



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

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Summary

In week 9 2015 (ending 1 March), indicators of influenza activity generally remain at similar or lower levels compared to last week, although influenza B activity appears to be increasing. The Department of Health [alert](#) issued on the prescription of antiviral medicines by GPs is still active.

- [Community influenza surveillance](#)

- In week 9 the syndromic indicators for respiratory symptoms were stable.
- 34 new acute respiratory outbreaks have been reported in the past seven days, 28 in care homes (8 flu A(untyped), 6 flu A(H3), 4 flu B, and the rest not tested/results not available yet), five in hospitals (2 flu A(untyped), 1 flu B, 1 mixed infection with flu A (untyped) and flu B and 1 not tested/results not available yet) and one in other setting (flu A(untyped)).

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

- The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system remained stable in week 9.
- In week 9, overall weekly influenza-like illness (ILI) GP consultations decreased in Scotland (26.7 per 100,000) and Northern Ireland (51.0 per 100,000) and remained stable in Wales (12.5 per 100,000).

- [Influenza-confirmed hospitalisations](#)

- 33 new admissions to ICU/HDU with confirmed influenza (13 A unknown subtype, seven A(H3N2), seven influenza A(H1N1)pdm09 and six B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (124 Trusts in England) in week 9, a rate of 0.07 compared to 0.10 per 100,000 the previous week.
- 20 new hospitalised confirmed influenza cases (seven influenza B, five influenza A(H3N2) and five A unknown subtype and three influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network across England (18 Trusts), a rate of 0.36 compared to 0.51 per 100,000 the previous week.

- [All-cause mortality data](#)

- In week 9 2015, significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England in 65+ year olds, though this is now just above the significance threshold. No significant excess was seen for all ages in England and across the devolved administrations in week 9. Since week 40 2014, significant excess mortality has been observed between week 50 2014 and week 9 2015 predominantly in 65+ year olds, peaking in week 2 2015. This period coincides with circulating influenza and cold snaps.

- [Microbiological surveillance](#)

- 22 samples were positive for influenza through the English GP sentinel schemes (seven A(H3), three A(H1N1)pdm09 and 10 B) with a positivity of 42.3% compared to 25.7% the previous week .
- In week 8 2015, out of the 1046 respiratory specimens reported through the Respiratory DataMart System, 137 samples (13.1%) were positive for influenza (54 A(H3), 19 A(not subtyped), 14 influenza A(H1N1)pdm09 and 50 B). The highest rate was observed in 65+ years (14.0%).
- 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 the end of January 2015, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was 50.3% in under 65 years in a clinical risk group, 44.1% in pregnant women, 72.8% in 65+ year olds, 38.5% in all 2 year olds, 41.3% in all 3 year olds and 32.9% in all 4 year olds
- 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 fourth monthly collection of influenza vaccine uptake by frontline healthcare workers show 54.6% were vaccinated by 31 January 2015 from 100.0% of Trusts.
- [WHO](#) have published their recommendations for the composition of the 2015/16 northern hemisphere influenza vaccine.

- [International situation](#)

- Globally influenza activity remained high in the northern hemisphere with influenza A(H3N2) viruses predominating. In the European Region, increased influenza activity continues, particularly in western and central European countries.

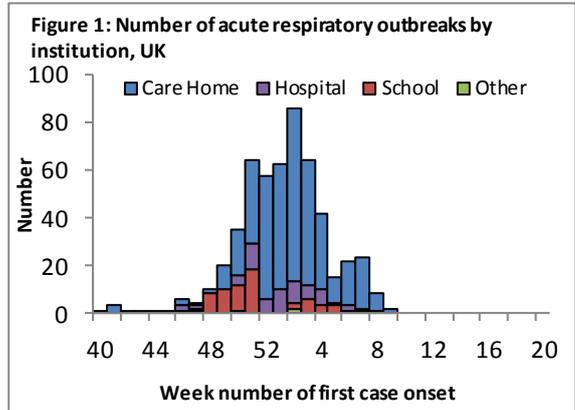
In week 9 syndromic indicators for respiratory symptoms remained stable and 23 new acute respiratory outbreaks were reported in the last seven days.

