



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 5 2015 (ending 1 February), indicators of influenza activity decreased or were at similar levels to the previous week in England. Significant excess all-cause mortality continues to be seen in 65+ year olds, coinciding with circulating influenza and the recent cold snaps. The Department of Health [alert](#) issued on the prescription of antiviral medicines by GPs is still active.

- [Community influenza surveillance](#)

- In week 5 the majority of syndromic indicators for respiratory symptoms were stable.
- 37 new acute respiratory outbreaks have been reported in the past seven days, 25 in care homes (10 flu A(untyped), four flu A(H3), one flu A(H1N1)pdm09, and ten not tested/results not available yet), six in hospitals (three flu A(H3), two flu A(untyped), one mixed infection flu A (untyped)/rhinovirus), five in schools (two flu A(untyped), one parafu and two not tested) and one in an immigration removal centre (mixed infection of flu A(untyped) and flu B).

- [Overall weekly influenza GP consultation rates across the UK](#)

- The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system was stable in week 5.
- In week 5, overall weekly influenza-like illness (ILI) GP consultations decreased in Scotland (18.5 per 100,000), remained stable in Wales (12.3 per 100,000) and increased in Northern Ireland (47.6 per 100,000)

- [Influenza-confirmed hospitalisations](#)

- 35 new admissions to ICU/HDU with confirmed influenza (24 A unknown subtype, eight A(H3N2), one influenza A(H1N1)pdm09 and two B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (124 Trusts in England) in week 5, a rate of 0.08 per 100,000 compared to 0.15 per 100,000 the previous week.
- 56 new hospitalised confirmed influenza cases (26 influenza A(H3N2), 25 A unknown subtype, three influenza B and two influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network across England (21 Trusts), a rate of 0.79 per 100,000 compared to 0.97 per 100,000 the previous week.

- [All-cause mortality data](#)

- In week 5 2015, significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England in 65+ year olds and under five year olds. In the devolved administrations in week 5, significant excess all-cause mortality was seen in Wales and Northern Ireland, with no significant excess reported in Scotland. Since week 40 2014, significant excess mortality has been seen in England from week 50 to 5 2015, coinciding with circulating influenza and the recent cold snaps.

- [Microbiological surveillance](#)

- 76 samples were positive for influenza through the UK GP sentinel schemes (52 A(H3), five A(H1N1)pdm09, 10 A(not subtyped) and nine B, positivity of 44.7% compared to 35.2% the previous week (updated)).
- In week 5 2015, 220 influenza positive detections were recorded through the DataMart scheme (165 A(H3), 30 A(not subtyped), 11 influenza A(H1N1)pdm09 and 14 B, a positivity of 18.2% compared to 16.5% the previous week, with a notable increase seen in 5-14 year olds from 13.2% to 22.9%.
- Characterisation of influenza A(H3N2) viruses by the PHE Respiratory Virus Unit indicates that a proportion of the viruses circulating this season are distinguishable from the Northern Hemisphere 2014/15 vaccine strain and are similar to the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine.

- [Vaccination](#)

- Up to week 4 2015 in 92% 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: 72.5% in 65+ year olds, 50.1% in under 65 years in a clinical risk group, 43.9% in pregnant women, 38.3% in all 2 year olds, 41.1% in all 3 year olds and 32.6% in all 4 year olds. This is the last week of reporting for weekly uptake data.
- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 52.6% were vaccinated by 31 December 2014 from 98.1% of Trusts.

- [International situation](#)

- Globally influenza activity remained elevated in the northern hemisphere with influenza A(H3N2) viruses predominating. In the European Region, the influenza season is well underway, particularly in western and central European countries.

In week 5 the majority of syndromic indicators for respiratory symptoms were stable and 37 new acute respiratory outbreaks were reported in the last seven days.

- PHE Real-time Syndromic Surveillance

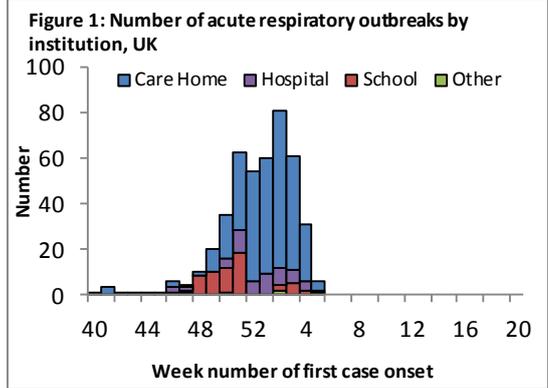
-In week 5 there were small increases in GP consultation rates for upper respiratory tract infections in children <15 years. However, indicators stabilised across several other syndromic surveillance systems, including NHS 111 calls, GP out of hours and emergency department admissions.

