



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 18 2016 (ending 08 May 2016), influenza activity continues to decrease and has reached or nearing the expected baseline levels across surveillance schemes. Updated [guidance](#) on antiviral prescribing in secondary care when influenza A(H1N1)pdm09 is the dominant circulating strain has been published.**

- [Community influenza surveillance](#)
  - During week 18, respiratory indicators remained slightly above baseline levels.
  - Ten new acute respiratory outbreaks have been reported in the past 7 days. 1 outbreak was from a school where no test results were available. 4 outbreaks were from care homes where 1 tested positive for respiratory syncytial virus (RSV). 4 outbreaks were from hospitals where 2 tested positive for influenza B and 1 tested positive for influenza A (H1N1pdm09). 1 outbreak was reported from the other settings category where no test results were available.
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 18, the overall weekly influenza-like illness (ILI) GP consultation rate has decreased further, and is below the baseline threshold in England (5.9 per 100,000). In the devolved administrations, ILI rates have decreased across all the devolved administrations.
  - Through the GP In Hours surveillance system, GP consultations for ILI have continued to decrease.
- [Influenza-confirmed hospitalisations](#)
  - Nineteen new admissions to ICU/HDU with confirmed influenza (6 influenza A(H1N1)pdm09, 3 influenza A(unknown subtype) and 10 influenza B) were reported through the USSS mandatory ICU/HDU surveillance scheme across the UK (136 NHS Trusts in England) in week 18, a rate of 0.04 per 100,000, the same rate as for the previous week.
  - Twenty-eight new hospitalised confirmed influenza cases (5 influenza A(H1N1)pdm09, 2 influenza A(unknown subtype) and 21 influenza B) were reported through the USSS sentinel hospital network across England (16 NHS Trusts), a rate of 0.36 per 100,000 in week 18 compared to 0.44 per 100,000 the previous week.
  - Since week 40, seventy-three confirmed influenza admissions have been reported (63 influenza A(H1N1)pdm09, 6 influenza A(unknown subtype) and 4 influenza B) from the six Severe Respiratory Failure centres in the UK.
- [All-cause mortality data](#)
  - Up to week 18 2016 in England, excess mortality by date of death was seen in 15-64 year olds in weeks 52 to 53, 02 to 03, 05 to 07, 09 to 10, 12, 15 and 17-18 and in <5 year olds in week 05 and 15 with the EuroMoMo algorithm. In the devolved administrations, no significant excess was seen in week 18 2016.
- [Microbiological surveillance](#)
  - Eight samples tested positive for influenza (7 influenza B and 1 influenza A(H1N1)pdm09) through GP sentinel schemes across the UK, with an overall positivity of 25.0%, compared to 19.3% in the previous week.
  - Eighty-one influenza positive detections were recorded through the DataMart scheme (8 A(H1N1)pdm09, 3 A(H3), 5 A(not subtyped) and 65 influenza B). A positivity of 8.2% was seen in week 18, compared to 9.1% in week 17, with the highest positivity in 15-44 year olds (11.5%). This is above the all-age threshold for 2015/16 season of 7.4%.
- [Vaccination](#)
  - Up to week 04 2016 (31 January 2016) in 98.8% 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: 45.1% in under 65 years in a clinical risk group, 42.3% in pregnant women, 71.0% in 65+ year olds, 35.4% in all 2 year olds, 37.7% in all 3 year olds and 30.1% in all 4 year olds.
  - Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 50.8% were vaccinated by 29 February 2016 from 96.6% of Trusts, compared to 54.9% vaccinated in the previous season by 28 February 2015. The report is available [here](#).
  - Provisional data from the fourth 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 31 January 2016 was as follows: 53.6% in children school year 1 age (5-6 years) and 52.1% in children school year 2 age (6-7 years).
  - [WHO](#) have published their recommendations for the composition of the 2016/17 northern hemisphere influenza vaccine.
- [International situation](#)
  - Influenza activity in the Northern Hemisphere continued to decrease. A predominance of influenza B virus activity continued to be reported in parts of North America, in Northern Temperate Asia, South-East Asia and in parts of Europe.

During week 18, respiratory indicators remained slightly above baseline levels. Ten new acute respiratory outbreaks were reported in the past 7 days.