- PHE Real-time Syndromic Surveillance

-In week 9 syndromic indicators for respiratory symptoms remained stable.
 -For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

-34 new acute respiratory outbreaks have been reported in the past seven days, 28 in care homes (8 flu A(untyped), 6 flu A(H3), 4 flu B, and the rest not tested/results not available yet), five in hospitals (2 flu A(untyped), 1 flu B, 1 mixed infection with flu A(untyped) and flu B and 1 not tested/results not available yet) and one in other setting (flu A(untyped)). So far in the 2014/15 flu season, 606 outbreaks (460 in care homes, 68 in schools, 71 in hospitals and 7 in other settings) have been reported in the UK including 107 with flu A(H3) infection, 164 flu A(untyped), 10 flu B, four flu A(untyped)/flu B, two flu A (H1N1)pdm09, eight rhinovirus, five RSV, three parainfluenza, three hMPV, one enterovirus, 17 mixed infections with different respiratory viruses and the rest are not tested or test results not yet available or tested negative.

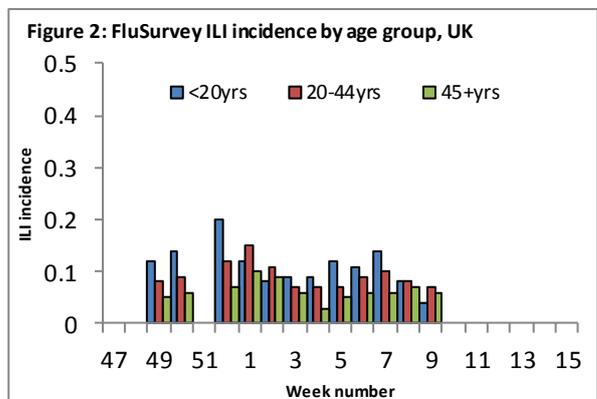


-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respscisc@phe.gov.uk.

- FluSurvey

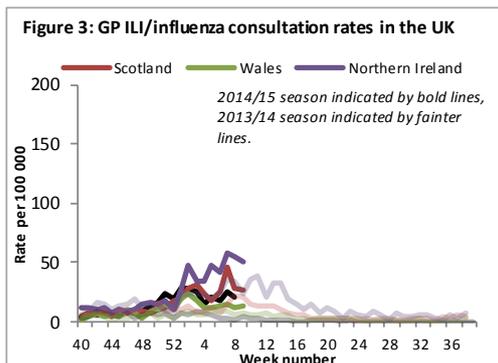
-Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey project (<http://flusurvey.org.uk>) run by the London School of Hygiene and Tropical Medicine. Please see the website for information on how to register.

-In week 9, the incidence of ILI reports by age group was highest in over 45 year olds (Figure 2, NB. No data is currently available for week 51).



In week 9 overall weekly influenza-like illness GP consultations decreased in Scotland and Northern Ireland, and remained stable in Wales.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza rate decreased from 54.8 in week 8 to 51.0 per 100,000 in week 9 (Figure 3).

-The highest rates were seen in 65-74 year olds (77.0 per 100,000), 45-64 year olds (64.1 per 100,000) and 75+ year olds (62.8 per 100,000).

Wales

-The Welsh influenza rate remained stable at 11.6 in week 9 compared to 12.3 per 100,000 in week 8 (Figure 3).

-The highest rates were seen in 45-64 year olds (19.6 per 100,000), 65-74 year olds (17.2 per 100,000) and 15-44 year olds (10.3 per 100,000).

Scotland

-The Scottish ILI rate decreased from 28.9 in week 8 to 26.7 per 100,000 in week 9 (Figure 3).

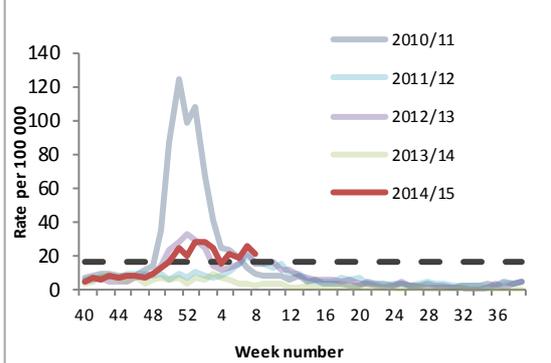
-The highest rates were seen in 45-64 year olds (36.6 per 100,000), 75+ year olds (28.5 per 100,000) and 15-44 year olds (26.7 per 100,000).