- Acute respiratory disease outbreaks

-37 new acute respiratory outbreaks have been reported in the past seven days, 25 in care homes (10 flu A(untyped), four flu A(H3), one flu A(H1N1)pdm09, and the rest not tested/results not available yet), six in hospitals (three flu A(H3), two flu A(untyped), one mixed infection with flu A(untyped)/rhinovirus), five in schools (two flu A(untyped), one parafu and the other two not tested) and one in an immigration removal centre with mixed infection of flu A(untyped) and flu B).

-So far in the 2014/15 flu season, 481 outbreaks (349 in care homes, 67 in schools, 60 in hospitals and five in other settings) have been reported in the UK including 68 with flu A(H3) infection, 131 flu A (untyped), one flu A(H1N1)pdm09, one flu B, two flu A(untyped)/flu B, eight rhinovirus, five RSV, three parainfluenza, one enterovirus, one hMPV, eight mixed infections with different respiratory viruses, two negative for respiratory viruses and 250 not tested (or test results not yet available).

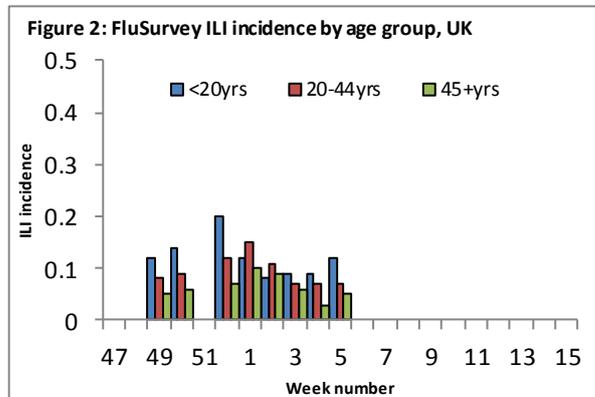
-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respscisc@phe.gov.uk.



- 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.

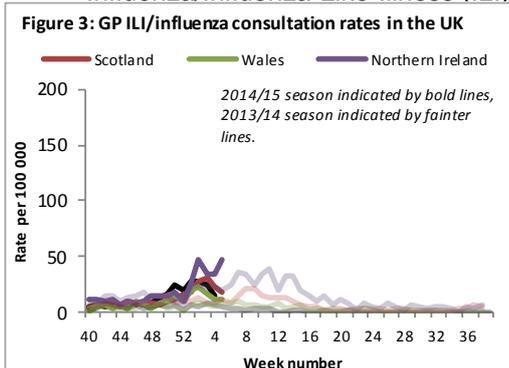
-In week 5, the incidence of ILI reports by age group was highest in under 20 year olds (Figure 2, NB. No data is currently available for week 51).



Weekly consultation rates in national sentinel schemes

In week 5 overall weekly influenza-like illness GP consultations increased in Northern Ireland, remained stable in England and Wales and decreased in Scotland.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza rate increased from 34.6 in week 4 to 47.6 in per 100,000 in week 5 (Figure 3).

-The highest rates were seen in 5-14 year olds (66.4 per 100,000), 45-64 year olds (62.6 per 100,000) and 15-44 year olds (39.9 per 100,000).

Wales

- The Welsh influenza rate remained stable at 12.3 per 100,000 in week 5 (Figure 3).
- The highest rates were seen in 45-64 year olds (18.94 per 100,000), 15-44 year olds (14.33 per 100,000) and 75+ year olds (8.73 per 100,000).

Scotland

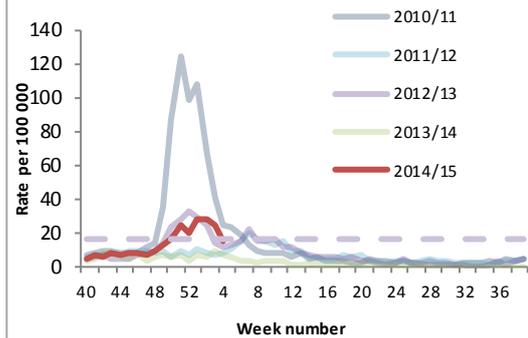
- The Scottish ILI rate decreased from 23.2 to 18.5 per 100,000 in week 5 (Figure 3).
- The highest rates were seen in 75+ year olds (23.1 per 100,000), 15-44 year olds (22.7 per 100,000) and 45-64 year olds (18.7 per 100,000).

