



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.

[Summary](#) | [Community surveillance](#) | [GP consultation rates](#) | [Hospitalisations](#) | [All-cause mortality](#) | [Microbiological surveillance](#) | [Vaccination](#) | [International](#) | [Acknowledgements](#) | [Related links](#)

Summary

In week 1 2015 (ending 4 January), allowing for bank holiday reporting breaks, across indicators influenza activity was at similar or higher levels than those reported the previous week. Overall, levels are now higher than the peak of flu activity observed in the last three seasons, but have not reached the levels seen in the last notable seasons of 2010/11 and 2008/09. The Department of Health have issued an [alert](#) on the prescription of antiviral medicines by GPs.

- [Community influenza surveillance](#)
 - In week 1 syndromic surveillance indicators for respiratory infections, including influenza-like illness, decreased in children, however there were further increases in adults and particularly in the elderly.
 - 74 new acute respiratory outbreaks were reported in the last seven days: 60 in care homes (13 A(untyped), one A(H3) and the rest not tested/results not available yet), 12 in hospitals (6 A(untyped), one A(untyped)/B and the others no results yet), and two in schools (not tested).
- [Overall weekly influenza GP consultation rates across the UK](#)
 - Due to bank holidays in week 1 (ending 4 January 2015), GP surgeries were only open for four days (three in Scotland) – data should therefore be interpreted with caution.
 - In week 1, overall weekly influenza-like illness (ILI) GP consultations increased in Wales (23.4 per 100,000) and Northern Ireland (26.1 per 100,000) but remained stable in Scotland (18.6 per 100,000).
 - The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system remained elevated in week 1 at 18.3 per 100,000.
- [Influenza-confirmed hospitalisations](#)
 - 107 new admissions to ICU/HDU with confirmed influenza (67 A unknown subtype, 32 A(H3N2), seven influenza A(H1N1)pdm09 and one influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (124 Trusts in England) in week 1, a rate of 0.24 per 100,000 compared to 0.27 per 100,000 the previous week.
 - 184 new hospitalised confirmed influenza cases (127 influenza A(H3N2), 51 A unknown subtype, four influenza B and two influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network across England (24 Trusts), a rate of 1.99 per 100,000 compared to 1.40 per 100,000 the previous week.
- [All-cause mortality data](#)
 - Where data was available, up to week 51 2014 no excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England, Wales and Northern Ireland. In Scotland, up to week 1 2015, excess mortality was seen in week 51 2014 and 1 2015.
- [Microbiological surveillance](#)
 - 78 samples were positive for influenza through the UK GP sentinel swabbing schemes in week 1 (65 A(H3), eight A(not subtyped) and two B, positivity of 42.2% compared to 40.5% the previous week (updated)).
 - In week 1 2015, 512 influenza positive detections were recorded through the DataMart scheme (461 A(H3), 34 A(not subtyped), nine A(H1N1)pdm09 and eight B, positivity of 31.7% compared to 33.5% the previous week, with the highest positivity by age group in 65+ year olds at 44.6%).
 - The majority of influenza A(H3N2) viruses isolated and characterised by the PHE Respiratory Virus Unit were similar to the Northern Hemisphere 2014/15 vaccine strain, however five (21%) showed reduced reactivity and were similar to the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. PHE is continuing to monitor the situation.
- [Vaccination](#)
 - Up to week 1 2015 in 93% 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: 71.7% in 65+ year olds, 48.9% in under 65 years in a clinical risk group, 43.1% in pregnant women, 37.2% in all 2 year olds, 39.8% in all 3 year olds and 31.5% in all 4 year olds.
 - Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 48.2% were vaccinated by 30 November 2014 from 97.0% of Trusts.
- [International situation](#)
 - Globally, influenza activity continued to increase in the northern hemisphere with influenza A(H3N2) predominating so far. In the European Region, the influenza season appears to be starting, with influenza A(H3N2) viruses the predominant viruses detected across all surveillance systems.

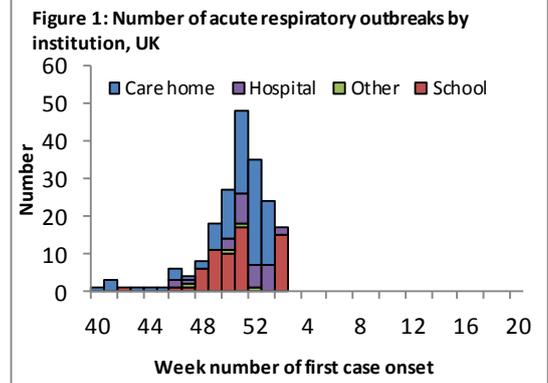
In week 1 syndromic indicators for respiratory infections continued to increase in adults and the elderly and 74 new acute respiratory outbreaks were reported in the last seven days.

