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Summary

In week 11 2015 (ending 15 March), indicators of influenza activity generally were at similar levels compared to the previous 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 11 syndromic indicators for respiratory symptoms remained stable. 14 new acute respiratory outbreaks have been reported in the past seven days, 11 in care homes (four flu A(untypred), one flu B and the rest not tested/results not available yet) and three in hospitals (one flu A(untypred), one RSV and one not tested).
- [Overall weekly influenza GP consultation rates across the UK](#)
 - The weekly ILI consultation rate for the GP In Hours Syndromic Surveillance system remained stable in week 11.
 - In week 11, overall weekly influenza-like illness (ILI) GP consultations remained stable in Wales (6.2 per 100,000) and decreased in Scotland (18.7 per 100,000) and Northern Ireland (26.3 per 100,000).
- [Influenza-confirmed hospitalisations](#)
 - 30 new admissions to ICU/HDU with confirmed influenza (16 influenza B, eight influenza A(H1N1)pdm09, four influenza A unknown subtype and two influenza A(H3N2)) were reported through the USSS mandatory ICU/HDU surveillance scheme across the UK (129 Trusts in England) in week 11, a rate of 0.07 compared to 0.07 per 100,000 the previous week.
 - 42 new hospitalised confirmed influenza cases (31 influenza B, six influenza A(H3N2), three influenza A(H1N1pdm09) and two influenza A/unknown) were reported through the USSS sentinel hospital network across England (19 Trusts), a rate of 0.41 compared to 0.38 per 100,000 the previous week.
- [All-cause mortality data](#)
 - In week 11 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. Across the devolved administrations, significant excess was seen in week 11 in Northern Ireland. Since week 40 2014, significant excess mortality has been observed in England between week 50 2014 and week 11 2015 predominantly in 65+ year olds, peaking in week 2 2015. This period coincides with circulating influenza and cold snaps.
- [Microbiological surveillance](#)
 - 18 samples were positive for influenza through the English GP sentinel schemes (12 B, four A(H3N2) and two A(H1N1)pdm09) with a positivity of 42.9% compared to 30.6% the previous week .
 - 113 influenza positive detections were recorded through the DataMart scheme (73 B, 22 A(H3), 11 A(not subtyped) and seven influenza A(H1N1)pdm09, positivity of 12.2% compared to 10.9% previous week) with the highest positivity seen in 45-64 year olds (19.2%).
 - Characterisation of influenza B 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 influenza B virus selected for the 2015/16 Northern 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.
 - Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 54.9% were vaccinated by 28 February 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 remains elevated in the northern hemisphere with increasing proportions of type B viruses. Some countries in Africa, Asia and southern part of Europe reported an increased influenza A(H1N1)pdm09 activity. In the European Region, influenza activity appears to have passed its peak in most countries.

In week 11 syndromic indicators for respiratory symptoms remained stable and 14 new acute respiratory outbreaks were reported in the last seven days.

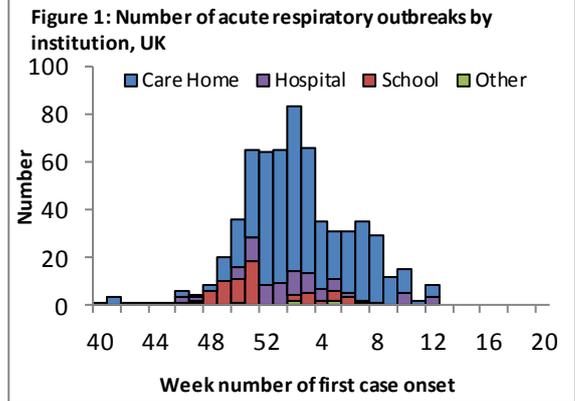
- PHE Real-time Syndromic Surveillance

-In week 11 syndromic indicators for respiratory symptoms remained stable.
 -For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