RCGP (England and Wales)

-Confirmed data is available up to week 4 2015. The weekly ILI consultation rate through the RCGP surveillance system decreased from 24.8 in week 3 to 15.5 per 100,000 in week 4 (Figure 4*). By age group, the highest rate was seen in 45-64 year olds (18.4 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 to indicate a likelihood of influenza community circulation for as calculated through the Moving Epidemic Method is 16 per 100,000.*

Figure 4: RCGP ILI consultation rates, England and Wales

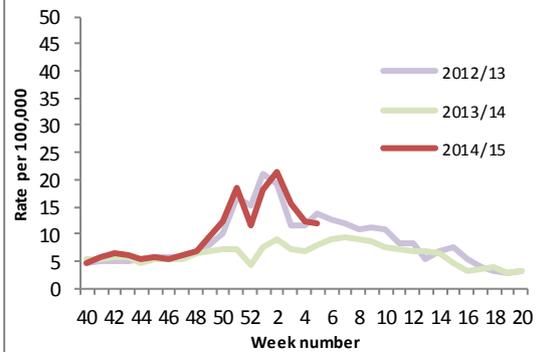


GP In Hours Syndromic Surveillance System (England)

-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system was at similar levels compared to the previous week (11.9 per 100,000 in week 5, Figure 5).

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

Figure 5: GP in hours ILI consultation rate, England



Influenza confirmed hospitalisations

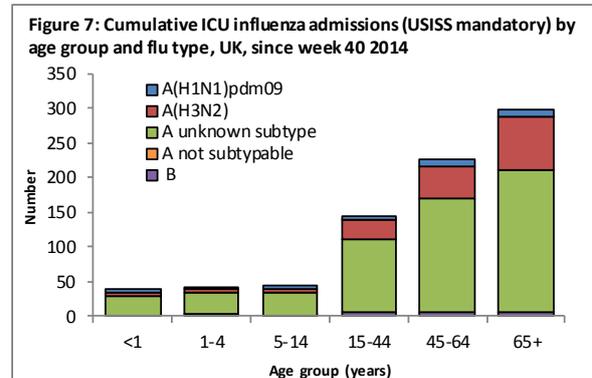
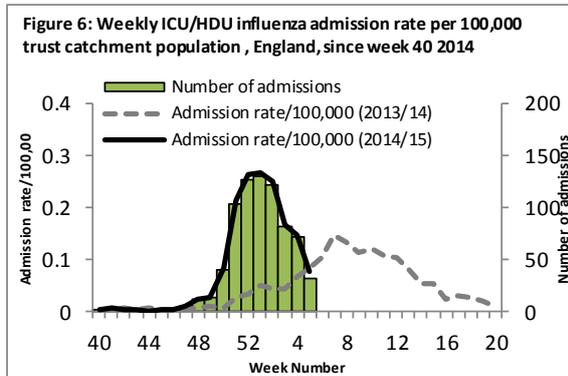
[| Back to top |](#)

In week 5, 35 new admissions to ICU/HDU with confirmed influenza (24 A unknown subtype, eight A(H3N2), one influenza A(H1N1)pdm09 and two B) were reported through the national USISS mandatory ICU scheme across the UK (124 Trusts in England). 56 new hospitalised confirmed influenza cases (26 influenza A(H3N2), 25 A unknown subtype, three influenza B and two influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network across England (21 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.

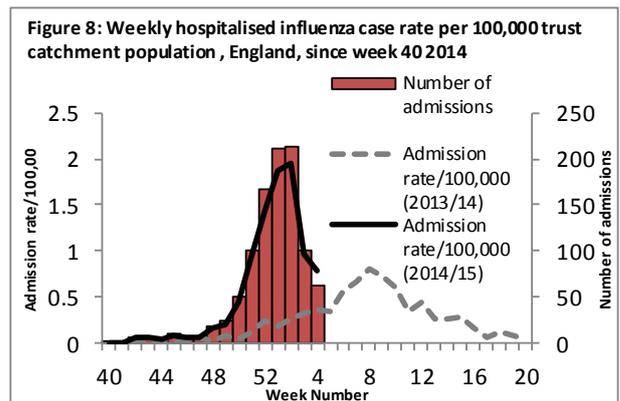
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 5)

-In week 5, 35 new admissions to ICU/HDU with confirmed influenza (24 A unknown subtype, eight A(H3N2), one influenza A(H1N1)pdm09 and two B) were reported across the UK (124/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.08 per 100,000 compared to 0.15 per 100,000 the previous week. Three new confirmed influenza deaths were reported in week 5 2015. A total of 796 admissions (567 A unknown subtype, 168 A(H3N2), 39 A(H1N1)pdm09) and 76 confirmed influenza deaths have been reported since week 40 2014.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 5)

-In week 50, 56 new hospitalised confirmed influenza cases (26 influenza A(H3N2), 25 A unknown subtype, three influenza B and two influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network from 21 NHS Trusts across England (Figure 8), a rate of 0.79 per 100,000 compared to 0.97 per 100,000 the previous week. A total of 1,077 hospitalised confirmed influenza admissions (717 A(H3N2), 310 A unknown subtype, 33 B and 17 A(H1N1pdm09)) have been reported since week 40.