- PHE Real-time Syndromic Surveillance

-In week 1 syndromic surveillance indicators for respiratory infections, including influenza-like illness, decreased in children, however there were further increases in adults and particularly in the elderly.
 -For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

-74 new acute respiratory outbreaks have been reported in the past seven days, 60 in care homes (13 flu A(untyped), one flu A(H3) and the rest not tested/results not available yet), 12 in hospitals (6 flu A(untyped), one flu A (untyped)/B, and the others no results yet), and two in schools (not tested). So far in the 2014/15 flu season, 200 outbreaks (116 in care homes, 52 in schools, 29 in hospitals and 2 in other settings) have been reported in the UK including 21 with flu A(H3) infection, 41 flu A (untyped), one flu B, one fluA+flu B, five rhinovirus, two RSV, one parainfluenza, one adenovirus+parainfluenza, one enterovirus and 126 not tested (or test results not yet available).

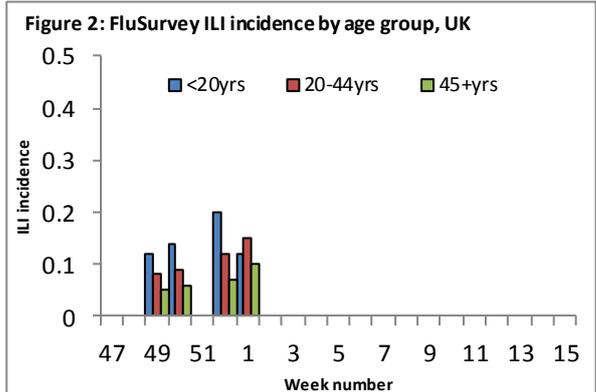


-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respscisc@phe.gov.uk.

- 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.

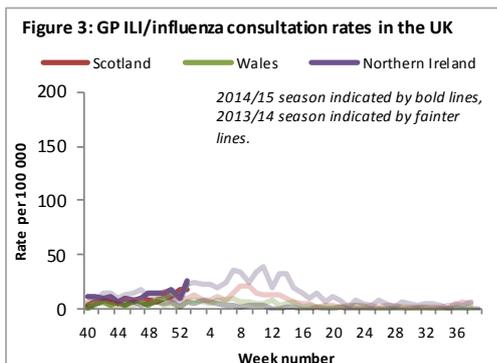
-In week 1, the incidence of ILI reports by age group was highest in 20-44 year olds (Figure 2, NB. No data is currently available for week 51).



Weekly consultation rates in national sentinel schemes

In week 1 overall weekly influenza-like illness GP consultations increased in England, Wales, and Northern Ireland but remained stable in Scotland. Due to bank holidays in week 1, GP surgeries were only open for four days (three in Scotland) – data should therefore be interpreted with caution.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza rate increased from 10.4 to 26.1 per 100,000 in week 1 but remained low (Figure 3).

-The highest rates were seen in 75+ year olds (37.4 per 100,000), 45-64 year olds (34.7 per 100,000) and 15-44 year olds (28.6 per 100,000).

Wales

-The Welsh influenza rate increased from 11.4 to 23.4 per 100,000 in week 1 (Figure 3).

-The highest rates were seen in 35-44 year olds (38.6 per 100,000), 45-64 year olds (32.1 per 100,000) and 15-24 year olds (25.5 per 100,000).

Scotland

-The Scottish ILI rate remained stable at 18.6 per 100,000 in week 1 (Figure 3).

-The highest rates were seen in 45-64 year olds (24.4 per 100,000), 75+ year olds (18.5 per 100,000) and 15-44 year olds (20.2 per 100,000).

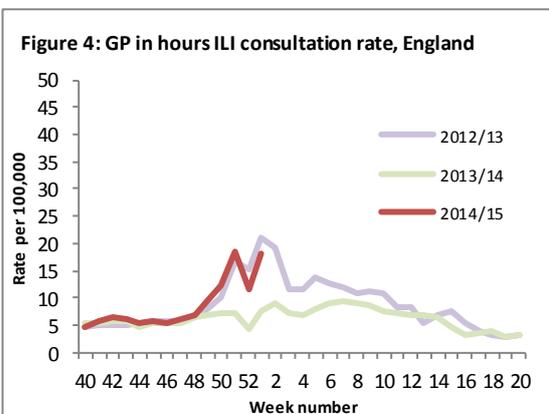
RCGP (England and Wales)

-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 through the GP In Hours Syndromic Surveillance system remained elevated at 18.3 per 100,000 population in week 1 (Figure 4). Due to bank holidays, GP surgeries were only open for four days – data should therefore be interpreted with caution.