RCGP (England and Wales)

-Confirmed data is available up to week 8 2015. The weekly ILI consultation rate through the RCGP surveillance system decreased from 25.3 in week 7 to 21.3 per 100,000 in week 8 (Figure 4*). By age group, the highest rate was seen in 45-64 year olds (27.2 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

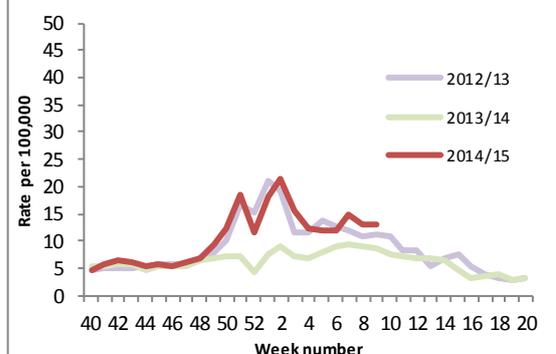


GP In Hours Syndromic Surveillance System (England)

-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system remained stable compared to the previous week (12.9 in week 9 compared to 14.9 per 100,000 in week 8, Figure 5).

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

Figure 5: GP in hours ILI consultation rate, England



Influenza confirmed hospitalisations

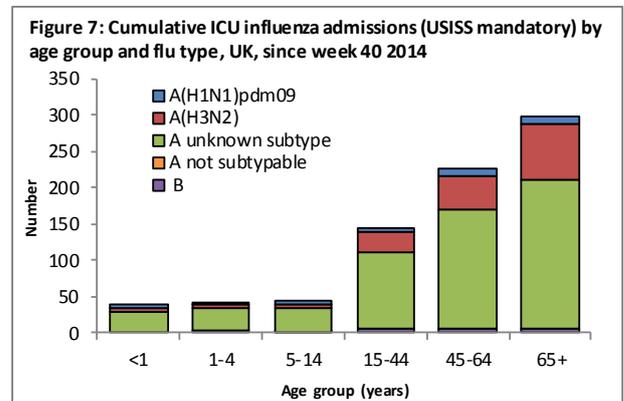
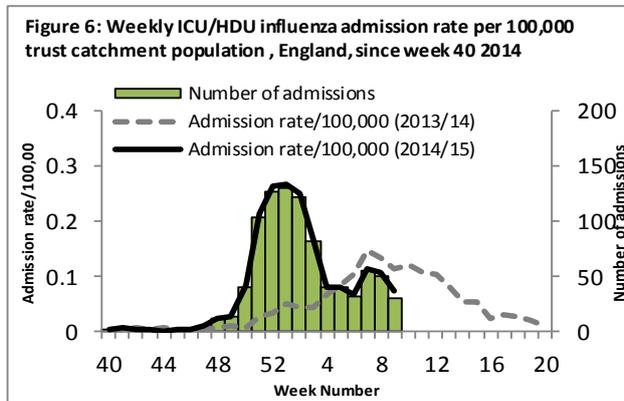
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In week 9, 33 new admissions to ICU/HDU with confirmed influenza (13 A unknown subtype, seven A(H3N2), seven influenza A(H1N1)pdm09 and six B) were reported through the national USSS mandatory ICU scheme across the UK (124 Trusts in England). 20 new hospitalised confirmed influenza cases (seven influenza B, five influenza A(H3N2), five A unknown subtype and three influenza A(H1N1)pdm09) were reported through the USSS sentinel hospital network across England (18 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.

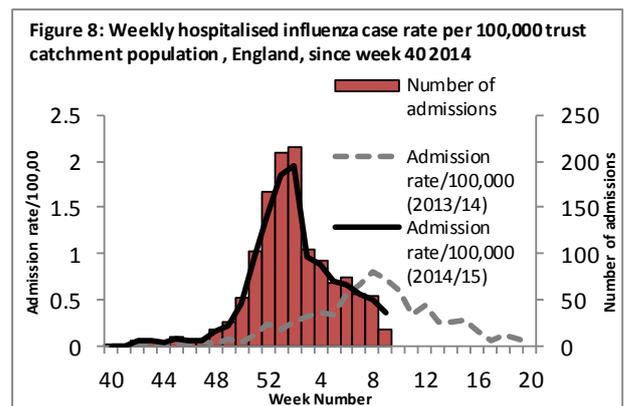
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 9)