All-cause mortality data

[| Back to top |](#)

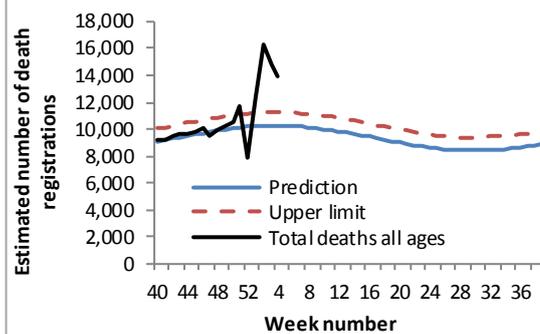
In week 5 2015, significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England in 65+ year olds and under five year olds. In the devolved administrations in week 5, significant excess all-cause mortality was seen in Wales and Northern Ireland, with no significant excess reported in Scotland. Since week 40 2014, significant excess mortality has been seen in England from week 50 to 5 2015, coinciding with circulating influenza and the recent cold snaps.

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 4 2015, an estimated 13,934 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is less than the 14,866 estimated death registrations in week 3, but remains above the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9). The sharp drop in number of deaths in week 52 corresponds to a week when there were bank holidays and fewer days when deaths were registered and so is likely to be artificial and result in subsequent increases in following weeks.

Figure 9: Observed & predicted all-cause death registrations, E&W



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

-Since week 40 2014 up to week 5 2015 in England, excess mortality by date of death above the upper 2 z-score threshold was seen in England after correcting ONS disaggregate data for reporting delay with the standardised EuroMOMO algorithm in 65+ year olds in weeks 50 to 5 2015, 15-64 year olds in weeks 52-1 and weeks 1-2 and 4-5 in under five year olds (Figure 10, Table 1). This coincides with circulating influenza and the recent cold snaps. This data is provisional due to the time delay in registration; numbers may vary from week to week.

-In the devolved administrations, up to week 5 2015, excess mortality above the threshold was seen in weeks 51-4 in Scotland, weeks 42/50/52-5 in Wales and weeks 3-5 in Northern Ireland (Table 2).

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 5 2015?	Weeks with excess in 2014/15
<5	✓	1-2,4-5
5-14	×	NA
15-64	×	52-1
65+	✓	50-5

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

Figure 10. Excess mortality in 65+ year olds, EuroMOMO, England

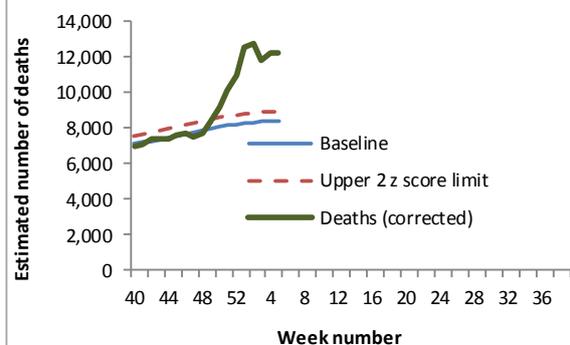


Table 2: Excess mortality by UK country*

Country	Excess detected in week 5 2015?	Weeks with excess in 2014/15
England	✓	50-5
Wales	✓	42,50,52-5
Scotland	×	51-4
Northern Ireland	✓	3-5

* 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

Microbiological surveillance

[Back to top](#)

In week 5 2015, 76 samples were positive for influenza through the UK GP sentinel schemes (52 A(H3), five A(H1N1)pdm09, 10 A(not subtyped) and nine B, positivity of 44.7%). 220 influenza positive detections were recorded through the DataMart scheme (165 A(H3), 30 A(not subtyped), 11 influenza A(H1N1)pdm09 and 14 B, positivity of 18.2%).

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

-In week 5, 51 samples were positive for influenza in England (39 A(H3), eight B and four A(H1N1)pdm09), 19 in Scotland (11 A(H3), six A(not subtyped), one A(H1N1)pdm09 and one B), four in Northern Ireland (four A(not subtyped)) and two in Wales (two A(H3)) (Table 3).