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



Influenza confirmed hospitalisations

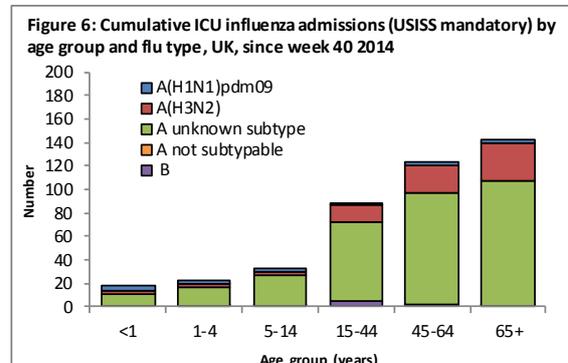
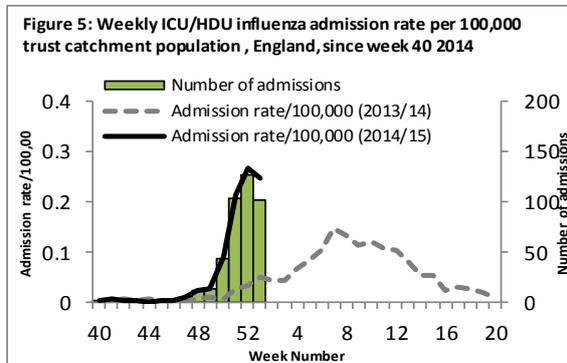
[| Back to top |](#)

In week 1, 107 new admissions to ICU/HDU with confirmed influenza (67 A unknown subtype, 32 A(H3N2), seven influenza A(H1N1)pdm09 and one influenza B) were reported through the national USSS mandatory ICU scheme across the UK (124 Trusts in England). 184 new hospitalised confirmed influenza cases (127 influenza A(H3N2), 51 A unknown subtype, four influenza B and two influenza A(H1N1)pdm09) were reported through the USSS sentinel hospital network across England (24 Trusts).

A national mandatory collection (USSS 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 (USSS 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.

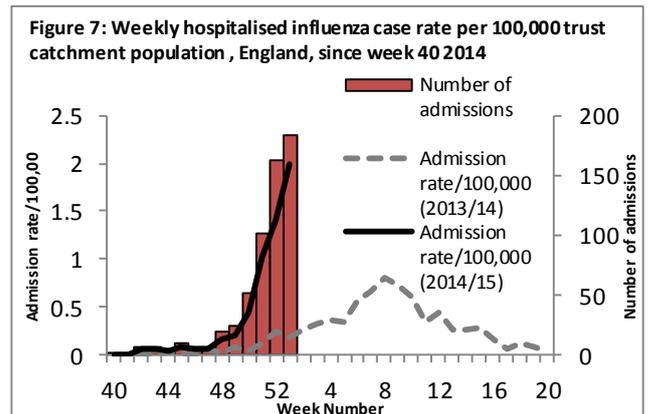
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 1)

-In week 1, 107 new admissions to ICU/HDU with confirmed influenza (67 A unknown subtype, 32 A(H3N2), seven influenza A(H1N1)pdm09 and one influenza B) were reported across the UK (124/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 5 and 6), a rate of 0.24 per 100,000 compared to 0.27 per 100,000 the previous week. 14 new confirmed influenza deaths were reported in week 1 2015. A total of 426 admissions (323 A unknown subtype, 78 A(H3N2), 16 A(H1N1)pdm09) and nine B) and 41 confirmed influenza deaths have been reported since week 40 2014.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 1)

-In week 1, 184 new hospitalised confirmed influenza cases (127 influenza A(H3N2), 51 A unknown subtype, four influenza B and two influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network from 24 NHS Trusts across England (Figure 7), a rate of 1.99 per 100,000 compared to 1.40 per 100,000 the previous week. A total of 584 hospitalised confirmed influenza admissions (408 A(H3N2), 145 A unknown subtype, 22 B and nine A(H1N1)pdm09)) have been reported since week 40.



All-cause mortality data

[| Back to top |](#)

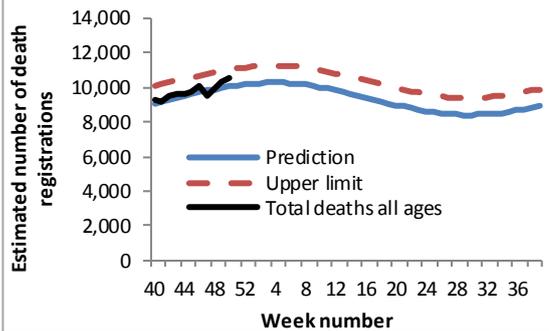
Where data was available, up to week 51 2014 no excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England, Wales and Northern Ireland. In Scotland, up to week 1 2015, excess mortality was seen in week 51 2014 and 1 2015.

