



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 53 2015 (ending 03 January 2016), allowing for Christmas reporting breaks, across surveillance schemes, influenza activity has increased for several indicators, including GP ILI consultation rates, the proportion of laboratory samples positive for influenza and influenza admissions to hospitals and ICU. There is an indication that the influenza season has started.

- [Community influenza surveillance](#)
 - During week 53, there was an increase in lower respiratory tract infections in adults over 65 years, although they continue to be within seasonally expected levels.
 - Thirteen new acute respiratory outbreaks have been reported in the past 7 days. Twelve outbreaks were in care homes where two tested positive for influenza (one influenza A(not subtyped) and another mixed infection of influenza A(not subtyped)). The thirteenth outbreak was from the “other” category, in an immigration removal centre, where test results were not available.
- [Overall weekly influenza GP consultation rates across the UK](#)
 - Due to bank holidays in week 53, GP surgeries were only open for three days – data should therefore be interpreted with caution.
 - In week 53, overall weekly influenza-like illness (ILI) GP consultations has increased in England (9.6 per 100,000), Wales (6.5 per 100,000), Scotland (8.6 per 100,000) and Northern Ireland (21.5 per 100,000).
 - Weekly ILI rates remain within seasonally expected levels in week 53 through the GP In Hours Surveillance system.
- [Influenza-confirmed hospitalisations](#)
 - Sixty-two new admissions to ICU/HDU with confirmed influenza (twenty-eight influenza A(H1N1)pdm09, one A(H3), thirty-two influenza A(unknown subtype) and one influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (133 Trusts in England) in week 53, a rate of 0.13 compared to 0.11 per 100,000 the previous week. Five deaths were also reported through this scheme.
 - Thirty-eight new hospitalised confirmed influenza cases (twenty-seven influenza A(H1N1)pdm09) and eleven influenza A(not subtyped) were reported through the USISS sentinel hospital network across England (23 Trusts), a rate of 0.41 compared to 0.37 per 100,000 the previous week.
 - Since week 40, nine confirmed influenza admissions have been reported (five influenza A(H1N1)pdm09 and four influenza A(unknown subtype) from the five Severe Respiratory Failure centres in England.
- [All-cause mortality data](#)
 - Up to week 50 2015, no statistically significant excess all-cause mortality by week of death was seen through the EuroMoMo algorithm in England overall and by age group and across the devolved administrations.
- [Microbiological surveillance](#)
 - Fourteen samples tested positive for influenza (12 A(H1N1)pdm09, 2 A(untyped) and 1 B) through GP sentinel schemes across the UK, with an overall positivity of 16.7%.
 - One hundred and twenty-six influenza positive detections were recorded through the DataMart scheme (ninety-five influenza A(H1N1)pdm09, twenty-two A(not subtyped), two A(H3) and seven influenza B). A positivity of 11.1% was seen in week 53, an increase from 8.3% seen in week 52, with the highest positivity in 5-14 year olds (19.2%). This is above the threshold for 2015/16 season of 7.4%.
- [Vaccination](#)
 - Up to week 53 2015 in 93.1% GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows: 43.6% in under 65 years in a clinical risk group, 41.4% in pregnant women, 70.0% in 65+ year olds, 34.1% in all 2 year olds, 35.9% in all 3 year olds and 28.9% in all 4 year olds.
 - Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 44.1% were vaccinated by 30 November 2015 from 97.0% of Trusts, compared to 48.2% vaccinated in the previous season by 30 November 2014. The report is available [here](#).
 - Provisional data from the second monthly collection of influenza vaccine uptake children of school years 1 and 2 age show the proportion of children in England who received the 2015/16 live attenuated intranasal vaccine (LAIV) from 1 September 2015 to 30 November 2015 was as follows: 40.9% in children school year 1 age (5-6 years) and 39.3% in children school year 2 age (6-7 years).
 - Provisional data from the second monthly collection of influenza vaccine uptake in GP patients up to 30 November 2015 has been published. The [report](#) provides uptake at national, area team and CCG level.
- [International situation](#)
 - Globally, influenza activity generally remained low in the Southern Hemisphere however there are signs of increasing activity in the Northern hemisphere.
 - Influenza activity in Europe remains low, however an increase in the positivity of samples from sentinel sources indicates an increase in influenza activity and the start of the season.