-In week 9, 33 new admissions to ICU/HDU with confirmed influenza (13 A unknown subtype, seven A(H3N2), seven influenza A(H1N1)pdm09 and six B) were reported across the UK (124/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.07 per 100,000 compared to 0.10 per 100,000 the previous week. One new confirmed influenza death was reported in week 9 2015. A total of 1,014 admissions (668 A unknown subtype, 227 A(H3N2), 62 A(H1N1)pdm09) and 57 B) and 102 confirmed influenza deaths have been reported since week 40 2014.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 9)

-In week 9, 20 new hospitalised confirmed influenza cases (seven influenza B, five influenza A(H3N2), five A unknown subtype and three influenza A(H1N1)pdm09) were reported through the USISS sentinel hospital network from 18 NHS Trusts across England (Figure 8), a rate of 0.36 per 100,000 compared to 0.51 per 100,000 the previous week. A total of 1,304 hospitalised confirmed influenza admissions (834 A(H3N2), 361 A unknown subtype, 72 B and 37 A(H1N1)pdm09)) have been reported since week 40.



All-cause mortality data

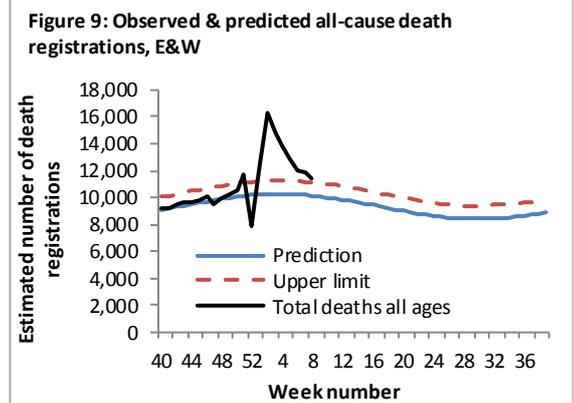
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In week 9 2015, significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England in 65+ year olds, though this is now just above the significance threshold. No significant excess was seen for all ages in England and across the devolved administrations in week 9. Since week 40 2014, significant excess mortality has been observed between week 50 2014 and week 9 2015 predominantly in 65+ year olds, peaking in week 2 2015. This period coincides with circulating influenza and 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 8 2015, an estimated 11,434 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is less than the 11,822 estimated death registrations in week 7, and remains just 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.



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

-Since week 40 2014 up to week 9 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 and 7-9 2015, 15-64 year olds in weeks 51-2 and weeks 1-2 in under five year olds (Figure 10, Table 1). This coincides with circulating influenza and 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 9 2015, excess mortality above the threshold was seen in weeks 51-8 in Scotland, weeks 42 and 1-3 in Wales and weeks 3-4 in Northern Ireland (Table 2).

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 9 2015?	Weeks with excess in 2014/15
<5	×	1-2
5-14	×	NA
15-64	×	51-2
65+	✓	50-5, 7-9

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

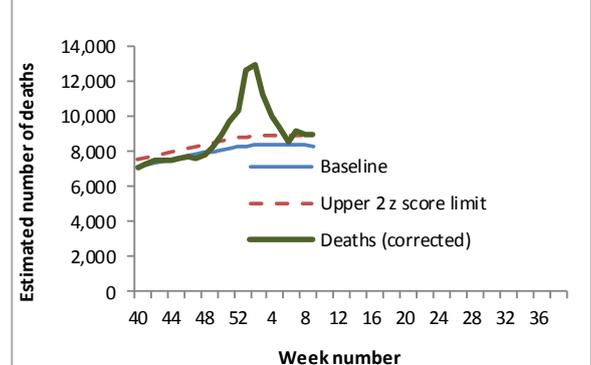
Table 2: Excess mortality by UK country*

Country	Excess detected in week 9 2015?	Weeks with excess in 2014/15
England	×	50-5
Wales	×	42,1-3
Scotland	×	51-8
Northern Ireland	×	3-4

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



Microbiological surveillance

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In week 9 2015, 22 samples were positive for influenza through the English GP sentinel schemes (seven A(H3), 12 B and three A(H1N1)pdm09 with a positivity of 42.3%). 137 influenza positive detections were recorded through the DataMart scheme (54 A(H3), 19 A(not subtyped), 14 influenza A(H1N1)pdm09 and 50 B, positivity of 13.1%).