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 50 2014, an estimated 10,550 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly more than the 10,267 estimated death registrations in week 49 but remains below the 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 8).

Figure 8: Observed & predicted all-cause death registrations, E&W



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

-Data was available up to week 51 2014 in England due to Christmas reporting delays. Since week 40 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 9, 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.

- In Scotland, up to week 1 2015, excess mortality was seen in week 51 2014 and 1 2015 (Table 2).

-Data was available up to week 51 in Wales and Northern Ireland. Since week 40 2014 no excess mortality above the threshold through the same standardised algorithm was seen across Wales and Northern Ireland in week 51 (Table 2).

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 1 2015?	Weeks with excess in 2014/15
<5	no data	NA
5-14	no data	NA
15-64	no data	NA
65+	no data	NA

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

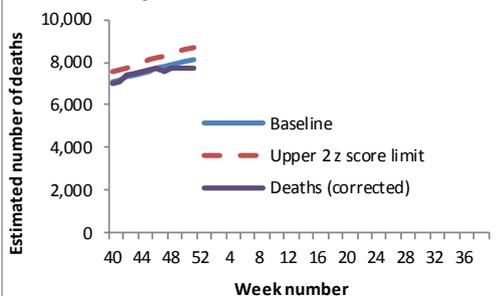
Table 2: Excess mortality by UK country*

Country	Excess detected in week 1 2015?	Weeks with excess in 2014/15
England	no data	NA
Wales	no data	NA
Scotland	✓	51, 1
Northern Ireland	no data	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 1 + 2

Figure 9: Excess mortality in 65+ year olds by week of death, EuroMOMO, England



Microbiological surveillance

[Back to top](#)

In week 1 2015, 78 samples were positive for influenza through the UK GP sentinel schemes (65 A(H3), eight A(not subtyped) and two B, positivity of 42.2%). 512 influenza positive detections were recorded through the DataMart scheme (461 A(H3), 34 A(not subtyped), nine A(H1N1)pdm09 and eight B, positivity of 31.7%).

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

-In week 1, 66 samples were positive for influenza in England (60 A(H3), two A(not subtyped) and two B), eight in Scotland (six A(not subtyped), one A(H3) and one B) and four in Wales (four A(H3)). No samples in Northern Ireland were positive for influenza (Table 3).

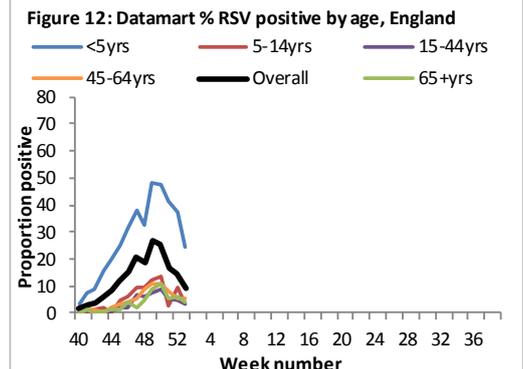
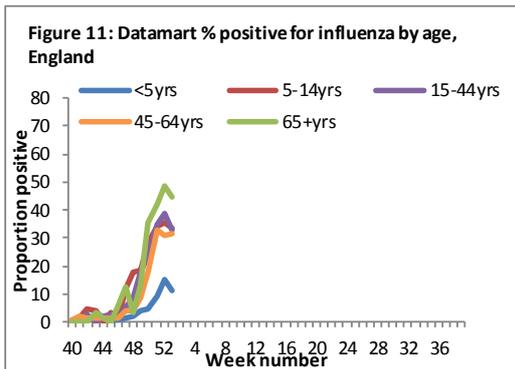
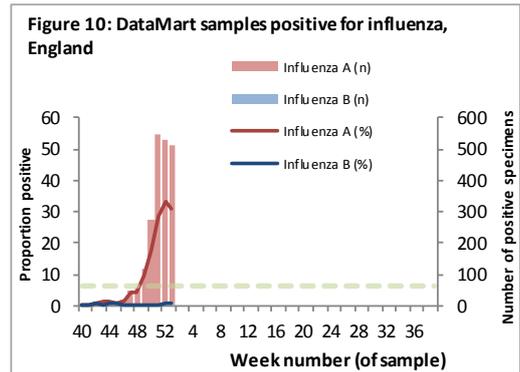
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
50	33/108 (30.6%)	3/60 (5.0%)	0/0 (-)	1/7(-)
51	47/112 (42.0%)	9/74 (12.2%)	0/2 (-)	6/7 (-)
52	40/87 (46.0%)	11/38 (28.9%)	0/2 (-)	2/4 (-)
1	66/153 (43.1%)	8/23 (34.8%)	0/1 (-)	4/8 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 1 2015, out of the 1,617 respiratory specimens reported through the Respiratory DataMart System, 512 samples (31.7%) were positive for influenza (461 A(H3), 34 A(not subtyped), 9 influenza A(H1N1)pdm09 and 8 B (Figure 10*)). The highest positivity by age group was reported in 65+ year olds (44.6%, Figure 11). The overall positivity for RSV continued to decrease from 14.7% in week 52 to 8.2% in week 52, with the highest positivity reported in the <5 years (24.4%, Figure 12). Positivity for other respiratory viruses remained at low levels: rhinovirus 6.1%, adenovirus 1.6%, parainfluenza 2.4% and hMPV 3.2%.