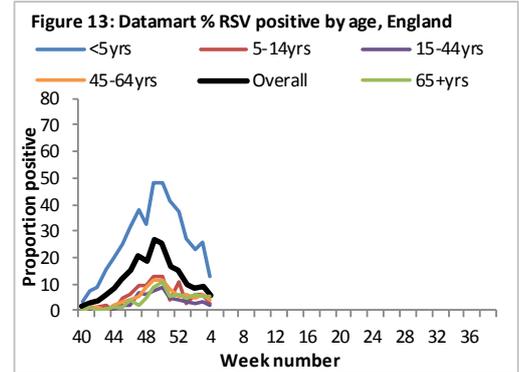
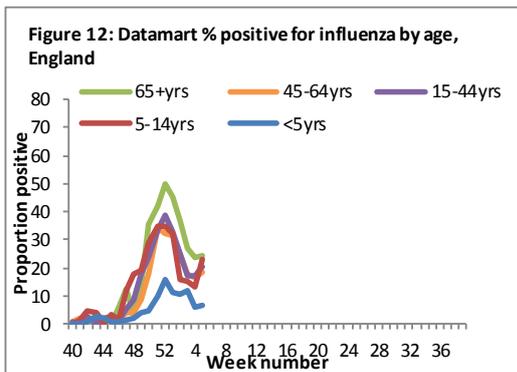
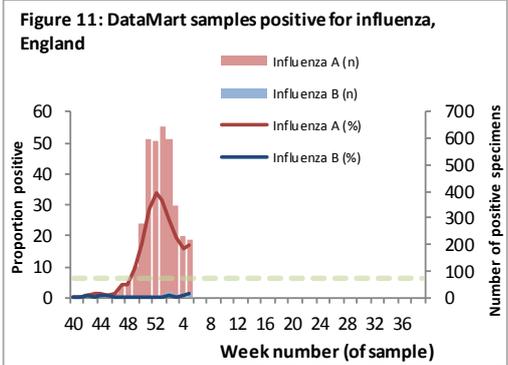
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
2	81/223 (36.3%)	39/93 (41.9%)	3/7 (-)	1/9 (-)
3	57/223 (25.6%)	21/85 (24.7%)	5/8 (-)	4/6 (-)
4	32/96 (33.3%)	29/81 (35.8%)	5/12 (42.0%)	2/4 (-)
5	51/112 (45.5%)	19/40 (47.5%)	4/8 (-)	2/10 (20.0%)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 5 2015, out of the 1,206 respiratory specimens reported through the Respiratory DataMart System, 220 samples (18.2%) were positive for influenza (165 A(H3), 30 A(not subtyped), 11 influenza A(H1N1)pdm09 and 14 B (Figure 11*)), with a notable increase in positivity seen in 5-14 year olds (13.2% to 22.9%, Figure 12). The overall positivity for RSV decreased from 5.8% to 2.7% in week 5, with the highest positivity remaining in children under 5 years (decrease from 12.9% to 8.0% in week 5, Figure 13). Positivity for rhinovirus increased slightly to 8.4% in week 4, while other respiratory viruses remained at low levels: adenovirus 4.4%, parainfluenza 3.5% and hMPV 1.9%.



*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 174 influenza A(H3N2) viruses. Of these, the majority were similar to the A/Texas/50/2012 H3N2 Northern Hemisphere 2014/15 vaccine strain, however 40 (23%) showed reduced reactivity in antigenic tests with A/Texas/50/2012 antiserum. These 40 isolates are 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 portion of recent influenza A(H3N2) viruses do not grow sufficiently for antigenic characterization. For many of these viruses, RVU performs genetic characterisation. Of 76 A(H3N2) viruses characterised genetically by RVU to date, some of which were not able to be antigenically characterised, the majority (80%) fall into a genetic subgroup which has been shown to be antigenically distinguishable from the current A(H3N2) vaccine virus.

Nineteen influenza A(H1N1)pdm09 viruses have been isolated and antigenically characterised as similar to the A/California/7/2009 Northern Hemisphere 2014/15 vaccine strain.

Nine 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, 86 influenza viruses (47 A(H3N2), 33 A(H1N1)pdm09 and 4 B) have been tested for oseltamivir susceptibility in the UK and all but two H3N2 are sensitive. The 47 flu A(H3N2), 10 A(H1N1)pdm09 and 4 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

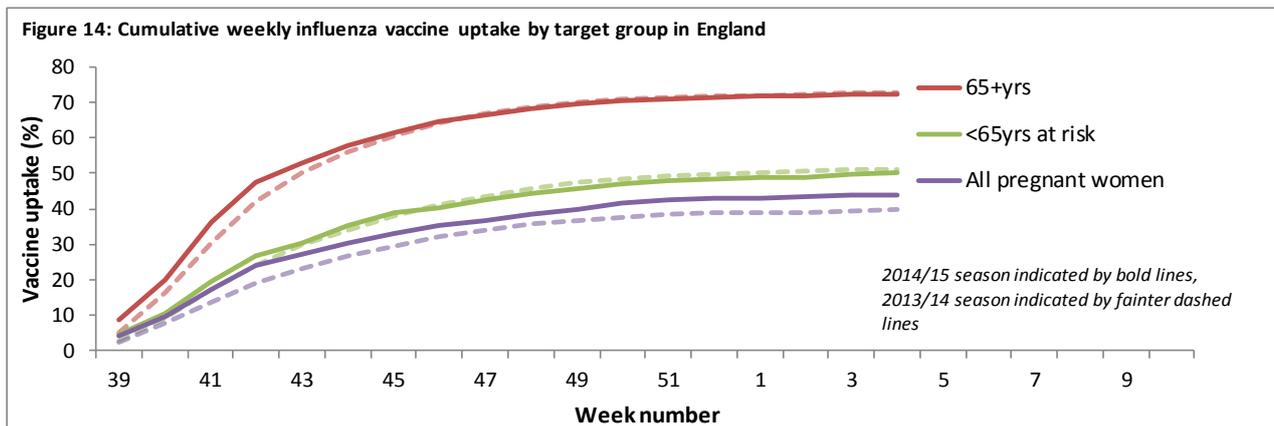
-Table 4 shows in the 12 weeks up to 25 January 2015, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 25 Jan 2015, E&W