During week 53, there was an increase in lower respiratory tract infections in adults over 65 years although they continue to be within seasonally expected levels. Thirteen new acute respiratory outbreaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance

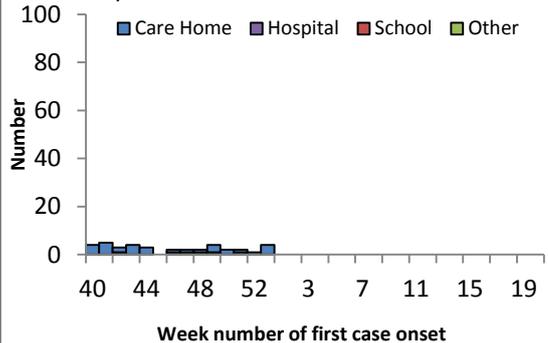
- During week 53, GP consultation rates for lower respiratory tract infection increased, particularly in adults over 65 year, but rates remain within seasonally expected levels.

- Acute respiratory disease outbreaks

- Thirteen new acute respiratory outbreaks have been reported in the past 7 days. Twelve outbreaks were from care homes where one tested positive for influenza A(not subtyped), one mixed infection with influenza A(not subtyped) and RSV, one parainfluenza, one with mixed infections with rhinovirus, RSV and hMPV and results were not available/not tested for the other eight outbreaks. The thirteenth outbreak was from the "Other" settings category (an immigration removal centre) where the tests results were not available.

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

Figure 1: Number of acute respiratory outbreaks by institution, UK



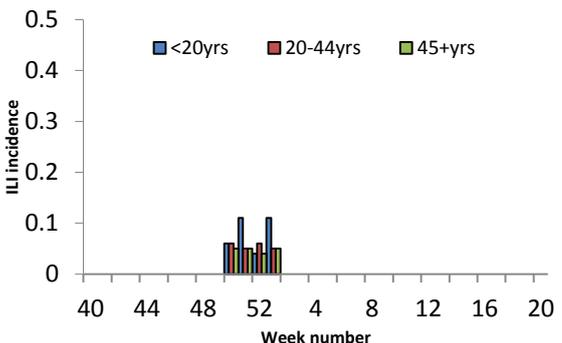
- FluSurvey

- Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine.

- The overall ILI rate (all age groups) for week 53 was 0.06 (122 / 2,159 people reported at least 1 ILI).

- If you would like to become a participant of the FluSurvey project please do so by visiting the <http://flusurvey.org.uk> website for more information

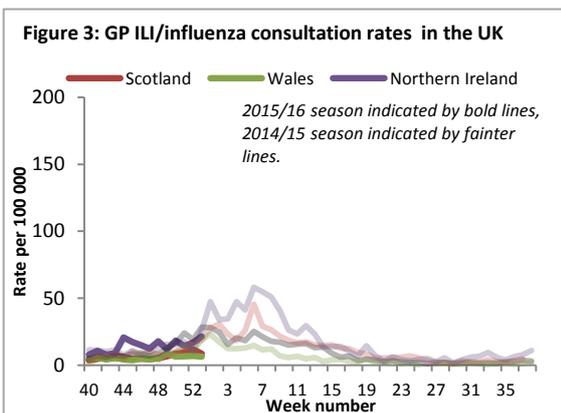
Figure 2: FluSurvey ILI incidence by age group, UK



Weekly consultation rates in national sentinel schemes

In week 53, overall weekly influenza-like illness GP consultations have increased in England, Wales, Scotland and Northern Ireland. Due to bank holidays in week 53, GP surgeries were only open for three days – data should therefore be interpreted with caution.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland influenza consultation rate has increased at 21.5 per 100,000 in week 53 compared to 17.0 per 100,000 in week 52 (Figure 3). This remains below the pre-epidemic threshold (49 per 100,000).

-The highest rates were seen in the <1 year olds (50.2 per 100,000), 15-44 year olds (31.6 per 100,000) and 45-64 year olds (25.1 per 100,000).

Wales

-The Welsh influenza rate was low at 6.5 per 100,000 in week 53 compared to 7.1 per 100,000 in week 52 (Figure 3).

-The highest rates were seen in 15-44 year olds (9.41 per 100,000) and in 45-64 year olds.

Scotland

-The Scottish ILI rate was low at 8.6 per 100,000 in week 53 (Figure 3) compared to 12.0 per 100,000 in week 52. This remains below the pre-epidemic threshold (37 per 100,000).

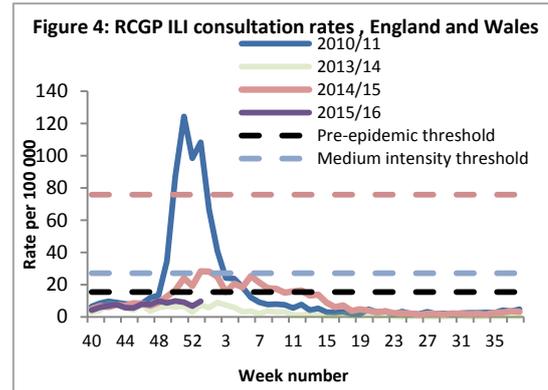
-The highest rates were seen in 45-64 year olds (13.6 per 100,000), 75+ year olds (8.8 per 100,000) and 15-44 year olds (8.7 per 100,000).

RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance system has increased at 9.6 per 100,000 in week 53 compared to 6.6 per 100,000 in week 52. This is below the pre-epidemic threshold (15.4 per 100,000) (Figure 4*). By age group, the highest rates were seen in 45-64 year olds (11.9 per 100,000), 15-44 year olds (10.2 per 100,000) and 1-4 year olds & 65-74 year olds (9.4 per 100,000)

- Due to bank holidays in week 53 (ending 03 January 2016), GP surgeries were only open for three days – data should therefore be interpreted with caution.

**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.*



GP In Hours Syndromic Surveillance System (England)

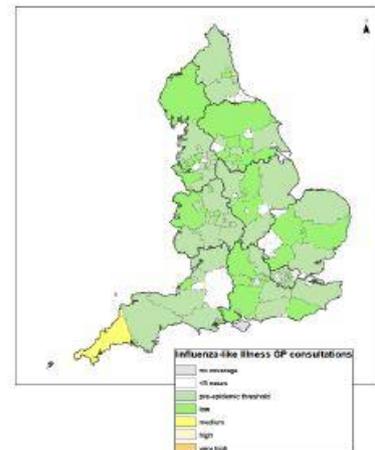
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system was low at 9.0 per 100,000 in week 53 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 53 across England by Local Authorities, using influenza-like illness surveillance thresholds.

Thresholds are calculated using a standard methodology for setting ILI thresholds across Europe (the “Moving Epidemic Method” (MEM)) and are based on six previous influenza seasons (excluding the 2009/10 H1N1 pandemic)

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

Figure 5: Map of GP ILI consultation rates in Week 53



Influenza confirmed hospitalisations

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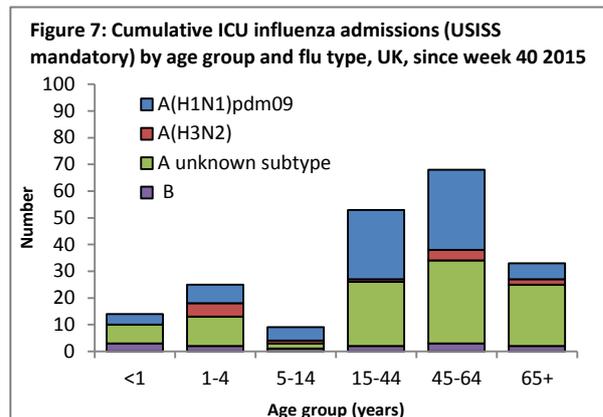
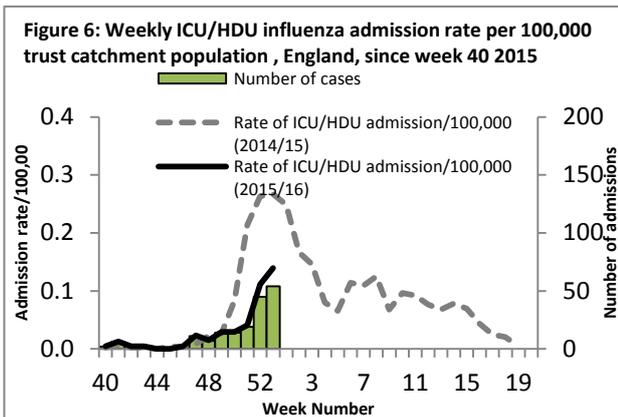
In week 53, sixty-two new admissions to ICU/HDU with confirmed influenza (28 influenza A(H1N1)pdm09, 1 influenza A(H3), 32 influenza A(unknown subtype) and 1 influenza B) were reported through the USSS mandatory ICU/HDU surveillance scheme across the UK (133 Trusts in England). Thirty-eight new hospitalised confirmed influenza cases (27 influenza A(H1N1)pdm09 and 11 influenza A(not subtyped) were reported through the USSS sentinel hospital network across England (23 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 is 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.