*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 to indicate a likelihood of influenza community circulation 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 24 influenza A(H3N2) viruses. Of these, the majority were similar to the A/Texas/50/2012 H3N2 Northern Hemisphere 2014/15 vaccine strain, however five showed reduced reactivity in antigenic tests with A/Texas/50/2012 antiserum. These five isolates are antigenically similar to A/Switzerland/9715293/2013, the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. Further characterization of these isolates by genetic analysis is ongoing.

Two influenza B viruses have been isolated and antigenically characterised as belonging to B/Yamagata/16/88 lineage, the influenza B component of the 2014-2015 Northern Hemisphere trivalent and quadrivalent vaccines

- Antiviral susceptibility

Since week 40 2014, 27 influenza viruses (9 A(H3N2), 10 A(H1N1)pdm09 and 8 B) have been tested for oseltamivir susceptibility in the UK and all but one H3N2 are sensitive. The eight flu A(H3N2) and the three flu B were also tested against zanamivir and all but one H3N2 are sensitive. The resistant H3N2 influenza virus has an R292K amino acid substitution in the neuraminidase. This sample was taken from a child who had received oseltamivir treatment. The R292K substitution is known to cause resistance to oseltamivir and also reduces susceptibility to zanamivir.

- Antimicrobial susceptibility

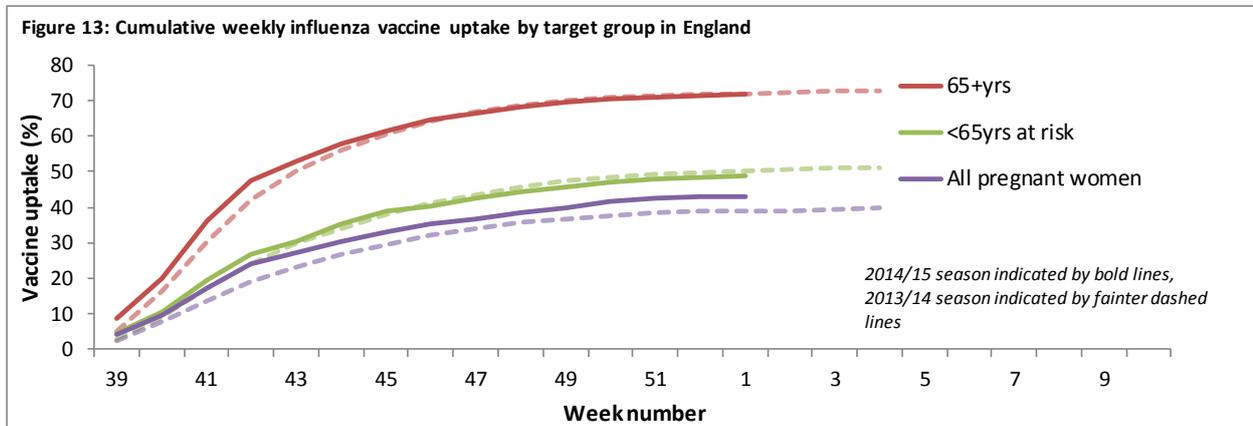
-Table 4 shows in the 12 weeks up to 28 December 2014, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 28 Dec 2014, E&W