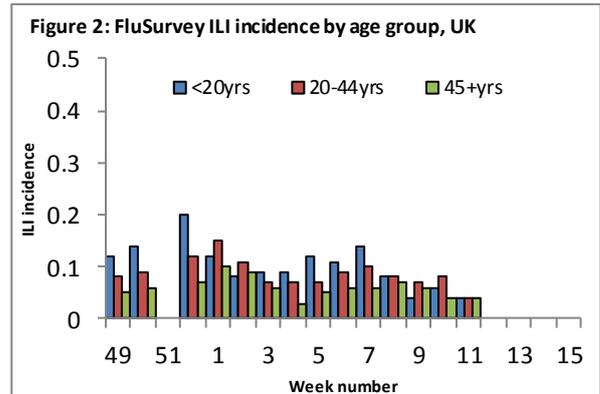
14 new acute respiratory outbreaks have been reported in the past seven days, 11 in care homes (four flu A(untyped), one flu B and the rest not tested/results not available yet) and three in hospitals (one flu A(untyped), one RSV and one not tested). So far in the 2014/15 flu season, 628 outbreaks (478 in care homes, 75 in hospitals, 68 in schools and seven in other settings) have been reported in the UK including 110 with flu A(H3) infection, 178 flu A(untyped), 11 flu B, four flu A(untyped)/flu B, two flu A (H1N1)pdm09, eight rhinovirus, six RSV, three parainfluenza, three hMPV, one enterovirus, 21 mixed respiratory infections and 285 not tested/test results not yet available).

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



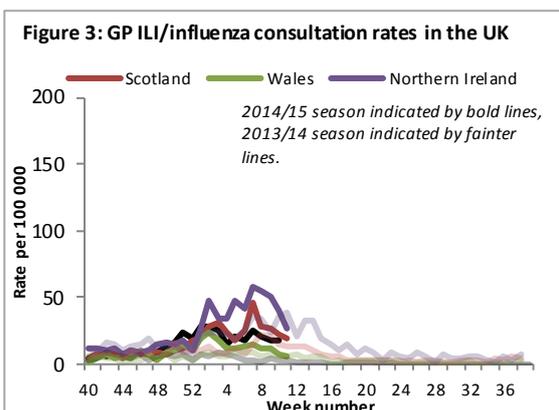
- FluSurvey

-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.
 -In week 11, the incidence of ILI reports by age group was low across all groups Figure 2, NB. No data is currently available for week 51).



In week 11 overall weekly influenza-like illness GP consultations decreased in Wales, Scotland and Northern Ireland.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza consultation rate decreased from 40.7 in week 10 to 26.3 per 100,000 in week 11 (Figure 3).

-The highest rates were seen in 75+ year olds (38.8 per 100,000), 15-44 year olds (34.6 per 100,000) and 45-64 year olds (29.4 per 100,000).

Wales

-The Welsh influenza rate remained stable at 6.2 in week 11 compared to 7.0 per 100,000 in week 10 (Figure 3).

-The highest rates were seen in 65-74 year olds (8.6 per 100,000), 15-44 year olds (7.7 per 100,000) and 1-4 year olds (7.5 per 100,000).

Scotland

-The Scottish ILI rate decreased from 21.7 per 100,000 in week 10 to 18.7 per 100,000 in week 11 (Figure 3).

-The highest rates were seen in 45-64 year olds (26.3 per 100,000), 75+ year olds (20.3 per 100,000) and 15-44 year olds (18.7 per 100,000).

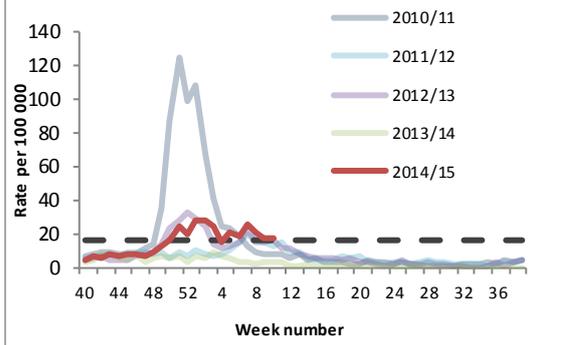
RCGP (England and Wales)

-Confirmed data is available up to week 10 2015.