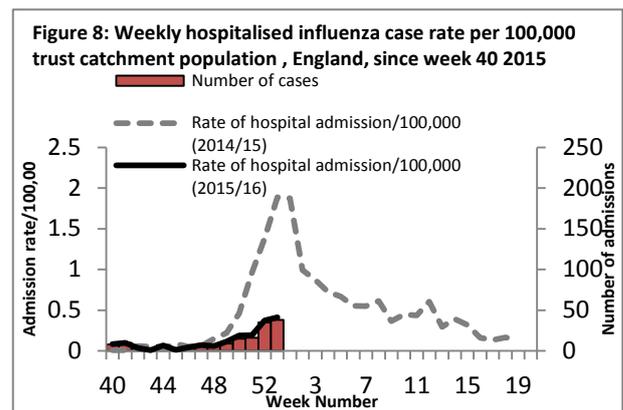
- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 53)

- In week 53, sixty-two new admissions to ICU/HDU with confirmed influenza were reported across the UK (133/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.13 per 100,000 compared to 0.11 per 100,000 the previous week and five new confirmed influenza deaths were reported in week 53 2015. A total of 202 admissions (78 influenza A(H1N1)pdm09, 13 influenza A(H3N2), 98 influenza A unknown subtype and 13 influenza B) and 12 confirmed influenza deaths have been reported since week 40 2015.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 53)

- In week 53, thirty-eight new hospitalised confirmed influenza cases (27 influenza A(H1N1)pdm09) and 11 influenza A(not subtyped) were reported through the USISS sentinel hospital network from 23 NHS Trusts across England (Figure 8), a rate of 0.41 per 100,000 compared to 0.37 per 100,000 the previous week. A total of 161 hospitalised confirmed influenza admissions (113 influenza A(H1N1)pdm09), nine influenza A(H3N2), 24 influenza A (unknown subtype) and 15 influenza B) have been reported since week 40.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, England (week 53)

- In week 53, one new confirmed influenza admission to the five Severe Respiratory Failure Centres in England was reported (influenza A(H1N1)pdm09). Since week 40, nine confirmed influenza admissions have been reported (five influenza A(H1N1)pdm09 and four influenza A unknown subtype) from the five Severe Respiratory Failure centres in England.

All-cause mortality data

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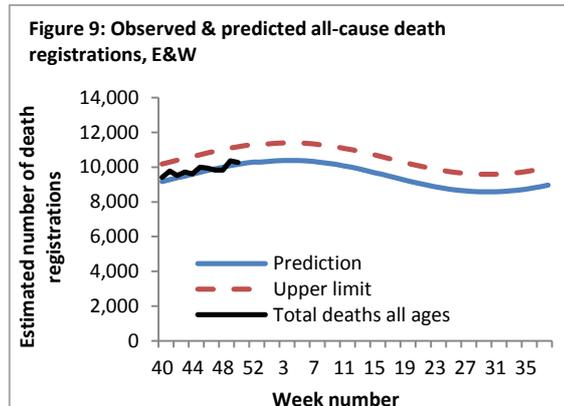
Up to week 50 2015, no statistically significant excess all-cause mortality by week of death was seen through the EuroMoMo algorithm in England overall and by age group and across the devolved administrations.

Seasonal mortality is seen each year in the UK, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory viruses, in particular influenza. Weekly mortality surveillance presented here aims to detect and report acute significant weekly excess mortality above normal seasonal levels in a timely fashion. Excess mortality is defined as a

significant number of deaths reported over that expected for a given point in the year, allowing for weekly variation in the number of deaths. The aim is not to assess general mortality trends or precisely estimate the excess attributable to different factors, although some end-of-winter estimates and more in-depth analyses (by age, geography etc.) are undertaken.

- Excess overall all-cause mortality, England and Wales

-In week 50 2015, an estimated 10,269 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 10,365 estimated death registrations in week 49, and is below the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9).



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

-Up to week 50 2015, no 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 (Figure 10, Table 1), in any age group or subnationally. This data is provisional due to the time delay in registration; numbers may vary from week to week.

- No excess mortality above the threshold through the same standardised algorithm was seen across the Devolved Administrations in week 50 (Table 2).

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 50 2015?	Weeks with excess in 2015/16
<5	x	NA
5-14	x	NA
15-64	x	NA
65+	x	NA

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

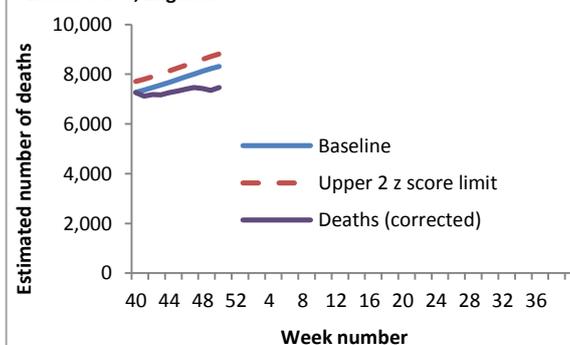
Table 2: Excess mortality by UK country*

Country	Excess detected in week 50 2015?	Weeks with excess in 2015/16
England	x	NA
Wales	x	NA
Scotland	x	48
Northern Ireland	x	NA

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

NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2

Figure 10: Excess mortality in 65+ year olds by week of death, EuroMOMO, England



Microbiological surveillance

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In week 53 2015, fourteen samples tested for influenza through the UK GP sentinel schemes were positive. One hundred and twenty-six influenza positive detections were recorded through the DataMart scheme (ninety-five influenza A(H1N1)pdm09, two A(H3), twenty-two A(not subtyped) and seven influenza B).