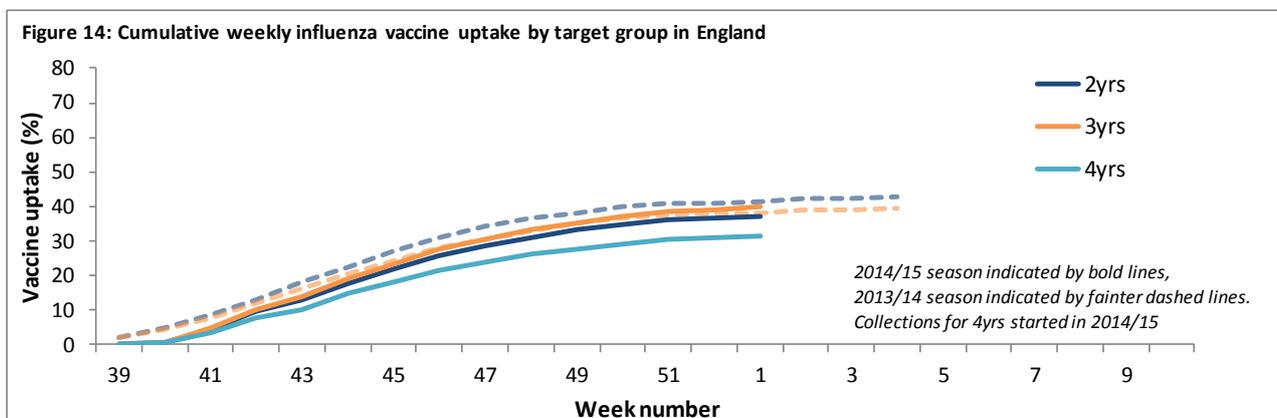
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,403	90
	Macrolides	2,559	81
	Tetracycline	2,455	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	9,063	73
	Co-amoxiclav	8,363	93
	Macrolides	3,263	18
<i>S. aureus</i>	Tetracycline	9,130	98
	Methicillin	3,415	90
	Macrolides	3,332	72
MRSA	Clindamycin	232	42
	Tetracycline	312	82
MSSA	Clindamycin	1,640	80
	Tetracycline	2,666	92

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 1 2015 in 93% 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):
 - 48.9% in under 65 years in a clinical risk group
 - 43.1% in pregnant women
 - 71.7% in 65+ year olds



- 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 1 2015 in 93% 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 14):
 - 37.2% in all 2 year olds
 - 39.8% in all 3 year olds
 - 31.5% in all 4 year olds



- Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 48.2% were vaccinated by 30 November 2014 from 97.0% of Trusts, compared to 48.6% vaccinated the previous season by 30 November 2013. The [report](#) provides uptake at national, geographical area, area team (on behalf of primary care and independent sector healthcare providers) and individual Trust level.
- Provisional data from the second monthly collection of influenza vaccine uptake up to 30 November 2014 by targeted groups has been published. The [report](#) provides uptake at national, area team and CCG level.

Globally, influenza activity continued to increase in the northern hemisphere with influenza A(H3N2) predominating so far. In the European Region, the influenza season appears to be starting, with influenza A(H3N2) viruses the predominant viruses detected across all surveillance systems

- [Europe](#) 02 January 2015 (Joint ECDC-WHO Influenza weekly update)

In week 52/2014, the intensity of influenza activity remained low in the majority of countries in Europe but the number of countries with increased activity continued to rise compared to previous weeks. The level of influenza activity increased in three of the 29 reporting countries, while the proportion of influenza virus-positive sentinel specimens increased to 13%, up from 9% in the previous week. The predominant influenza virus was type A, with A(H3N2) viruses predominating in primary care, among laboratory-confirmed hospitalized cases as well as other sources.

Thirty-three countries reported low intensity of influenza activity in week 52/2014. Of these, two reported patterns of localized activity and 15 reported patterns of sporadic activity. Four countries (Malta, the Netherlands, Slovakia and the United Kingdom (England)) reported medium intensity of influenza activity: the Netherlands and the United Kingdom reported geographically widespread medium influenza activity, with laboratory-confirmed influenza cases in 50% or more of their administrative units (or reporting sites). Azerbaijan reported sporadically occurring high intensity of influenza activity but reported only sporadic geographic spread. Three countries (Finland, Georgia and the United Kingdom (Scotland)) reported increasing influenza activity, while 17 countries reported stable and 10 countries decreasing trends.

Since week 40/2014, the antigenic characteristics of 53 influenza viruses have been reported. All 15 A(H1N1)pdm09 viruses that were characterized were A/California/7/2009-like. Of 24 A(H3N2) viruses characterized antigenically, 17 were A(H3N2) A/Texas/50/2012-like and seven were A/Switzerland/9715293/2013-like; an antigenic category could not be attributed to two viruses. Of the 14 influenza B viruses characterized antigenically 13 were of the B/Yamagata/16/88-lineage: eight were B/Massachusetts/02/2012-like viruses, one B/Wisconsin/1/2010-like and four B/Phuket/3073/2013-like. One influenza B virus was a B/Brisbane/60/2008-like virus of the Victoria lineage. Circulating A(H3N2) viruses appear to have drifted antigenically from the virus used in the vaccine. Although this does not change the recommendation to vaccinate groups at risk, the situation should be monitored carefully, and treatment guidelines must be disseminated to clinicians, including on use of antivirals. A(H3N2) is susceptible to the antivirals oseltamivir and zanamivir currently licensed in Europe.