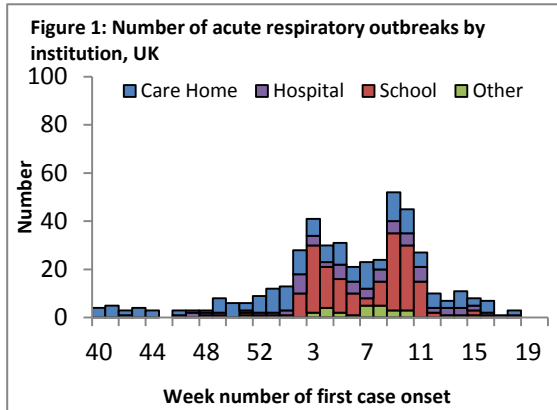
- PHE Real-time Syndromic Surveillance

- During week 18, respiratory indicators remained slightly above baseline levels.
- For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

- Ten new acute respiratory outbreaks have been reported in the past 7 days. 1 outbreak was from a school where no test results were available. 4 outbreaks were from care homes where 1 tested positive for respiratory syncytial virus (RSV). 4 outbreaks were from hospitals where 2 tested positive for influenza B and 1 tested positive for influenza A (H1N1)pdm09. 1 outbreak was reported from the other settings category where no test results were available.

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [Respscids@phe.gov.uk](mailto:Respscids@phe.gov.uk).

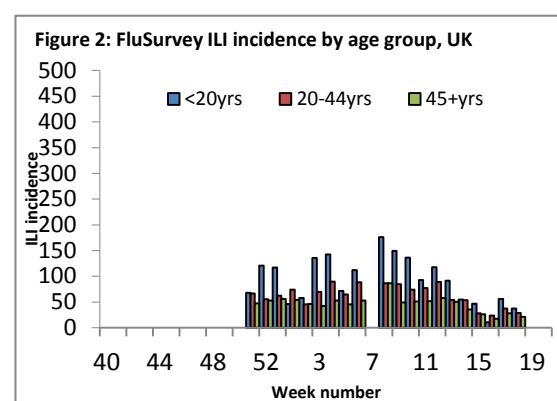


- FluSurvey

- 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.

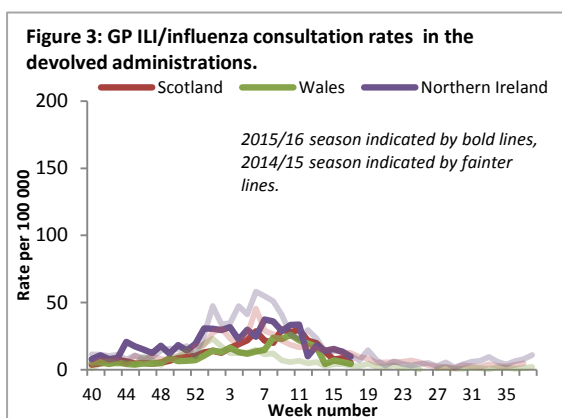
- The overall ILI rate (all age groups) for week 18 was 24.0 per 1,000 (54/2,251 people reported at least 1 ILI), with the <20 year age group reporting a higher rate of 37.7 per 1,000.

- 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.



In week 18, overall weekly influenza-like illness GP consultations has decreased and is below the baseline threshold in England. ILI rates have also decreased or remained similar in the devolved administrations.

- Influenza/Influenza-Like-Illness (ILI)



**NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 3 is an average of week 52 and week 53 data.

Northern Ireland

-The Northern Ireland influenza consultation rate has decreased at 9.7 per 100,000 in week 18 compared to 13.3 per 100,000 in week 17 (Figure 3). This remains below the baseline threshold (49.4 per 100,000).

-The highest rates were seen in the 45-64 year olds (15.8 per 100,000) and 75+ year olds (14.6 per 100,000).

### Wales

-The Welsh influenza rate has decreased at 4.2 in week 18 compared to 5.7 in week 17 (Figure 3). This is below the baseline threshold (10.3 per 100,000).

-The highest rates were seen in 15-44 year olds (8.0 per 100,000) and 45-64 year olds (4.8 per 100,000).

### Scotland

-The Scottish ILI rate has decreased at 5.4 per 100,000 in week 18 (Figure 3) compared to 8.5 per 100,000 in week 17. This remains below baseline threshold (37.0 per 100,000).