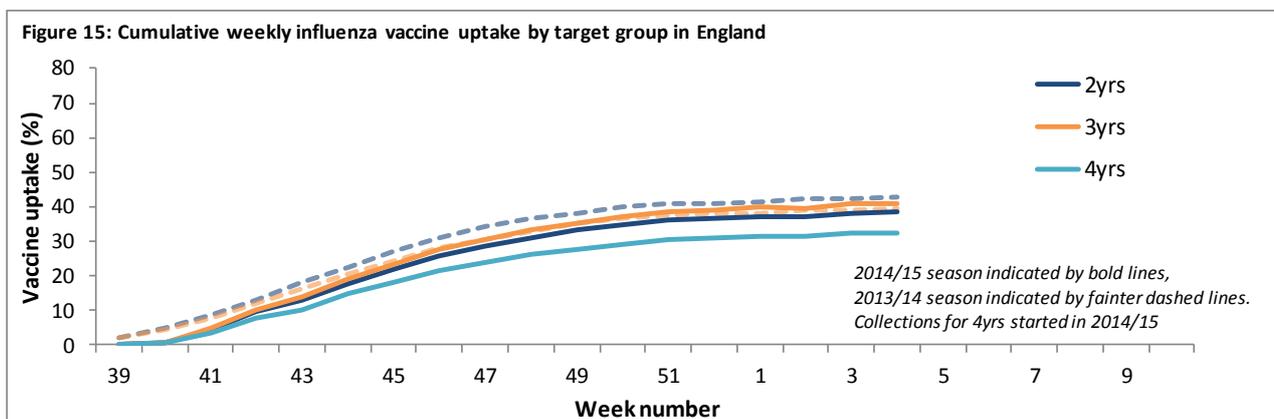
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,674	92
	Macrolides	2,925	82
	Tetracycline	2,792	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	12,460	74
	Co-amoxiclav	11,444	95
	Macrolides	4,664	18
<i>S. aureus</i>	Tetracycline	12,410	98
	Methicillin	4,196	86
	Macrolides	4,115	72
MRSA	Clindamycin	469	43
	Tetracycline	564	84
MSSA	Clindamycin	1,943	78
	Tetracycline	3,177	92

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 4 2015 in 92% 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):
 - 50.1% in under 65 years in a clinical risk group
 - 43.9% in pregnant women
 - 72.5% 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 4 2015 in 92% 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):
 - 38.3% in all 2 year olds
 - 41.1% in all 3 year olds
 - 32.6% in all 4 year olds



- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 52.6% were vaccinated by 31 December 2014 from 98.1% of Trusts, compared to 53.1% vaccinated the previous season by 31 December 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 third monthly collection of influenza vaccine uptake up to 31 December 2014 by targeted groups has been published. The [report](#) provides uptake at national, area team and CCG level.

Globally influenza activity remained elevated in the northern hemisphere with influenza A(H3N2) viruses predominating. In the European Region, the influenza season is well underway, particularly in western and central European countries.

- [Europe](#) 30 January 2015 (Joint ECDC-WHO Influenza weekly update)

The influenza season is well under way, particularly in western and central European countries. Increasing influenza activity was reported by 29 countries, with eight countries and Northern Ireland (United Kingdom) reporting stable trends. Azerbaijan, Poland and the United Kingdom (England, Scotland and Wales) reported decreasing trends.

Excess all-cause mortality among the elderly (aged ≥ 65 years), concomitant with increased influenza activity and A(H3N2) viruses predominating, has been observed during recent weeks in France, the Netherlands, Portugal, Spain and the United Kingdom (England, Scotland and Wales). For week 04/2015, 26 countries reported increasing influenza activity and the overall proportion of influenza-positive sentinel specimens reached 48%, the same level as in the previous week.

Thirty-six countries reported epidemiological data for week 04/2015. Sixteen countries, mostly in eastern Europe, and Wales (United Kingdom) reported low intensity of influenza activity, and eight of them reported increasing trends of influenza activity, indicating that the season has not yet started in this part of the Region. Four countries (Albania, Belgium, Italy and Portugal) reported high influenza activity with regional or widespread influenza activity and increasing trends. In addition, 17 countries and England, Scotland and Northern Ireland (United Kingdom), predominantly in western, northern and central Europe, reported medium intensity of influenza activity, and eight of them reported patterns of widespread geographic activity, with laboratory-confirmed influenza cases in 50% or more of their administrative units (or reporting sites) and trends still increasing.