-The weekly ILI consultation rate through the RCGP surveillance system remained stable at 17.3 per 100,000 in week 10 (Figure 4*). By age group, the highest rate was seen in 75+ year olds (23.4 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

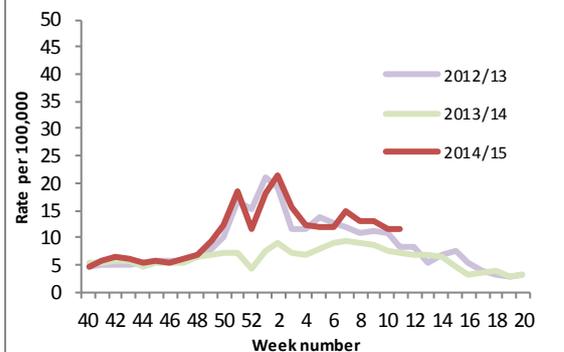


GP In Hours Syndromic Surveillance System (England)

-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system remained stable compared to the previous week (11.4 in week 11 compared to 11.6 per 100,000 in week 10, 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 11, 30 new admissions to ICU/HDU with confirmed influenza (16 influenza B, eight influenza A(H1N1)pdm09, four influenza A unknown subtype and two influenza A(H3N2)) were reported through the national USISS mandatory ICU scheme across the UK (129 Trusts in England). 42 new hospitalised confirmed influenza cases (31 influenza B, six influenza A(H3N2), three influenza A(H1N1)pdm09) and two influenza A/unknown) were reported through the USISS sentinel hospital network across England (19 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 11)

-In week 11, 30 new admissions to ICU/HDU with confirmed influenza (16 influenza B, eight influenza A(H1N1)pdm09, four influenza A unknown subtype and two influenza A(H3N2)) were reported across the UK (129/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.07 per 100,000 compared to 0.07 per 100,000 the previous week. Four new confirmed influenza deaths were reported in week 11 2015. A total of 1,126 admissions (691 A unknown subtype, 245 A(H3N2), 94 A(H1N1)pdm09) and 96 B) and 112 confirmed influenza deaths have been reported since week 40 2014.

Figure 6: Weekly ICU/HDU influenza admission rate per 100,000 trust catchment population, England, since week 40 2014

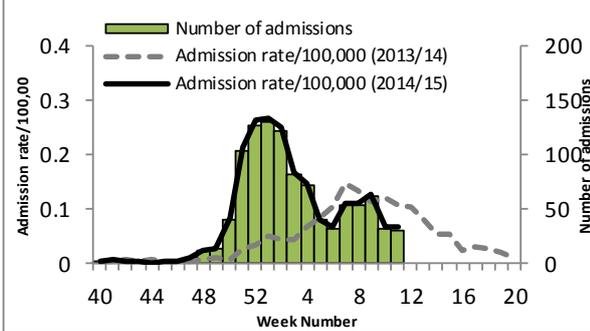
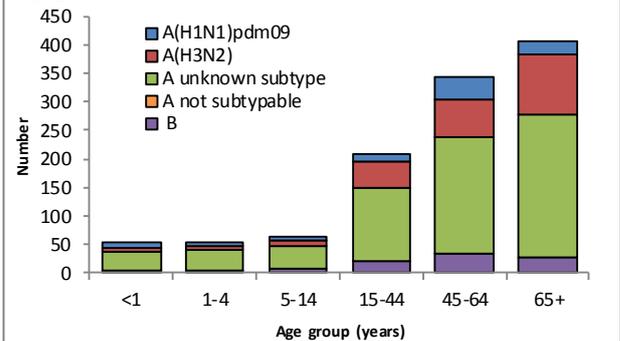


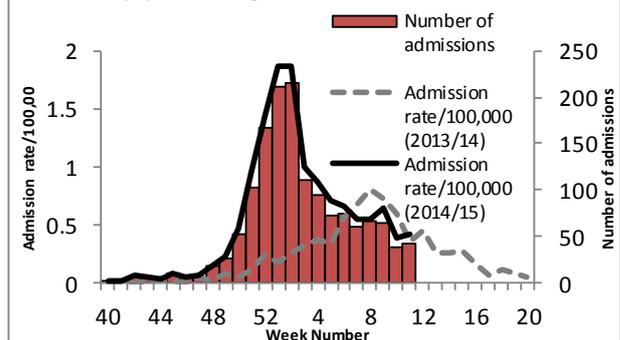
Figure 7: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2014



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 11)

-In week 11, 42 new hospitalised confirmed influenza cases (31 influenza B, six influenza A(H3N2), three influenza A(H1N1)pdm09) and two influenza A/unknown) were reported through the USISS sentinel hospital network from 19 NHS Trusts across England (Figure 8), a rate of 0.41 per 100,000 compared to 0.38 per 100,000 the previous week. A total of 1,459 hospitalised confirmed influenza admissions (858 A(H3N2), 403 A unknown subtype, 149 B and 49 A(H1N1)pdm09) have been reported since week 40.