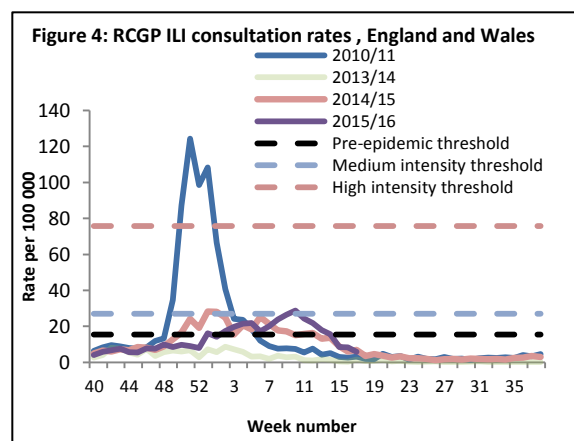
-The highest rates were seen in 15-44 year olds (7.0 per 100,000) and 45-64 year olds (6.2 per 100,000).

### RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is 5.9 per 100,000 in week 18 compared to 8.4 per 100,000 in week 17. This is below the baseline threshold (15.4 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 15-44 year olds (7.4 per 100,000) and 45-64 year olds (6.9 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.*

**NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 4 is an average of week 52 and week 53 data.



### GP In Hours Syndromic Surveillance System (England)

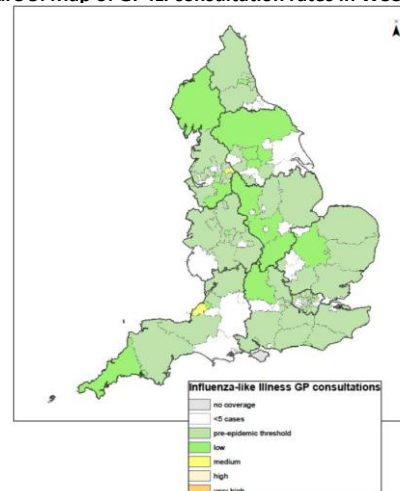
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system has decreased at 5.5 per 100,000 in week 18 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 18 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 18



### Influenza confirmed hospitalisations

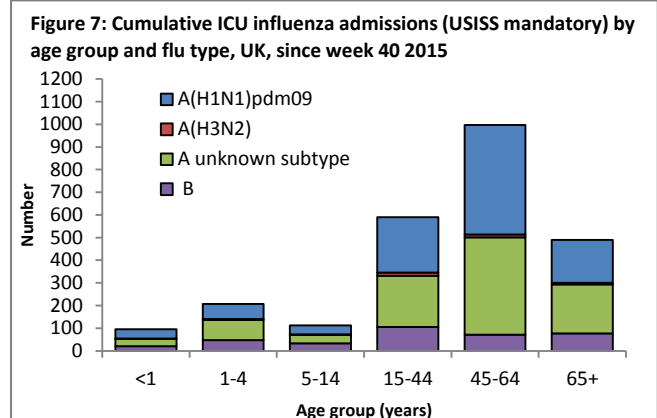
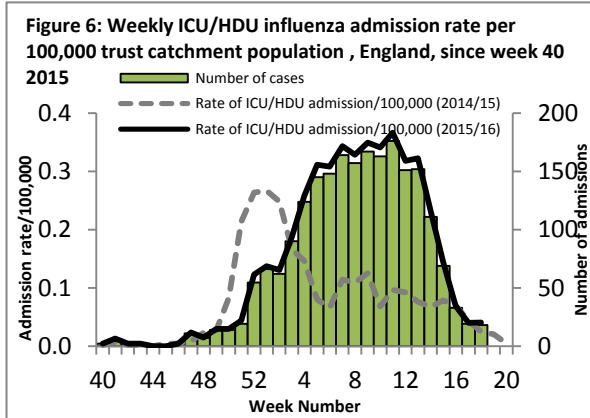
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In week 18, nineteen new admissions to ICU/HDU with confirmed influenza (6 influenza A(H1N1)pdm09, 3 influenza A(unknown subtype) and 10 influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (136 Trusts in England). Twenty-eight new hospitalised confirmed influenza cases (5 influenza A(H1N1)pdm09, 2 influenza A(unknown subtype) and 21 influenza B) were reported through the USISS sentinel hospital network across England (16 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 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 18)

- In week 18, nineteen new admissions to ICU/HDU with confirmed influenza (6 influenza A(H1N1)pdm09, 3 influenza A(unknown subtype) and 10 influenza B) were reported across the UK (136/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.04 per 100,000, the same rate as in the previous week. No new confirmed influenza deaths were also reported in week 18 2016. A total of 2,490 admissions (1,063 influenza A(H1N1)pdm09, 41 influenza A(H3N2), 1,033 influenza A (unknown subtype) and 353 influenza B) and 208 confirmed influenza deaths have been reported since week 40 2015.