Since week 40/2014, 8 countries (Finland, France, Ireland, Romania, Slovakia, Spain, Sweden and the United Kingdom) have reported a total of 1376 laboratory-confirmed hospitalized influenza cases, 1100 of which were in intensive care units (ICUs). Of these, 738 (67%) were reported by the United Kingdom. Of the 1376 confirmed cases, 1280 (93%) were positive for influenza A virus (430 subtyped: 336 A(H3N2) and 94 A(H1N1)pdm09) and 93 for influenza B virus, two of the B/Yamagata lineage. For week 04/2015, a total of 175 laboratory-confirmed hospitalized influenza cases was reported, with 130 admitted to ICUs: 60 by the United Kingdom, 44 by France, 23 by Spain, 2 by Sweden and 1 by Finland. Of the influenza viruses detected in ICU patients, 114 (88%) were diagnosed as type A and 16 as type B. Of the 27 subtyped influenza A viruses, 19 (70%) were A(H3N2) and eight (30%) were A(H1N1)pdm09.

Since week 40/2014, the antigenic characteristics of 229 influenza viruses have been reported and 419 viruses have been characterized genetically. The 34 A(H1N1)pdm09 viruses antigenically characterized to date are similar to the components included in the 2014–2015 northern hemisphere vaccines. Of the 49 influenza B viruses characterized antigenically, 47 were of the Yamagata lineage and two of the Victoria lineage.

Analyses of A(H3N2) viruses included 142 viruses characterized antigenically, of which 72 (51%) were A/Switzerland/9715293/2013-like are dissimilar to the vaccine virus, A/Texas/50/2012. Of the 313 A(H3N2) viruses characterized genetically, 194 fall into the genetic subgroup 3C.2a represented by A/Hong Kong/5738/2014 and 18 into the genetic subgroup 3C.3a represented by A(H3N2) A/Switzerland/9715293/2013, which have been shown to be antigenically dissimilar to the current A(H3N2) vaccine virus. Four A(H3N2) viruses were not attributable to a category. Together, these observations indicate that the current A(H3N2) component of influenza vaccines will probably have limited effectiveness.

- [United States of America](#) 30 January 2015 (Centre for Disease Control report)

During week 3 (January 18-24, 2015), influenza activity remained elevated in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 4.4%, 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 seven states experienced moderate ILI activity; six states experienced low ILI activity; eight states experienced minimal ILI activity; and the District of Columbia had insufficient data. The geographic spread of influenza in Puerto Rico and 44 states was reported as widespread; the U.S. Virgin Islands and five states reported regional activity; and the District of Columbia, Guam, and one state

reported local activity. During week 3, 9.1% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was above the epidemic threshold of 7.1% for week 3.

Of 23,339 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 3, 4,651 (19.9%) were positive for influenza. (2,643 influenza A subtype not performed, 1,698 influenza A (H3), 308 influenza B and two influenza A(H1N1)pdm09).

Five influenza-associated paediatric deaths were reported to CDC during week 3. Four deaths were associated with an influenza A (H3) virus and occurred during weeks 53, 1, 2, and one death was associated with an influenza A virus for which no subtyping was performed and occurred during week 1. A total of 61 influenza-associated deaths have been reported during the 2014-15 season from New York and 24 states.

CDC has characterized 602 influenza viruses [21 A(H1N1)pdm09, 478 A(H3N2), and 103 influenza B viruses] collected by U.S. laboratories since October 1, 2014. All 21 H1N1 viruses tested were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014-2015 Northern Hemisphere influenza vaccine. 159 (33.3%) of the 478 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. 319 (66.7%) of the 478 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.

Early [estimates](#) of seasonal vaccine effectiveness in the United States suggest the 2014/15 vaccine has low effectiveness against circulating influenza A(H3N2) viruses.

- [Canada](#) 30 January 2015 (Public Health Agency report)

In week 3, all influenza indicators declined from the previous week, indicating that peak of the influenza season in Canada may have passed. A(H3N2) continues to be the most common type of influenza affecting Canadians. In both laboratory detections, hospitalizations and deaths, the majority of cases have been among seniors ≥65 years of age.

On January 26, 2015, the first imported human case of avian influenza A (H7N9) from China was confirmed in Canada. A second case was confirmed on January 29, 2015. They are the first North Americans known to have been infected with this virus. The individuals were from British Columbia and travelled together to China. Neither required hospitalization and both have recovered. Close contacts are being monitored by appropriate public health authorities. The risk of Canadians getting sick with avian influenza A (H7N9) is very low.

A Canadian study has examined the mid-season data on the current flu vaccine's effectiveness in Canada. The study observed little to no vaccine protection against the A(H3N2) virus, this season's most common influenza virus. The results of this study are not unexpected. Evidence from the NML, however, still suggests that the vaccine continues to provide protection against the circulating A(H1N1) and B strains.