Figure 8: Weekly hospitalised influenza case rate per 100,000 trust catchment population, England, since week 40 2014



All-cause mortality data

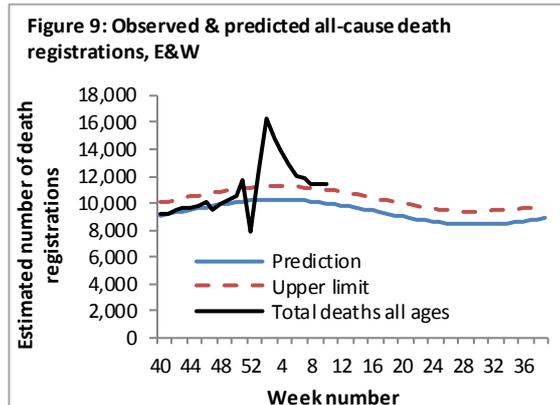
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In week 11 2015, significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England in 65+ year olds, though this is now just above the significance threshold. Across the devolved administrations, significant excess was seen in week 11 in Northern Ireland. Since week 40 2014, significant excess mortality has been observed in England between week 50 2014 and week 11 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 10 2015, an estimated 11,469 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is similar to the 11,472 estimated death registrations in week 9, 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 11 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 50-7 and 9-11 2015, 15-64 year olds in weeks 51-2 and weeks 1-2 and 4-5 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 11 2015, excess mortality above the threshold was seen in weeks 51-9 in Scotland, weeks 42 and 1-3 in Wales and weeks 3-4 and 8-11 in Northern Ireland (Table 2).

Table 1: Excess mortality by age group, England*

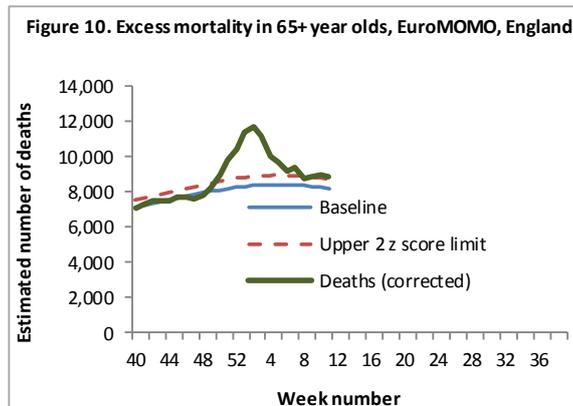
Age group (years)	Excess detected in week 11 2015?	Weeks with excess in 2014/15
<5	x	1-2, 4-5
5-14	x	NA
15-64	x	51-2
65+	✓	50-7, 9-11

* 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 11 2015?	Weeks with excess in 2014/15
England	✓	50-7, 10-11
Wales	x	42, 1-3
Scotland	x	51-9
Northern Ireland	✓	3-4, 8-11

* 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

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In week 11 2015, 18 samples were positive for influenza through the English GP sentinel schemes (12 B, four A(H3N2) and two A(H1N1)pdm09 with a positivity of 42.9%). 113 influenza positive detections were recorded through the DataMart scheme (73 B, 22 A(H3), 11 A(not subtyped) and seven influenza A(H1N1)pdm09).

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

-In week 11, 18 samples were positive for influenza in England (12 B, four A(H3N2) and two A(H1N1)pdm09), two in Scotland (one A(H3) and one B) two in Northern Ireland (A (not subtyped)) and no samples were positive for Influenza in Wales (Table 3).