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

-In week 9, 22 samples were positive for influenza in England (seven A(H3), 12 B and three A(H1N1)pdm09), 13 in Scotland (11 A(untyped) and two B) seven in Northern Ireland (six A(not subtyped) and one B) and none in Wales (Table 3).

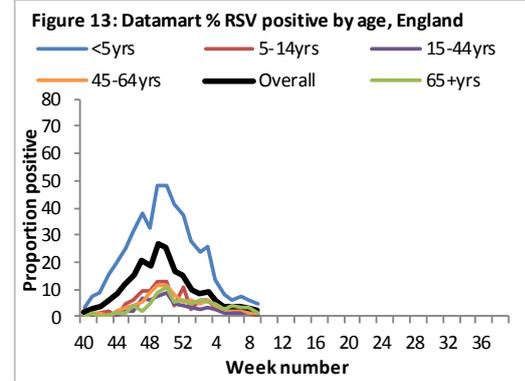
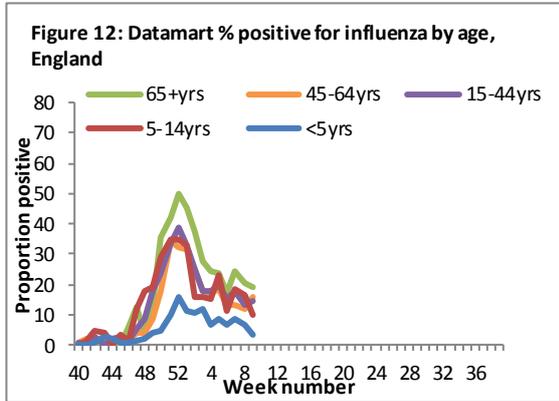
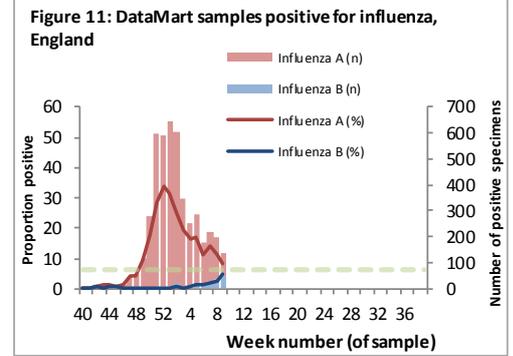
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
6	16/72 (23.2%)	29/79 (36.7%)	6/15 (40%)	2/5 (-)
7	53/141 (37.7%)	42/96 (43.8%)	13/15 (86.7%)	0/4 (-)
8	28/109 (25.7%)	25/71 (35.2%)	11/17 (64.7%)	2/8 (-)
9	22/52 (42.3%)	13/42 (31%)	7/17 (41.2%)	0/2 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 8 2015, out of the 1046 respiratory specimens reported through the Respiratory DataMart System, 137 samples (13.1%) were positive for influenza (54 A(H3), 19 A(not subtyped), 14 influenza A(H1N1)pdm09 and 50 B (Figure 11)). The overall positivity for RSV remained at low levels at 2.0% in week 09, mainly in children under 5 years (4.3%), Figure 13). Positivity for adenovirus increased slightly to 4.8%, parainfluenza increased to 5.0%; rhinovirus remained stable at 9.3% in week 9 and hMPV remained stable at 3.1%.



*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 211 influenza A(H3N2) viruses. Of these, the majority were similar to the A/Texas/50/2012 H3N2 Northern Hemisphere 2014/15 vaccine strain, however 52 (25%) showed reduced reactivity in antigenic tests with A/Texas/50/2012 antiserum. These 52 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.

Thirty-seven 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.