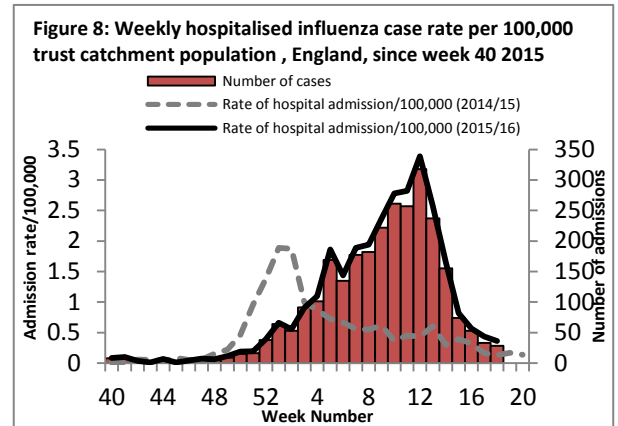


**NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 6 is an average of week 52 and week 53 data.

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 18)

- In week 18, twenty-eight new hospitalised confirmed influenza cases (5 influenza A(H1N1) pdm09, 2 influenza A(unknown subtype) and 21 influenza B) were reported through the USISS sentinel hospital network from 16 NHS Trusts across England (Figure 8), a rate of 0.36 per 100,000 compared to 0.44 per 100,000 the previous week. A total of 2,751 hospitalised confirmed influenza admissions (1,536 influenza A(H1N1)pdm09), 34 influenza A(H3N2), 397 influenza A (unknown subtype) and 784 influenza B) have been reported since week 40.

**NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 8 is an average of week 52 and week 53 data.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 18)

- In week 18, there were no new confirmed influenza admissions reported to the six Severe Respiratory Failure Centres in the UK. Since week 40, seventy-three confirmed influenza admissions have been reported (63 influenza A(H1N1)pdm09, 6 influenza A(unknown subtype) and 4 influenza B) from the six Severe Respiratory Failure centres in the UK.

### All-cause mortality data

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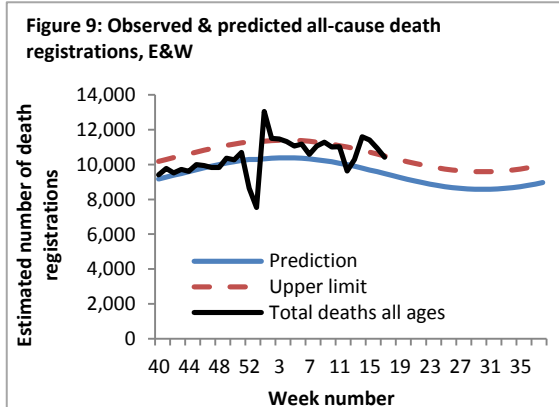
Up to week 18 2016 in England, excess mortality by date of death was seen in 15-64 year olds in weeks 52 to 53, 02 to 03, 05 to 07, 09 to 10, 12, 15 and 17-18 and in <5 year olds in weeks 05 and 15 with the EuroMoMo algorithm. In the devolved administrations, no significant excess was noted in week 18 2016.

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 17 2016, an estimated 10,413 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 10,925 estimated death registrations in week 16 2016, and is below the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9). The drops in the number of deaths in week 53 and week 13 correspond to weeks where there were bank holidays and fewer days when deaths were registered. Therefore these decreases are likely to be artificial.



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

-Up to week 18 2016 in England, excess mortality by date of death above the upper 2 z-score threshold was seen in 15-64 year olds in weeks 52 to 53, 02 to 03, 05 to 07, 09 to 10, 12, 15 and 17 to 18 and in <5 years olds in week 05 and 15 after correcting ONS disaggregate data for reporting delay with the standardised [EuroMoMo](#) algorithm (Table 1). No significant excess was seen in other age groups. This data is provisional due to the time delay in registration; numbers may vary from week to week.