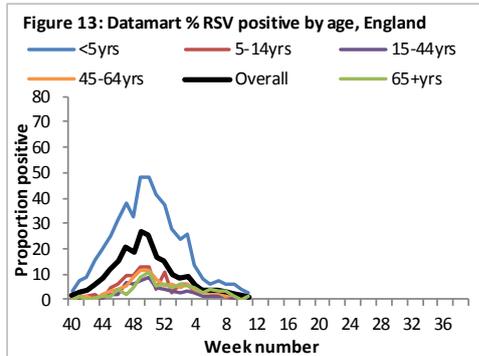
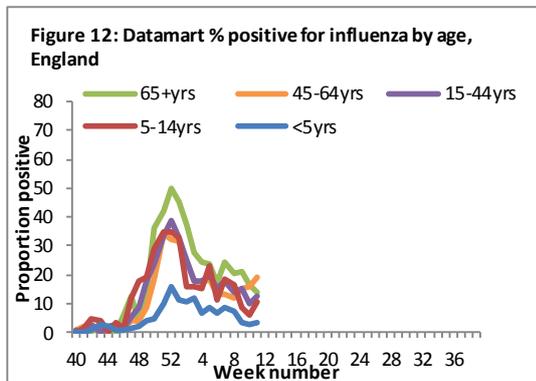
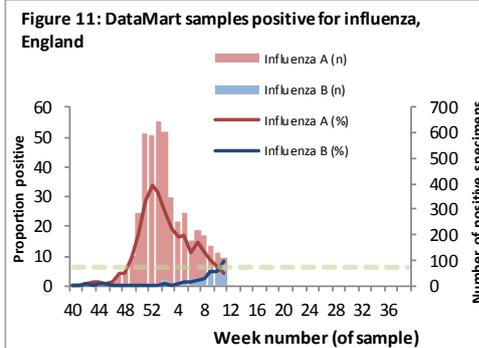
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
8	29/111 (26.1%)	26/72 (36.1%)	11/17 (64.7%)	1/4 (12.5%)
9	30/77 (39%)	21/68 (30.9%)	9/19 (47.4%)	0/8 (-)
10	22/72 (30.6%)	11/56 (19.6%)	3/10 (30%)	0/2 (-)
11	18/42 (42.9%)	2/25 (8%)	2/3 (-)	0/2 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 11 2015, out of the 927 respiratory specimens reported through the Respiratory DataMart System, 113 samples (12.2%) were positive for influenza (73 B, 22 A(H3), 11 A(not subtyped) and seven influenza A(H1N1)pdm09 (Figure 11)), with the highest positivity in 45-64 year olds (19.2%). The overall positivity for RSV remained at low levels (1.1%) in week 11 (Figure 12). Positivity for rhinovirus remained stable at 9.4%; adenovirus positivity decreased to 4.4%; parainfluenza positivity increased to 6.0% and hMPV increased to 3.2% in week 11 (Figure 11).



*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

Influenza B: Since week 40 2014, the PHE Respiratory Virus Unit (RVU) has isolated and antigenically characterised 43 influenza B viruses as belonging to the B/Yamagata/16/88 lineage. Of these, 38 (88%) showed reduced reactivity in antigenic tests with antiserum to the 2014/15 Northern hemisphere B/Yamagata-lineage trivalent and quadrivalent vaccine virus, B/Massachusetts/2/2012. These 38 isolates are antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage virus selected for 2015/16 Northern Hemisphere influenza vaccines. B/Phuket/3073/2013 is related to, but antigenically and genetically distinguishable, from the B/Massachusetts/2/2012 vaccine virus. One influenza B virus has been isolated and antigenically characterised as belonging to the B/Victoria/2/87 lineage, similar to the influenza B/Victoria-lineage component of the 2014/15 Northern Hemisphere quadrivalent vaccine.

Influenza A(H3N2): 220 A(H3N2) influenza viruses have been isolated and antigenically characterised. The majority were similar to the A/Texas/50/2012 H3N2 Northern Hemisphere 2014/15 vaccine strain, however 52 (24%) 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 2015/16 Northern 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.

Influenza A(H1N1)pdm09: 40 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.