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

-In week 53, twelve samples were positive for influenza in England (11 influenza A(H1N1)pdm09, and 1 influenza B) and two samples were positive in Scotland (2 influenza A (untyped)). No samples were positive for influenza in Wales or Northern Ireland (Table 3).

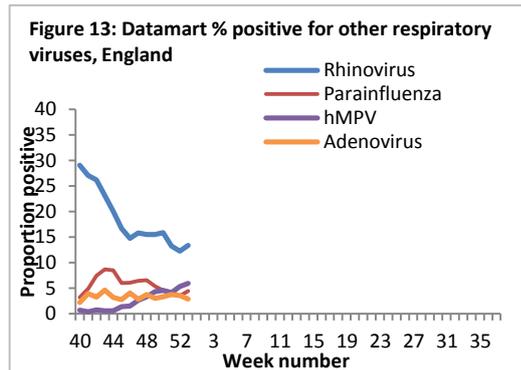
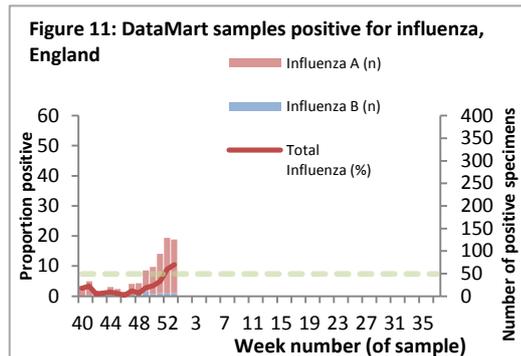
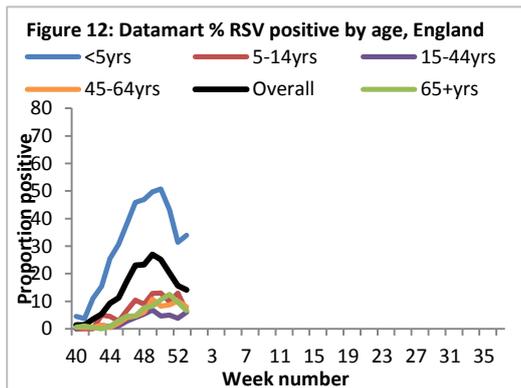
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
49	4/72 (5.6%)	1/74 (1.4%)	0/0 (-)	0/3 (-)
50	14/83 (16.9%)	5/78 (6.4%)	0/5 (-)	0/3 (-)
51	20/122 (16.4%)	4/79 (5.1%)	1/11 (9.1%)	1/10 (10%)
52	22/80 (27.5%)	7/66 (10.6%)	4/6 (-)	1/4 (-)
53	12/46 (26.1%)	2/35 (5.7%)	0/2 (-)	0/1 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 53 2015, out of the 1139 respiratory specimens reported through the Respiratory DataMart System, 126 samples (11.1%) were positive for influenza (95 A(H1N1)pdm09, 2 A(H3), 22 A(not subtyped) and 7 B) (Figure 11). The highest positivity was in the 5-14 year olds, 19.2%. The overall positivity for RSV continued its decreasing trend, however the positivity in children aged under 5 years increased slightly from 31.4% in week 52 to 34.0% in week 53 (Figure 12). Positivity for parainfluenza increased slightly to 4.4% in week 53. Positivity for rhinovirus increased to 13.4% and positivity for hMPV increased to 5.9%. Adenovirus remained low at 2.9% (Figure 13).



*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 7.4% in 2015/16.

- Virus characterisation

The PHE Respiratory Virus Unit has isolated and antigenically characterised 41 A(H1N1)pdm09 influenza viruses since the start of the 2015/16 winter influenza season in week 40 2015. These 41 viruses were antigenically similar to the A/California/7/2009 Northern Hemisphere 2015/16 (H1N1)pdm09 vaccine strain.

Four A(H3N2) influenza viruses have been isolated and antigenically characterised since week 38 2015. These four viruses were antigenically similar to the A/Switzerland/9715293/2013 H3N2 Northern Hemisphere 2015/16 vaccine strain. Genetic characterisation of eight A(H3N2) influenza viruses since week 38 showed that they belong to genetic group 3C.2a, and are genetically similar to the majority of A(H3N2) viruses circulating in the 2014/15 season.