Twenty-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, 147 influenza viruses (77 A(H3N2), 61 A(H1N1)pdm09 and 12 B) have been tested for oseltamivir susceptibility in the UK and all but three H3N2 are sensitive. The 75 flu A(H3N2), 18 A(H1N1)pdm09 and 12 B were also tested against zanamivir and all but one H3N2 are sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 22 February 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 22 Feb 2015, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3,515	92
	Macrolides	3,841	83
	Tetracycline	3,687	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	14,288	74
	Co-amoxiclav	13,313	95
	Macrolides	5,427	20
<i>S. aureus</i>	Tetracycline	14,335	98
	Methicillin	4,746	87
	Macrolides	4,650	73
MRSA	Clindamycin	501	41
	Tetracycline	588	86
MSSA	Clindamycin	2,216	80
	Tetracycline	3,622	92

*Macrolides = erythromycin, azithromycin and clarithromycin

- Provisional data from the fourth monthly collection of influenza vaccine uptake up to 31 January 2015 by targeted groups has been published. The [report](#) provides uptake at national, area team and CCG level. Up to the end of January 2015, the provisional proportion of people in England who had received the 2014/15 influenza vaccine in targeted groups was as follows:
 - 50.3% in under 65 years in a clinical risk group
 - 44.1% in pregnant women
 - 72.8% in 65+ year olds
 - 38.5% in all 2 year olds
 - 41.3% in all 3 year olds
 - 32.9% in all 4 year olds
- Provisional data from the fourth monthly collection of influenza vaccine uptake by frontline healthcare workers show 54.6% were vaccinated by 31 January 2015 from 100.0% of Trusts, compared to 54.8% vaccinated the previous season by 31 January 2014. The [report](#) provides uptake at national, geographical area, area team (on behalf of primary care and independent sector healthcare providers) and individual Trust level.
- A mid-season influenza vaccine effectiveness estimate for the 2014/15 season in the United Kingdom has been [published](#), with an adjusted value of 3.4% (upper 95% confidence interval of 35.5%) against primary care consultations with laboratory-confirmed influenza. The low value reflects mismatch between circulating A(H3N2) viruses and the 2014/15 northern hemisphere A(H3N2) vaccine strain. Annual flu vaccination remains the best protection we have against an unpredictable virus which can cause severe illness and deaths each year. It will provide protection against the other circulating strains this season. Early use of antivirals for prophylaxis and treatment of vulnerable populations remains important.

International Situation

Globally influenza activity remained high in the northern hemisphere with influenza A(H3N2) viruses predominating. In the European Region, the influenza season is still underway, particularly in western and central European countries. Influenza activity is beginning to decrease in the United States.

- [Europe](#) 27 February 2015 (Joint ECDC-WHO Influenza weekly update)

Increased influenza activity continues, particularly in western and central countries of the WHO European Region. Nine countries reported increasing rates of influenza-like illness (ILI) and/or acute respiratory infections (ARI). Thirty-five countries experienced usual and higher than usual levels of influenza activity; in the previous season most European countries continued to experience no influenza activity or activity at baseline level. The number and percentage of influenza virus detections in sentinel specimens showed a slight reduction in what might be described as a high plateau phase of the influenza season.

Excess all-cause mortality among elderly people (aged ≥ 65 years), concomitant with increased influenza activity and the predominance of A(H3N2) viruses, has been observed since the beginning of the year in six (Belgium, France, Portugal, Spain, Switzerland and the United Kingdom (England, Scotland and Wales)) of 14 reporting countries (see the European project for monitoring excess mortality for public health action - EuroMOMO). Most of the A(H3N2) viruses characterized so far show antigenic differences from the virus included in the 2014–2015 northern hemisphere influenza vaccine. The observed reduced effectiveness (www.eurosurveillance.org) of the A(H3N2) component of the vaccine might have contributed to the excess mortality reported among elderly people. The A(H1N1)pdm09 and B components of the vaccine are likely to be effective.

The [WHO vaccine recommendation](#) for the northern hemisphere 2015-2016 season was made on 26 February 2015: it recommended that vaccines for use in the season (northern hemisphere) contain the following:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Switzerland/9715293/2013 (H3N2)-like virus;
- a B/Phuket/3073/2013-like virus
- a B/Brisbane/60/2008-like virus

Forty-three countries reported epidemiological data for week 08/2015. High- and medium intensity influenza activity were reported by 35 countries, and geographically widespread activity in 24 countries, mainly in

western, northern and central Europe. Stable or decreasing trends were reported by most countries, except Denmark, Germany, Luxembourg, the Netherlands, the Republic of Moldova, the Russian Federation, Serbia, Slovakia and Ukraine where ILI and ARI rates had not yet peaked.