- In the devolved administrations, no significant excess mortality above the threshold was seen in week 18 2016 (Table 2).

Table 2: Excess mortality by UK country\*

Country	Excess detected in week 18 2016?	Weeks with excess in 2015/16
England	✓	52-53, 02-03, 05-07, 09-10, 12, 15, 17-18
Wales	×	05, 08, 10
Scotland	×	48, 02, 04, 05, 07, 09
Northern Ireland	×	42, 43, 49, 52-53, 01, 09, 11

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

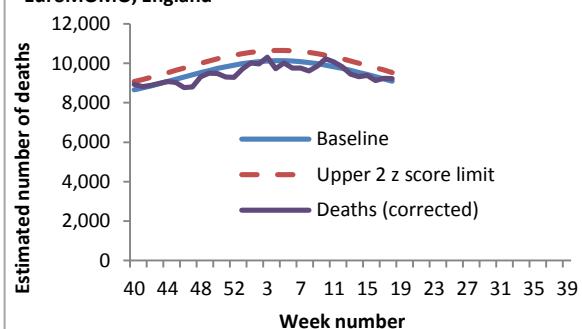
NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2

Table 1: Excess mortality by age group, England\*

Age group (years)	Excess detected in week 18 2016?	Weeks with excess in 2015/16
<5	×	05, 15
5-14	×	NA
15-64	✓	52-53, 02-03, 05-07, 09-10, 12, 15, 17-18
65+	×	NA

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

Figure 10: Excess mortality in all ages by week of death, EuroMOMO, England



## Microbiological surveillance

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In week 18 2016, eight samples tested for influenza through the UK GP sentinel schemes were positive. Eighty-one influenza positive detections were recorded through the DataMart scheme (8 A(H1N1)pdm09, 3 A(H3), 5 A(not subtyped) and 65 influenza B).

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

-In week 18, eight samples tested positive for influenza through the UK GP sentinel swabbing schemes. Of the eight samples, 7 tested positive for influenza B and 1 tested positive for influenza A(H1N1) pdm09 (Table 3).

Table 3: Sentinel influenza surveillance in the UK

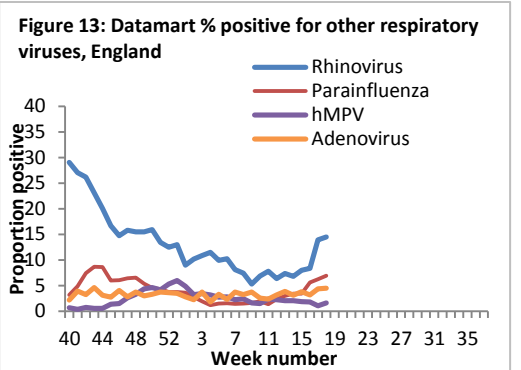
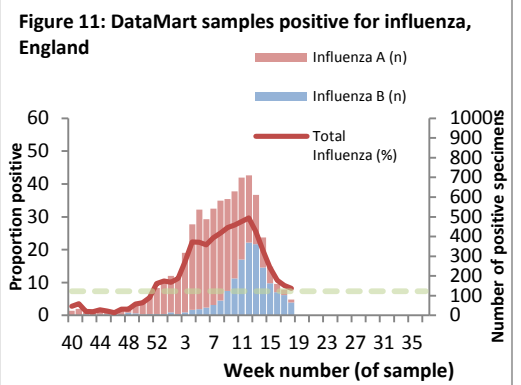
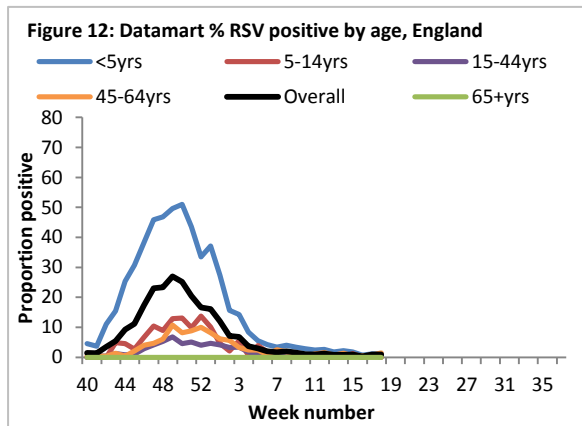
Week	England	Scotland	Northern Ireland	Wales
14	26/72 (36.1%)	11/42 (26.2%)	4/6 (-)	2/2 (-)
15	18/78 (23.1%)	11/41 (26.8%)	0/2 (-)	1/1 (-)
16	11/55 (20%)	7/40 (17.5%)	3/6 (-)	2/5 (-)
17	4/19 (21.1%)	5/32 (15.6%)	2/5 (-)	0/1 (-)
18	2/12 (16.7%)	3/14 (21.4%)	3/6 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested



- Respiratory DataMart System (England)

In week 18 2016, out of the 989 respiratory specimens reported through the Respiratory DataMart System, 81 samples (8.2%) were positive for influenza (8 A(H1N1)pdm09, 3 A(H3), 5 A(not subtyped) and 65 B) (Figure 11). The highest positivity was in the 15-44 year olds at 11.5%. The overall positivity for RSV remained at low levels, 0.9% in week 18 (Figure 12). Positivity for parainfluenza increased slightly at 6.9% in week 17. Positivity for rhinovirus increased to 14.5% and positivity for hMPV increased slightly at 1.6%. Adenovirus positivity remained low at 4.5% (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

Since the start of the 2015/16 winter influenza season in week 40 2015, the PHE Respiratory Virus Unit has characterised a total of 1116 A(H1N1)pdm09 influenza viruses; 317 genetically and 72 both antigenically and genetically. The A(H1N1)pdm09 viruses genetically characterised to date all belong in the genetic subgroup 6B, which was the predominant genetic subgroup in the 2014/15 season. Some heterogeneity has been seen in the A(H1N1)pdm09 viruses genetically characterised to date this season, with some genetic subgroups evident. Of 871 viruses analysed by HI assays to date, the majority were antigenically similar to the A/California/7/2009 Northern Hemisphere 2015/16 (H1N1)pdm09 vaccine strain. Antigenic characterisation data suggests that some antigenic drift variants appear to be circulating, but the majority of viruses antigenically characterised to date are similar to the (H1N1)pdm09 vaccine strain. Genetic characterisation of 21 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. Eight A(H3N2) influenza viruses have been isolated and antigenically characterised since week 38 2015. These eight viruses were antigenically similar to the A/Switzerland/9715293/2013 H3N2 Northern Hemisphere 2015/16 vaccine strain. Of 63 influenza B viruses analysed genetically since week 40/2015, 10 viruses have been characterised as belonging to the B/Yamagata/16/88-lineage and 53 viruses as belonging to the B/Victoria/2/87 lineage. One hundred and sixty six influenza B viruses have been isolated and antigenically characterised since week 40 2015. Seven viruses were characterised as belonging to the B/Yamagata/16/88-lineage and were antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2015/16 Northern Hemisphere trivalent and quadrivalent vaccines. One hundred and fifty nine 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 2015, 1886 influenza A(H1N1)pdm09, 10 influenza A(H3N2) and 80 influenza B have been tested for oseltamivir susceptibility with 12 influenza A(H1N1)pdm09 virus and 1 influenza A(H3N2) found to be resistant in the UK. Eight of the 12 influenza A(H1N1)pdm09 resistant samples have information on antiviral use, while the remaining four are still under investigation. Six of the 8 A(H1N1)pdm09 resistant samples were obtained from patients undergoing oseltamivir treatment and two cases had no exposure to oseltamivir. All A(H1N1)pdm09 resistance is due to the H275Y amino acid substitution. The A(H3N2) resistant sample was from an immunocompromised patient receiving oseltamivir treatment, with an E119V amino acid change. 499 influenza A(H1N1)pdm09 and 80 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 08 May 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 08 May 2016, E&W