Since week 40/2014, five countries (France, Ireland, Spain, Sweden and the United Kingdom) have reported a total of 262 laboratory-confirmed hospitalized influenza cases, 244 (93%) of which had been admitted to ICU (231 cases reported in the United Kingdom, six in France, six in Spain and one in Sweden). Of these, 231 were positive for influenza A virus (48 subtyped: 37 A(H3N2) and 11 A(H1N1)pdm09) and 13 for influenza B virus. This season, three fatal influenza cases have been reported – one due to influenza B from France and two due to influenza A(H3N2) from Spain – none of which had been vaccinated against seasonal influenza.

- [United States of America](#) 05 January 2015 (Centre for Disease Control report)

During week 52 (December 21-27, 2014), influenza activity continued to increase in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 5.9%, above the national baseline of 2.0%. All 10 regions reported ILI at or above region-specific baseline levels. Puerto Rico and 29 states experienced high ILI activity; New York City and six states experienced moderate ILI activity; five states experienced low ILI activity; nine states experienced minimal ILI activity; and the District of Columbia and one state had insufficient data. The geographic spread of influenza in 43 states was reported as widespread; Puerto Rico and six states reported regional activity; one state reported sporadic activity; and the District of Columbia, Guam, and the U.S. Virgin Islands did not report. During week 52, 6.8% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.9% for week 52.

Of 24,001 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 52, 7,289 (30.4%) were positive for influenza. (5,400 influenza A subtype not performed, 1,635 influenza A (H3), 248 influenza B and six influenza A(H1N1)pdm09).

Six influenza-associated pediatric deaths were reported to CDC during week 52. Three deaths were associated with an influenza A (H3) virus and occurred during weeks 51 and 52 (weeks ending December 20 and December 27, 2014, respectively). Two deaths were associated with an influenza A virus for which no subtyping was performed and occurred during weeks 51 and 52. One death was associated with an influenza virus for which the type was not determined and occurred during week 51. A total of 21 influenza-associated deaths have been reported during the 2014-2015 season from 11 states.

CDC has characterized 334 influenza viruses. All 10 H1N1 viruses tested were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014-2015 Northern Hemisphere influenza vaccine. Eighty-five (31.7%) of the 268 H3N2 viruses tested have been characterized as A/Texas/50/2012-like, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine. One hundred eighty-three (68.3%) of the 268 viruses tested showed either reduced titers with antiserum produced against A/Texas/50/2012 or belonged to a genetic group that typically shows reduced titers to A/Texas/50/2012. Among viruses that showed reduced titers with antiserum raised against A/Texas/50/2012, most were antigenically similar to A/Switzerland/9715293/2013, the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. A/Switzerland-like H3N2 viruses were first detected in the United States in small numbers in March of 2014 and began to increase through the spring and summer.

- [Canada](#) 02 January 2015 (Public Health Agency report)

In week 51, laboratory detections of influenza increased sharply for the fifth consecutive week. The majority of laboratory detections continued to be reported in 3 provinces; but with increasing activity in two other provinces. A(H3N2) continues to be the most common type of influenza affecting Canadians. In both laboratory detections and hospitalizations, the majority of cases have been among seniors ≥ 65 years of age. Similar to the previous week, there were a large number of newly-reported laboratory-confirmed outbreaks of influenza: 125 influenza outbreaks in 7 provinces, of which 94 were in long-term care facilities. The rate of antiviral prescriptions more than doubled from the previous week, increasing especially among seniors.

To date, the NML has found that the majority H3N2 influenza specimens are not optimally matched to the vaccine strain which may result in reduced vaccine effectiveness against the H3N2 influenza virus. However, the vaccine can still provide some protection against H3N2 influenza illness and can offer protection against other influenza strains such as A(H1N1) and B.

In week 50, the number of positive influenza tests increased sharply for the fourth week in a row, to 1,963 influenza detections (25.9% of tests), predominantly due to influenza A. To date, 96% of influenza detections have been influenza A, and 99.6% of those subtyped have been A(H3). The timing of the season and predominant A(H3N2) subtype is similar to the pattern observed during the 2012-13 influenza season when percent positive for influenza peaked in week 52 (35%). To date, among the cases of influenza with reported age, the largest proportion was in adults ≥ 65 years of age (56%). The national influenza-like-illness (ILI) consultation rate increased in week 49 to 44.3 consultations per 1,000, which is above expected levels for week 49. This week, the rates were highest among the 20 to 64 years of age group. In previous weeks, the ILI consultation rates of this group have been among the lowest.