The number of positive tests decreased from 3,829 in week 02 to 2,928 in week 03. The percentage of positive influenza tests also decreased slightly from 28.3% to 27.4%. To date, 97% of influenza detections have been influenza A, and 99.8% of those subtyped have been A(H3N2). To date this season, detailed information on age and type/subtype has been received for 24,071 cases. A significantly greater proportion of laboratory detections of influenza have been reported in adults ≥65 years of age (63%) this season compared to the 2013-14 season when only 15.4% of cases were in adults ≥65 years of age.

The national influenza-like-illness (ILI) consultation increased in week 03 to 45.3 consultations per 1,000, which is slightly above expected levels.

In week 03, 357 laboratory-confirmed influenza-associated hospitalizations were reported from participating provinces and territories*; all but one with influenza A, and 74% were patients ≥65 years of age. Since the start of the 2014-15 season, 3,589 hospitalizations have been reported; 3,523 (98%) with influenza A. Among cases for which the subtype of influenza A was reported, 99.7% (1720/1725) were A(H3N2). The majority of cases (71%) were ≥65 years of age. A total of 104 ICU admissions have been reported in adults ≥65 years of age with influenza A and 52 ICU admissions have been reported in adults 20-64 years. A total

of 236 deaths have been reported since the start of the season: one child <5 years of age, two children 5-19 years, sixteen adults 20-64 years, and 217 adults ≥65 years of age. Adults 65 years of age or older represent 92% of all deaths reported this season. Detailed clinical information (e.g. underlying medical conditions) is not known for these cases.

- [Global influenza update](#) 26 January 2015 (WHO website)

Globally influenza activity was high in the northern hemisphere with influenza A(H3N2) viruses predominating so far this season. Antigenic characterization of most recent A(H3N2) viruses thus far indicated differences from the A(H3N2) virus used in the influenza vaccines for the northern hemisphere 2014-2015. Based on tests to date, the influenza A(H3N2) viruses are expected to be sensitive to neuraminidase inhibitors.

In North America, the influenza season was ongoing with still high levels of influenza activity in most countries. Influenza A(H3N2) virus predominated. The influenza activity might have peaked in the USA.

In Europe influenza activity was still on the rise with highest activity in the north-western part. Influenza A(H3N2) predominated this season.

In northern and western Africa influenza activity seemed to have peaked with influenza B virus predominating, while Egypt reported mainly influenza A(H3N2) detections.

In eastern Asia, influenza activity started to decrease with influenza A(H3N2) virus predominating.

In central Asia influenza activity remained low.

In western Asia, Bahrain and the Islamic Republic of Iran reported mainly influenza A(H1N1)pdm09 activity.

In tropical countries of the Americas, influenza activity was low in most countries of the Caribbean, Central America and in the tropical countries of South America.

In the southern hemisphere, influenza activity remained at inter-seasonal levels.

- Enterovirus D68 (EV-D68) 15 January 2015

From mid-August to 15 January 2015, CDC or state public health laboratories have confirmed a total of [1,153 persons](#) in 49 states and the District of Columbia with respiratory illness caused by EV-D68. Almost all of the confirmed cases were among children, many whom had asthma or a history of wheezing. Additionally, there were likely millions of mild EV-D68 infections for which people did not seek medical treatment and/or get tested.

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](#) 30 January 2015 (WHO website)

Influenza A(H7N9)

The most recent human infection with influenza A(H7N9) reported by WHO was on [30 January 2015](#) (1 case). This is the second laboratory confirmed case in Canada. The two individuals flew from Hong Kong to Canada, after travelling through China together

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 23 January 2015, 718 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 16 countries, of which 413 (57.5%) died.

- Novel coronavirus 3 February 2015

Up to 3 February 2015, 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 961 confirmed cases have been reported internationally, resulting in a current global total of 965 cases, with the most recent cases reported on 3 February 2015 from [Kingdom of Saudi Arabia](#). Further information on management and guidance of possible cases is available [online](#).

Acknowledgements

[Back to top](#)

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

[Back to top](#)

Weekly consultation rates in national sentinel schemes

- [Sentinel schemes operating across the UK](#)
- [RCGP scheme](#)
- Northern Ireland surveillance ([Public Health Agency](#))
- Scotland surveillance ([Health Protection Scotland](#))
- Wales surveillance ([Public Health Wales](#))
- [Real time syndromic surveillance](#)
- MEM threshold [methodology paper](#) and [UK pilot paper](#)

Community surveillance

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

Disease severity and mortality data

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

Vaccination

- Seasonal influenza vaccine programme ([Department of Health Book](#))
- Childhood flu programme information for healthcare practitioners ([Public Health England](#))
- 2014/15 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))