Two influenza B virus has been isolated and antigenically characterised since week 40 2015. These viruses were characterised as belonging to the B/Victoria/2/87 lineage and were antigenically similar to B/Brisbane/60/2008, the influenza B/Victoria-lineage component of 2015/16 Northern Hemisphere quadrivalent vaccines.

- Antiviral susceptibility

Since week 40 2014, 75 influenza A(H1N1)pdm09 and one influenza B have been tested for oseltamivir susceptibility with one influenza A(H1N1)pdm09 virus found to be resistant. This resistant sample was obtained from a patient with underlying medical conditions undergoing oseltamivir treatment. 18 influenza A(H1N1)pdm09 and one influenza B have also been tested for zanamivir susceptibility in the UK and all found to be sensitive.

- Antimicrobial susceptibility

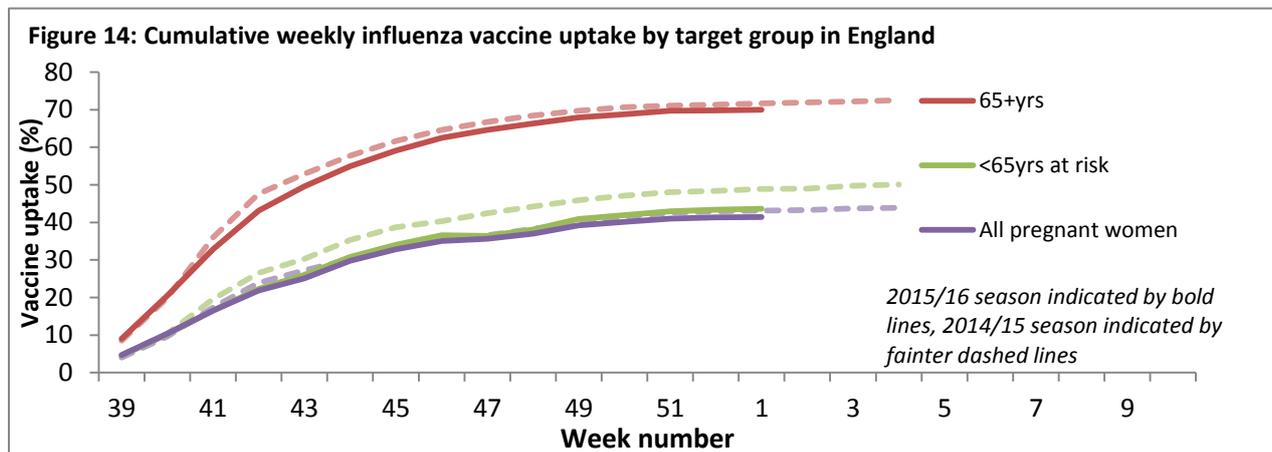
-Table 4 shows in the 12 weeks up to 03 January 2016, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Staphylococcus aureus*, MRSA and MSSA tested and susceptible to antibiotics. These organisms are the key causes of community acquired 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 03 January 2016, E&W

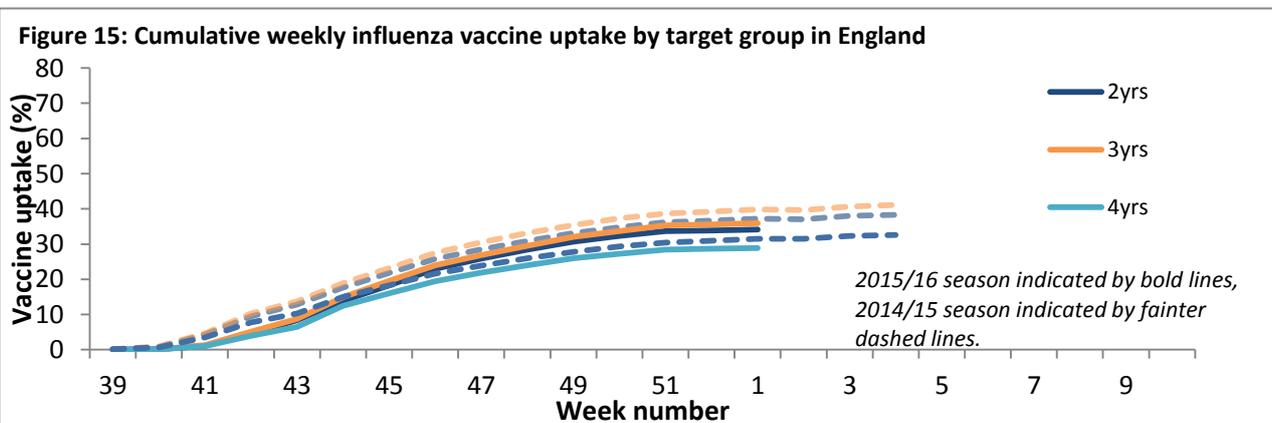
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,500	91
	Macrolides	2,881	83
	Tetracycline	2,783	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	10,312	71
	Co-amoxiclav	9,834	92
	Macrolides	3,529	18
<i>S. aureus</i>	Tetracycline	10,066	98
	Methicillin	3,749	88
	Macrolides	3,687	73
MRSA	Clindamycin	392	47
	Tetracycline	438	90
MSSA	Clindamycin	2,042	79
	Tetracycline	3,054	93