Since week 40/2014, eight countries (Finland, France, Ireland, Romania, Slovakia, Spain, Sweden and the United Kingdom) have reported a total of 3476 laboratory-confirmed hospitalized influenza cases. Of these, 2380 cases were admitted to intensive care units (ICUs): 1003 (42%) being reported by France and 956 (40%) by the United Kingdom. Of the 3476 confirmed cases, 3087 (89%) were positive for influenza A virus and 389 (11%) for influenza B virus. Of 1226 subtyped A viruses, 931 (76%) were A(H3N2) and 295 (24%) A(H1N1)pdm09 virus.

For week 08/2015, 385 laboratory-confirmed hospitalized influenza cases were reported by the same eight countries, with 216 admitted to ICUs, of which 138 (64%) were in France. Of the influenza viruses detected in ICU patients, 176 (81%) were diagnosed as type A and 40 as type B (19%). Of the 49 subtyped influenza A viruses, 25 (51%) were A(H3N2) and 24 (49%) were A(H1N1)pdm09. Where data on age were available, since the start of the season, the highest number of cases (1290) occurred in patients aged ≥ 65 years. Of these, 676 were admitted to ICUs and 614 to other wards. In patients aged ≥ 65 years, 1130 (88%) were infected by influenza A viruses and 160 (12%) by type B viruses. Of the type A viruses from these patients that were subtyped, 412 (84%) were A(H3N2) and 80 (12%) A(H1N1)pdm09.

Since week 40/2014, the antigenic characteristics of 906 influenza viruses have been reported, and 987 viruses have been characterized genetically. The 196 A(H1N1)pdm09 viruses antigenically characterized to date are similar to the components included in the 2014–2015 northern hemisphere vaccines. The WHO Collaborating Centre for Reference and Research on Influenza in London, United Kingdom is monitoring this situation closely to gain more reliable antigenic characterization data for the influenza viruses currently circulating. None of the viruses that underwent phenotypic or genotypic testing for neuraminidase inhibitor susceptibility showed evidence of reduced susceptibility.

- [United States of America](#) 27 February 2015 (Centre for Disease Control report)

During week 7 (February 15-21, 2015), influenza activity continued to decrease, but remained elevated in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 3.0%, above the national baseline of 2.0%. All 10 regions reported ILI at or above region-specific baseline levels. Puerto Rico and 11 states experienced high ILI activity; three states experienced moderate ILI activity; 16 states experienced low ILI activity; New York City and 20 states experienced minimal ILI activity; and the District of Columbia had insufficient data. The geographic spread of influenza in Guam and 20 states was reported as widespread; Puerto Rico, the U.S. Virgin Islands, and 25 states reported regional activity; and the District of Columbia and five states reported local activity.

Of 18,505 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 7, 2,236 (12.1%) were positive for influenza. (915 influenza A subtype not performed, 623 influenza A (H3), 691 influenza B and seven influenza A(H1N1)pdm09).

Six influenza-associated paediatric deaths were reported to CDC during week 7. Three deaths were associated with an influenza A (H3) virus and occurred during weeks 51, 4, and 5. Two deaths were associated with an influenza A virus for which no subtyping was performed and occurred during weeks 5 and 6. One death was associated with an influenza B virus and occurred during week 53. A total of 92 influenza-associated paediatric deaths have been reported during the 2014-2015 season from 32 states.

CDC has characterized 933 influenza viruses [27 A(H1N1)pdm09, 752 A(H3N2), and 154 influenza B viruses] collected by U.S. laboratories since October 1, 2014. All 27 H1N1 viruses tested were characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014-2015 Northern Hemisphere influenza vaccine. 228 (30.3%) of the 752 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. 524 (69.7%) of the 752 viruses tested showed either reduced titress with antiserum produced against A/Texas/50/2012 or belonged to a genetic group that typically shows reduced titres to A/Texas/50/2012. Among viruses that showed reduced titres 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](#) 27 February 2015 (Public Health Agency report)

In week 07, all influenza indicators remained similar to, or declined, from the previous week. Overall, elevated activity was mostly reported in the Central and Atlantic provinces. For the past few weeks, influenza B detections have been increasing steadily, particularly in the Prairies and in Quebec. In week 07, influenza B detections were greater than influenza A detections in QC and AB. This increase in influenza B is expected as influenza B often shows up later in the flu season. A(H3N2) continues to be the most common type of influenza affecting Canadians. Seniors continue to have the highest number of positive laboratory detections, hospitalizations and deaths. Detections of respiratory syncytial virus (RSV) continue to be the second most frequently detected virus after influenza. Evidence from the National Microbiology Laboratory (NML) does indicate that this year's vaccine will continue to provide protection against the circulating A(H1N1) and B strains.

