). A total of 12 hospitalised confirmed influenza admissions (seven A(H1N1)pdm09, three A unknown and two B) have been reported since week 40 2013.



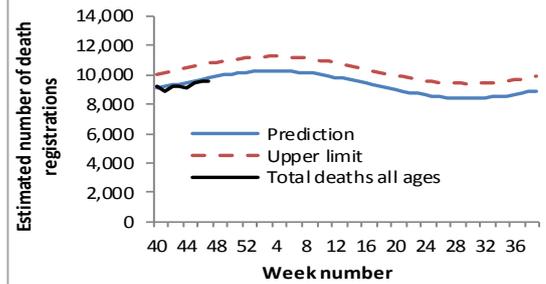
**In week 48, no excess in all-cause mortality was seen across the UK overall, by age group or by region.**

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 overall all-cause mortality, England and Wales

-In week 47 2013, an estimated 9,587 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is similar to the 9,583 estimated death registrations in week 46 but remains below the 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 13).

Figure 13: Observed & predicted all-cause death registrations, E&W



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

-In week 48 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 14, 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 48 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

Figure 14: Excess mortality in 65+ year olds by week of death, EuroMOMO, England

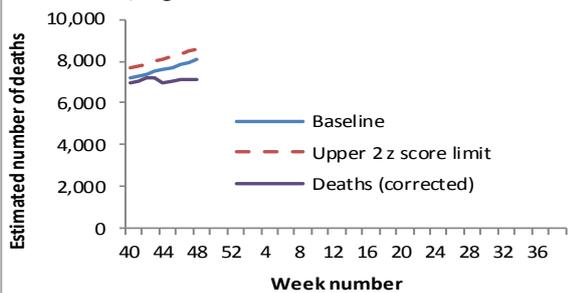


Table 4: Excess mortality by UK country\*

Country	Excess detected in week 48 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

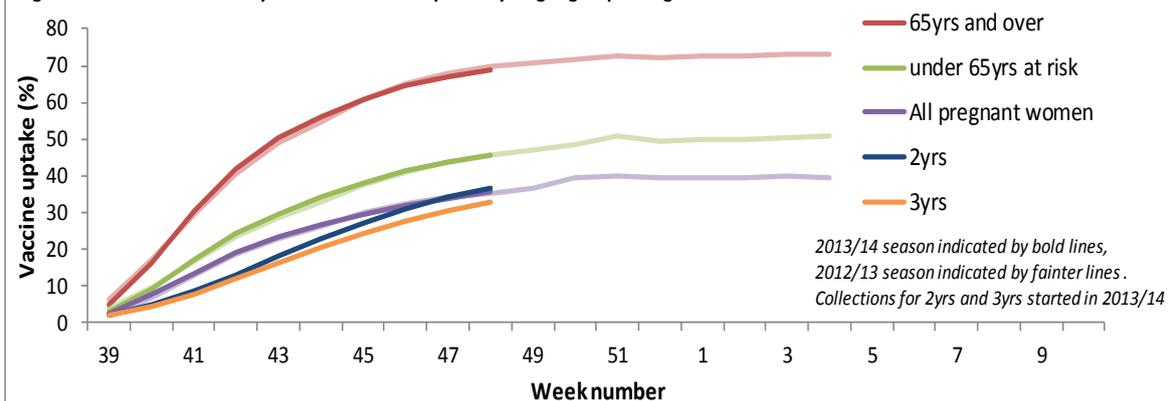
NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 3 + 4

## Vaccination

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- Up to week 48 2013 in 80.3% 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 15):
  - 36.5% in all 2 year olds
  - 32.9% in all 3 year olds
  - 45.7% in under 65 years in a clinical risk group
  - 35.6% in all pregnant women
  - 68.8% in 65+ year olds

Figure 15: Cumulative weekly influenza vaccine uptake by target group in England



- 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, CCG 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

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**Overall influenza activity in North America has increased but remains at low levels throughout the region. European countries continue to report low levels of influenza activity.**

- [Europe](#) 29 November 2013 (European Centre for Disease Prevention and Control report)

For week 47/2013, clinical data were reported by 28 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, Ireland, Norway, Spain, Sweden and the UK (Scotland). All other countries reported no activity. Increasing trends were reported by Bulgaria, Estonia, Poland and the UK (Northern Ireland), while all other countries reported stable trends. The incidence of ILI/ARI was below epidemic thresholds in all countries.