*Macrolides = erythromycin, azithromycin and clarithromycin

- Up to week 53 2015 in 93.1% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 14):
 - 43.6% in under 65 years in a clinical risk group
 - 41.4% in pregnant women
 - 70.0% in 65+ year olds



- In 2015/16, all two-, three- and four-year-olds continue to be eligible for flu vaccination. In addition, the programme has been extended to children of school years 1 and 2 age. Up to week 53 2015 in 93.1% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 15)
 - 34.1% in all 2 year olds
 - 35.9% in all 3 year olds
 - 28.9% in all 4 year olds



- Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 44.1% were vaccinated by 30 November 2015 from 97.0% of Trusts, compared to 48.2% vaccinated in the previous season by 30 November 2014. The [report](#) provides uptake at national, area team and CCG level.
- Provisional data from the second monthly collection of influenza vaccine uptake children of school years 1 and 2 age show the proportion of children in England who received the 2015/16 live attenuated intranasal vaccine (LAIV) from 1 September 2015 to 30 November 2015 was as follows: 40.9% in children school year 1 age (5-6 years) and 39.3% in children school year 2 age (6-7 years).
- Provisional data from the second monthly collection of influenza vaccine uptake in GP patients up to 30 November 2015 has been published. The [report](#) provides uptake at national, area team and CCG level.

Globally, influenza activity has increased in the Northern hemisphere but remains low in the Southern hemisphere.

- [Europe](#) updated on 01 January 2016 (Joint ECDC-WHO Influenza weekly update)

In week 52/2015, influenza activity remained low in most countries in the WHO European Region, with the majority reporting sporadic detections of influenza A(H1N1)pdm09, A(H3N2) and B viruses.

For the first time since week 40/2015, the proportion of influenza virus-positive sentinel surveillance specimens was over 10% for two consecutive weeks (11% in week 51 and 17% in week 52), confirming the start of the influenza season in week 51/2015.

Since week 40, approximately 2% of specimens from non-sentinel sources tested positive for influenza virus but the proportion was 12% for week 51/2015.

Since week 40/2015, 115 influenza-confirmed cases in hospitals have been reported, of which 76 were in intensive care units (ICUs). Of 76 influenza-confirmed cases in ICUs, 44 were type A viruses (not subtyped), 21 were A(H1N1)pdm09, seven influenza type B viruses and four A(H3N2).

The increase in virus detections seen since week 49 in sentinel and non-sentinel cases is due almost exclusively to influenza A(H1N1)pdm09. This subtype was detected more frequently than A(H3N2), and B/Victoria lineage was detected more frequently than B/Yamagata in both sentinel and non-sentinel specimens. Viruses characterized so far this season are genetically similar to the strains recommended for inclusion in this winter's trivalent or quadrivalent vaccine for the northern hemisphere.

- [United States of America](#) Updated on 04 January 2016 (Centre for Disease Control report)

During week 51, influenza activity increased slightly in the United States. The most frequently identified type reported to be influenza A with influenza A (H1N1)pdm09 viruses predominating.

Nationwide during week 51, the proportion of outpatient visits for influenza-like illness (ILI) was 2.6%, which is above the national baseline of 2.1%. Six of 10 regions reported ILI at or above region-specific baseline levels.

During week 51, 5.8% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.9% for week 51. No influenza-associated paediatric deaths were reported in week 51. A total of four influenza associated paediatric deaths have been reported during the 2015-2016 season.

- [Canada](#) Updated on 30 December 2015 (Public Health Agency report)

In week 50, influenza surveillance indicators in Canada revealed that influenza activity is on the rise nationally compared to previous weeks.

So far this season, influenza A(H3N2) has been the most common subtype affecting Canadians, however an increase in the number of influenza A(H1N1) cases has been noted over the past few weeks.

The percent positive for influenza detections decreased from 1.64% in week 49 to 2.42% in week 50. To date, 89% of influenza detections have been influenza A and the majority of those subtyped have been A(H3) (78%).