The national influenza-like-illness (ILI) consultation rate decreased to 32.7 consultations per 1,000, which is within expected levels for week 07. The rate was highest among the 5 to 19 years of age group (83.3 consultations per 1,000) and lowest among the adults ≥65 years of age (18.7 consultations per 1,000).

In week 07, 24 laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network: 12 cases of influenza A and 12 cases of influenza B (Figure 8a). Among the reported cases, 11 (46%) were <2 years of age, five (46%) were 2 to 9 years of age and two (8%) was 10-16 years of age. Two cases were admitted to the ICU. To date this season, 530 hospitalizations have been reported by the IMPACT network, 480 (91%) of which were cases of influenza A. Among cases for which the influenza A subtype was reported, 99% (157/159) were A(H3N2). To date, 65 cases were admitted to the ICU, of which 37 (57%) were 2 to 9 years of age. Three deaths have been reported.

In week 07, 60 laboratory-confirmed influenza-associated adult (≥16 years of age) hospitalizations were reported by the PHAC/CIHR Influenza Research Network (PCIRN) Serious Outcomes Surveillance (SOS) network. Among the cases in week 07, 48 cases (80%) were in adults over the age of 65 and 48 cases (80%) had influenza A. To date this season, 1,717 cases have been reported; 1,663 (97%) with influenza A. The majority of cases (83%) were among adults ≥65 years of age. One hundred and twenty-nine ICU admissions have been reported and 97 cases were adults ≥65 years of age. A total of 94 ICU cases (73%) reported to have at least one underlying condition or comorbidity. Of the 91 ICU cases with known immunization status, 33 (36%) reported not having been vaccinated this season. Eighty deaths have been reported, 73 (91%) of the deaths were adults >65 years of age.

Early estimates of seasonal vaccine effectiveness in Canada published in [January](#) and [February](#) suggest the 2014/15 vaccine has low effectiveness against circulating influenza A(H3N2) viruses.

- [Global influenza update](#) 23 February 2015 (WHO website)

Globally, influenza activity remained high in the northern hemisphere with influenza A(H3N2) viruses predominating. Some countries reported an increase in influenza A(H1N1)pdm09 activity. 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. The vast majority of influenza A(H3N2) viruses tested to date this season were sensitive to neuraminidase inhibitors.

In North America, the influenza activity seemed to have peaked. Influenza A(H3N2) virus has predominated this season.

In Europe, the influenza season continued to rise, particularly in western and central countries. Influenza A(H3N2) remained the dominant virus detected this season. However, in south west Europe the proportion of influenza A(H1N1) and influenza B increased.

In northern Africa and the Middle East, influenza activity is ongoing. Some countries are reporting an increase in influenza A(H1N1)pdm09 activity (Jordan, Morocco and Tunisia).

In the temperate countries of Asia, influenza activity decreased from its peak in northern China, but continued to increase in Mongolia and the Republic of Korea. Influenza A(H3N2) virus predominated so far. In tropical countries of the Americas, influenza activity remained low in most countries.

In tropical Asia, influenza activity continued to increase in southern China, China Hong Kong Special Administrative Region and India.

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 23 February 2015 \(WHO website\)](#)

Influenza A(H7N9) & Influenza A(H5N6)

On [23 February 2015](#), the Department of Health, Hong Kong Special Administrative Region (SAR), China notified WHO of 1 additional laboratory-confirmed case of human infection with avian influenza A(H7N9) virus.

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 26 January 2015, 718 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 16 countries, of which 413 (57.5%) died. The patient had history of exposure to dead wild fowl.

- [Novel coronavirus 16 February 2015](#)

Up to 11 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 1031 confirmed cases have been reported internationally, resulting in a current global total of 1035 cases, with the most recent cases reported on 23 February 2015 from the [Kingdom of Saudi Arabia](#). Further information on management and guidance of possible cases is available [online](#).

Acknowledgements

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- 2014/15 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))