For week 47/2013, 23 countries tested a total of 357 sentinel specimens, of which three (0.8%) were positive for influenza A virus. In addition, 23 non-sentinel source specimens (e.g. specimens collected for diagnostic purposes in hospitals) were found to be positive for influenza virus: 16 were type A and seven were type B viruses. The two subtyped influenza A viruses were of A(H1N1)pdm09 subtype. Of the three antigenic characterisations of influenza viruses reported since week 40/2013, two have been characterised as A(H1N1)pdm09 A/California/7/2009 (H1N1)-like, and one B(Yamagata) lineage virus could not be attributed to any of the reportable categories.

Since week 40/2013, three countries have reported 18 hospitalised laboratory-confirmed influenza cases. For week 47/2013, two hospitalised influenza A cases and one influenza B case were reported by the UK. Of the 18 hospitalised laboratory-confirmed influenza cases reported since week 40/2013, ten cases were related to infection with influenza virus type A and eight to infection with influenza virus type B.

- [United States of America](#) 2 December 2013 (Centre for Disease Control report)

During week 47 2013, influenza activity increased slightly in the United States.

Nationwide during week 47, 1.7% 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 0.7% to 3.8% during week 47. Two regions (Regions 4 and 6) reported a proportion of outpatient visits for ILI at or above their region-specific baseline level. Two regions reported ILI at or above region-specific baseline levels. Two states experienced high ILI activity, one state experienced moderate ILI activity, one state experienced low ILI activity, 45 states and New York City experienced minimal ILI activity and the District of Columbia and one state had insufficient data.

During week 47, 5.8% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.6% for week 47. No influenza-associated pediatric deaths were reported to CDC during week 47. A total of two influenza-associated pediatric deaths for the 2013-2014 season have been reported.

Of 4,996 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 47, 397 (7.9%) were positive for influenza. By type, 348 (87.7%) were influenza A (210 (60.3%) A(H1N1)pdm09, 126 subtyping not performed and 12 (3.4%) A(H3)) and 49 (12.3%) were influenza B.

- [Canada](#) 29 November 2013 (Public Health Agency report)

Influenza activity in Canada continued to increase in week 47, with a continuing predominance of influenza A. In week 47, three regions in Ontario reported localized activity and 20 regions (in BC(4), AB(5), SK(2), MB(1), ON(3), and QC(5)) reported sporadic activity. The national influenza-like-illness (ILI) consultation rate increased from 16.1/1,000 in week 46 to 24.3/1,000 in week 47, following an upwards trend in keeping with other surveillance indicators. One new influenza outbreak in a long-term care facility was reported in week 47. To date this season, a total of 19 influenza-associated paediatric hospitalizations have been reported by the IMPACT network. Two ICU admissions were reported, both in children 2-4 years of age, one with influenza A(H1N1)pdm09 and one with influenza B. No deaths have been reported

- [Global influenza update](#) 22 November 2013 (WHO website)

Overall influenza activity in North America increased slightly over the past three weeks, but remained at low levels throughout the region. Countries from the WHO European Region continued to report low levels of influenza activity with only a few countries reporting sporadic influenza detections among samples from sentinel and non-sentinel sources. In northern Asia, influenza activity slightly increased in the north of China and Mongolia. 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 Viet Nam, but increased in Cambodia, Lao People's Democratic Republic and Thailand. 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, influenza A detections remained at low levels. Respiratory syncytial virus (RSV) continued to predominate in certain countries, but the RSV activity largely remained within expected seasonal levels.

The influenza season in the southern hemisphere is largely over.

- [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 2 December 2013

Up to 2 December 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 [163 cases](#), 70 of which have died (case fatality ratio=42.9%). Further information on management and guidance of possible cases is available [online](#).

## **Acknowledgements**

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## **Related links**

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- [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 paper](#)

### **Community surveillance**

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

### **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](#))