- Antiviral susceptibility

Since week 40 2014, 177 influenza viruses (88 A(H3N2), 73 A(H1N1)pdm09 and 16 B) have been tested for oseltamivir susceptibility in the UK and all but four H3N2 are sensitive. Of the four oseltamivir resistant cases, three have an E119V amino acid substitution in the neuraminidase taken from neuraminidase inhibitor treatment patients. These three viruses remain susceptible to zanamivir. The 84 flu A(H3N2), 20 A(H1N1)pdm09 and 16 B were also tested against zanamivir and all but one H3N2 are sensitive. This zanamivir resistant virus has an R292K amino acid substitution in the neuraminidase which is known to cause resistance to oseltamivir and also reduce susceptibility to zanamivir. This sample was taken from a child who had received oseltamivir treatment.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 8 March 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 8 March 2015, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3,501	93
	Macrolides	3,810	82
	Tetracycline	3,647	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	14,894	74
	Co-amoxiclav	14,019	95
	Macrolides	5,678	20
	Tetracycline	15,025	98
<i>S. aureus</i>	Methicillin	4,668	87
	Macrolides	4,587	72
MRSA	Clindamycin	495	41
	Tetracycline	573	86
MSSA	Clindamycin	2,199	79
	Tetracycline	3,578	92

*Macrolides = erythromycin, azithromycin and clarithromycin

Vaccination

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- 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 fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 54.9% were vaccinated by 28 February 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. Early use of antivirals for prophylaxis and treatment of vulnerable populations remains important.

International Situation

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Globally, influenza activity remains elevated in the northern hemisphere with increasing proportions of type B viruses. Some countries in Africa, Asia and southern part of Europe reported an increased influenza A(H1N1)pdm09 activity. In the European Region, influenza activity appears to have passed its peak in most countries.

- [Europe](#) 13 March 2015 (Joint ECDC-WHO Influenza weekly update)

Influenza activity continues to circulate at medium levels in 23 out of 39 countries but has passed its peak in most European countries: 39 out of 40 countries reported decreasing (27) or stable (12) activity. 23 indicated medium intensity of influenza activity. The Republic of Moldova reported very high intensity of influenza activity and Germany, Iceland and Sweden reported high intensity, which indicates higher than usual levels of influenza activity in these countries (see the section on system description). Thirteen countries, mainly in the east of the Region, reported low intensity of influenza activity. Geographically widespread activity was seen in 23 countries. Decreasing trends of respiratory disease activity were reported by 27 countries. One country (Serbia) reported increasing rates of influenza-like illness (ILI), with a high proportion of influenza virus detections.

Following a consistently high proportion of influenza virus detections of 50% or higher in sentinel specimens since week 04/2015, this week the positivity rate decreased to 41%. Influenza A(H1N1)pdm09, A(H3N2) and type B viruses continued to circulate in the Region, with A(H3N2) predominating, but with increasing proportions of type B viruses. Excess all-cause mortality among 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 Belgium, Denmark, France, the Netherlands, Portugal, Spain, Switzerland and the United Kingdom, seen through the EuroMOMO algorithm. The circulation of respiratory syncytial virus (RSV) has decreased to low levels across the European Region.

Since week 40/2014, eight countries (Finland, France, Ireland, Romania, Slovakia, Spain, Sweden and the United Kingdom) have reported a total of 4483 laboratory-confirmed hospitalized influenza cases. Of these, 2996 were reported in ICUs, including 1327 (44%) by France and 1068 (36%) by the United Kingdom. Of the 4483 confirmed cases, 3881 (87%) were positive for influenza A virus and 602 (13%) for influenza B virus. Of 1631 subtyped A viruses, 1273 (78%) were A(H3N2) and 358 (22%) A(H1N1)pdm09.

- [United States of America](#) 13 March 2015 (Centre for Disease Control report)

During week 9 (March 1-7, 2015), influenza activity continued to decrease, but remained elevated in the United States. The proportion of outpatient visits for influenza-like illness (ILI) was 2.4%, above the national baseline of 2.0%. Eight regions reported ILI at or above region-specific baseline levels. Puerto Rico and six states experienced high ILI activity; one state experienced moderate ILI activity; 13 states experienced low ILI activity; New York City and 30 states experienced minimal ILI activity; and the District of Columbia had insufficient data. The geographic spread of influenza in nine states was reported as widespread; Guam, Puerto Rico, the U.S. Virgin Islands, and 29 states reported regional activity; 11 states reported local activity; and the District of Columbia and one state reported sporadic activity.