The national influenza-like-illness (ILI) consultation rate has increased from 21.0 per 1,000 visits in week 49 to 23.2 per 1,000 visits in week 50. In week 50, the highest ILI consultation rate was found in the 5-19 years of age and the lowest was found in the >65 years of age group.

To date this season, 18 laboratory-confirmed influenza-associated paediatric (≤ 16 years of age) hospitalizations have been reported by the Immunization Monitoring Program Active (IMPACT) network. Since the start of the 2015-16 season, 105 laboratory-confirmed influenza-associated hospitalizations were reported from participating provinces and territories. The majority (49%) of patients were ≥ 65 years of age.

- [Global influenza update](#) Updated on 28 December 2015 (WHO website)

Globally, influenza activity generally remained low in both hemispheres.

In a few countries in Central and Northern Asia, as well as in Eastern and Northern Europe, there were slight increases in influenza detections in recent weeks.

In Eastern Asia, the rest of Europe, North Africa and North America, influenza activity continued at low, inter-seasonal levels.

In southern and western Asia, Iran (Islamic Republic of) and Pakistan reported elevated influenza activity, predominantly influenza A(H1N1)pdm09. Oman reported increased influenza activity, predominantly due to influenza A(H1N1)pdm09 and influenza B viruses, while Bahrain reported a decline in influenza activity. Qatar also reported a decline in influenza activity but remained at elevated levels.

Few influenza virus detections were reported by countries in tropical Africa.

In tropical countries of the Americas, Central America and the Caribbean, respiratory virus activity remained at low levels, with the exception of Costa Rica (A(H3N2)), Cuba (A(H3N2)) and Nicaragua (A(H1N1)pdm09).

In tropical Asia, countries in South East Asia reported low influenza activity overall except Thailand where activity mainly due to B viruses continued to be reported.

In the temperate countries of the Southern Hemisphere, respiratory virus activity was generally low in recent weeks with low levels of influenza virus detections reported.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 40,491 specimens between 30 November 2015 and 13 December 2015. 2,590 were positive for influenza viruses, of which 2,158 (83.3%) were typed as influenza A and 432 (16.7%) as influenza B. Of the sub-typed influenza A viruses, 1,375 (82.7%) were influenza A(H1N1)pdm09 and 287 (17.3%) were influenza A(H3N2). Of the characterized B viruses, 100 (75.8%) belonged to the B-Yamagata lineage and 32 (24.2%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 14 December 2015 (WHO website)

Influenza A(H7N9) latest update on 17 December 2015

On [11 December 2015](#) the National Health and Family Planning Commission (NHFPC) of China notified WHO of 2 additional laboratory-confirmed cases of human infection with avian influenza A (H7N9) virus. For further updates and WHO travel and clinical management advice, please see the [WHO website](#).

Influenza A(H5N1)

From 2003 through 14 December 2015, 844 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to [WHO](#) from 16 countries. Of these cases, 449 have died. Influenza A(H5) viruses of various subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9) have been detected in birds in Africa, Asia, and Europe according to reports received by OIE. Although influenza A(H5) viruses have the potential to cause disease in humans, so far no human cases of infection with these viruses have been reported, with exception of the human infections with influenza A(H5N1) viruses and the four human infections with influenza A(H5N6) virus detected in China since 2014. Overall, the public health risk assessment for avian influenza A(H5) viruses remains unchanged since the assessment of [17 July 2015](#).

In recent weeks, highly pathogenic avian influenza A(H5) viruses of several subtypes have been detected in domestic birds in France. Based on preliminary data, at least one of these viruses has different origins than the influenza A(H5) viruses that have infected the human cases reported in the past. WHO is in contact with the animal health authorities to better understand these viruses and to more accurately assess the public health risk.

Influenza A(H5N6)

Between [30 December 2015 and 2 January 2016](#), the National Health and Family Planning Commission (NHFPC) of China notified WHO of 2 additional laboratory-confirmed cases of human infection with avian influenza (H5N6) virus. A total of six A(H5N6) have been reported so far around the world, with the first human infection reported in May 2014 in China's southwest province of Sichuan.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 04 January 2016

Between [29 November and 17 December 2015](#), the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 4 additional cases of Middle East Respiratory Syndrome-Coronavirus (MERS-CoV) infection, including two deaths.

On [23 December 2015](#), the Ministry of Health and Welfare in Korea declared that transmission of MERS-CoV in South Korea by WHO standards.

Up to 06 January 2016, 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 523 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,625 laboratory-confirmed cases of infection with MERS-CoV, including at least 586 related deaths. Further information on management and guidance of possible cases is available [online](#). The latest ECDC MERS-CoV risk assessment can be found [here](#), where it is highlighted that risk of widespread transmission of MERS-CoV remains low.

Acknowledgements

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