In week 51, the number of positive influenza tests increased sharply to 2,833 influenza detections (29.1% of tests), predominantly due to influenza A (Figure 2). To date, 97% of influenza detections have been influenza A, and 99.8% of those subtyped have been A(H3) (Table 1). The timing of the season and predominant A(H3N2) subtype is similar to the pattern observed during the 2012-13 influenza season when percent positive for influenza peaked in week 52 (35%). To date, among the cases of influenza with reported age, the largest proportion was in adults ≥ 65 years of age (56%). 18 ICU admissions have been reported and the majority of cases (77.8%) were adults ≥ 65 years of age with underlying conditions or comorbidities. Eight deaths have been reported, all adults > 65 years of age. Further data is available [here](#).

- [Global influenza update](#) 23 December 2014 (WHO website)

Globally influenza activity continued to increase in the northern hemisphere with influenza A(H3N2) viruses predominating so far. The antigenic characterization of most recent A(H3N2) viruses so far indicated differences from the A(H3N2) virus used in the influenza vaccines for the northern hemisphere 2014-2015.

In North America, the levels of influenza activity continued to increase and had passed the seasonal thresholds. Influenza A(H3N2) virus predominated.

In Europe overall influenza activity mainly associated with A(H3N2) virus continued to increase, but remained at low levels.

In eastern Asia, influenza activity continued to increase with influenza A(H3N2) virus predominating.

In northern Africa influenza activity increased with influenza B virus predominating, except for Egypt where influenza activity was low.

In eastern and western Africa influenza activity was low or decreasing, except for the United Republic of Tanzania where increased detections of influenza A(H3N2) were reported.

In tropical countries of the Americas, influenza activity was low with the exception of Costa Rica and Cuba where an increase of influenza detections was reported.

In tropical Asia, influenza activity was low.

In the southern hemisphere, influenza activity was at inter-seasonal level.

- Enterovirus D68 (EV-D68) 07 January 2015

From mid-August to 18 December 2014, CDC or state public health laboratories have confirmed a total of [1,152 persons](#) in 49 states and the District of Columbia with respiratory illness caused by EV-D68. Reports from most states over the last couple months have indicated reduced EV-D68-like illness activity. However, EV-D68 infections could continue through late fall. Over the last two weeks that CDC obtained reports, some states reported increasing respiratory illness activity. However, since other seasonal respiratory viruses, such as influenza and respiratory syncytial virus, are starting to circulate now, we are not sure if this increase is caused by these seasonal viruses or EV-D68.

ECDC have published a [rapid risk assessment](#). Based on information currently available to ECDC, the risk of increased severe cases of EV-D68 in EU/EEA countries is assessed as moderate, in light of recent reports of such cases and because the circulation of this strain in the population seems to be geographically widespread in the EU.

The UK has an enhanced enterovirus surveillance system established as part of poliovirus elimination. Samples from individuals who present with neurological symptoms (such as acute flaccid paralysis or meningitis) and in whom enterovirus is detected should be sent for sub-typing at the reference laboratory. From 2012 to 1 September 2014, a total of 12 EV-D68 cases had been diagnosed, mainly in children. Following the reports from North America, guidance was developed highlighting that EV-D68 should be considered as a possible cause of disease in children with severe acute respiratory infections and/or with unexplained neurological symptoms, when all other respiratory virus screens are negative and if a rhinovirus/enterovirus positive PCR is initially detected. Although no unexplained clusters of severe respiratory or neurological disease have been reported, since September 2014, a total of 33 sporadic cases have been detected in children and adults. From the information available to date, the majority seem to have presented with respiratory symptoms, with two children presenting with neurological symptoms.

- [Avian Influenza](#) 07 January 2015(WHO website)

Influenza A(H7N9)

The most recent human infections with influenza A(H7N9) were reported by WHO on [27 December 2014](#) (13 cases). So far, the overall risk associated with the H7N9 virus has not changed. WHO does not advise special screening at points of entry with regard to this event, nor does it currently recommend any travel or trade restrictions. For further updates please see the WHO website and for advice on clinical management please see information available [online](#).

Influenza A (H5N1)

From 2003 through 4 December 2014, 676 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 16 countries, of which 398 (59%) died.

- Novel coronavirus 07 January 2015

Up to 22 December 2014, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in England. On-going surveillance has identified 224 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

A further 937 confirmed cases have been reported internationally, resulting in a current global total of 941 cases, with the most recent cases reported on 26 December from [Kingdom of Saudi Arabia](#). Further information on management and guidance of possible cases is available [online](#).

Acknowledgements

[| Back to top |](#)

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[| Back to top |](#)

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- [Sentinel schemes operating across the UK](#)
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- 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](#)
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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](#))