Of 14,634 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 9, 1,670 (11.4%) were positive for influenza. (420 influenza A subtype not performed, 376 influenza A (H3), 870 influenza B and 4 influenza A(H1N1)pdm09).

During week 9, 7.6% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was above the epidemic threshold of 7.2% for week 9. One death was associated with Influenza (H3) in week 8, two deaths were associated with an unsubtyped Influenza A in week 5 and 8 respectively, and four deaths were associated with an Influenza B virus in week 8.

CDC has characterized 1,150 influenza viruses [27 A(H1N1)pdm09, 902 A(H3N2), and 221 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. 238 (26.4%) of the 902 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. 664 (73.6%) of the 902 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. 157 (71.0%) of the influenza B viruses tested belong to B/Yamagata/16/88 lineage and the remaining 64 (29.0%) influenza B viruses tested belong to B/Victoria/02/87 lineage.

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](#) 13 March 2015 (Public Health Agency report)

In week 09, all influenza indicators remained similar to, or declined from the previous week. Elevated influenza activity was mostly reported in the Central and Atlantic provinces. Influenza detections continue to increase steadily, particularly in the West, the Prairies and in Quebec. It is mainly affecting individuals less than 64 years of age. 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 influenza virus this season and seniors continue to have the highest number of positive laboratory detections, hospitalizations and deaths. Evidence from the National Microbiology Laboratory (NML) indicates 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 50.5 consultations per 1,000, which is above expected levels for week 09 (Figure 5). The rate was highest among the 5 to 19 years of age group (61.3 consultations per 1,000) and lowest among the adults ≥65 years of age (41.4 consultations per 1,000).

In week 09, 182 laboratory-confirmed influenza-associated hospitalizations were reported from participating provinces and territories which is less than the number reported in week 08 (n=213). Of the 182 hospitalizations, all but 28 were due to influenza A, and 74% were in patients ≥65 years of age. Since the start of the 2014-15 season, 5769 hospitalizations have been reported; 5541 (97%) with influenza A. Among cases for which the subtype of influenza A was reported, 99.5% were A(H3N2). The majority of cases (72%) were ≥65 years of age. A total of 282 ICU admissions have been reported to date: 54% (n=153) were in adults ≥65 years of age and 31% (n=88) were in adults 20-64 years. A total of 413 deaths have been reported since the start of the season: three children <5 years of age, two children 5-19 years, 24 adults 20-64 years, and 384 adults ≥65 years of age. Adults 65 years of age or older represent 93% of all deaths reported this season. Detailed clinical information (e.g. underlying medical conditions) is not known for these cases.

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](#) 9 March 2015 (WHO website)

Globally, influenza activity remained high in the northern hemisphere with influenza A(H3N2) viruses predominating. Some countries in Africa, Asia and southern part of Europe reported an increased influenza A(H1N1)pdm09 activity.

In North America, the influenza activity remained elevated following the influenza peak. Influenza A(H3N2) remained the dominant virus detected this season.

In Europe, the influenza season was at its height, particularly in central and western countries. Influenza A(H3N2) virus continued to predominate this season.

In northern Africa and the Middle East, influenza activity was decreasing in most of the region. Influenza A was predominant in the region.

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

In tropical countries of the Americas, influenza activity remained low in most countries.

In tropical Asia, influenza activity continued to increase in India and Lao People's Democratic Republic. Influenza activity remained high in southern China, China Hong Kong Special Administrative Region, and the Islamic Republic of Iran.

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

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 and a B/Brisbane/60/2008-like virus

- Enterovirus D68 (EV-D68) 11 March 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](#) 11 March 2015 (WHO website)

Influenza A(H7N9) & Influenza A(H5N6)

On [9 March 2015](#), the National Health and Family Planning Commission (NHFPC) of China notified WHO of 59 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 17 fatal 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 3 March 2015, 784 human cases of H5N1 avian influenza have been officially reported to [WHO](#) from 16 countries, of which 429 (54.7%) died.

- Middle East respiratory syndrome coronavirus (MERS-CoV) 9 March 2015

Up to 11 March 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 1,056 confirmed cases have been reported internationally, resulting in a current global total of 1,060 cases, with the most recent case reported on 11 March 2015 from [Qatar](#). Further information on management and guidance of possible cases is available [online](#).

Acknowledgements

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