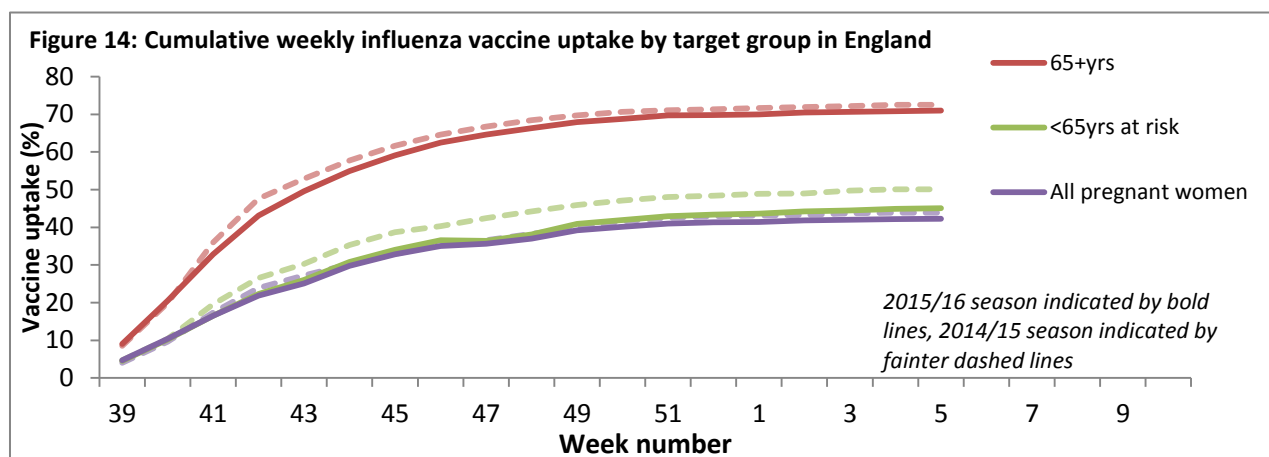
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,855	92
	Macrolides	3,120	82
	Tetracycline	3,006	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	13,391	70
	Co-amoxiclav	12,964	93
	Macrolides	4,325	22
	Tetracycline	13,223	98
<i>S. aureus</i>	Methicillin	4,181	87
	Macrolides	4,131	72
MRSA	Clindamycin	477	45
	Tetracycline	529	87
MSSA	Clindamycin	2,310	78
	Tetracycline	3,349	94

\*Macrolides = erythromycin, azithromycin and clarithromycin

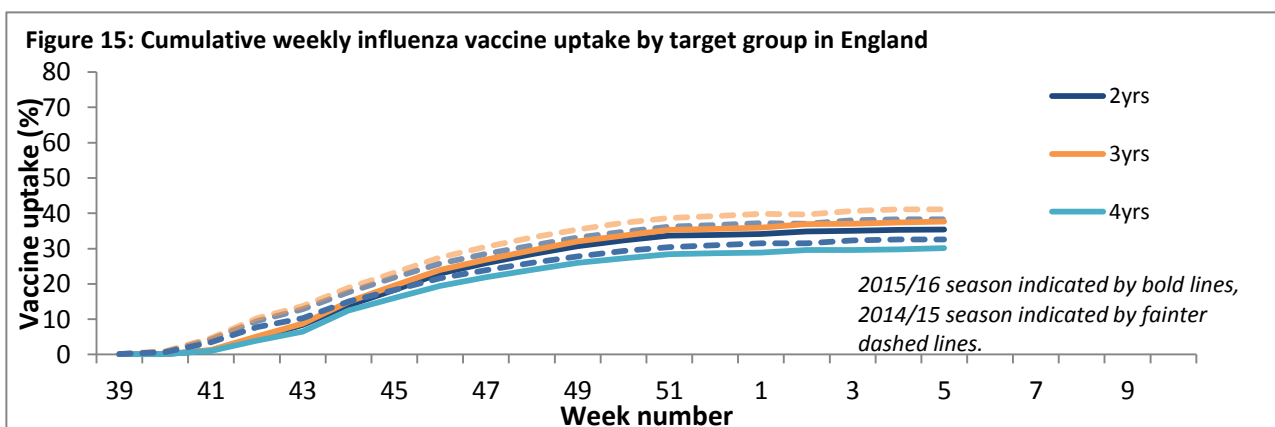
## Vaccination

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- Up to week 04 2016 in 98.8% 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):
  - 45.1% in under 65 years in a clinical risk group
  - 42.3% in pregnant women
  - 71.0% 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 04 2016 in 98.8% 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)
  - 35.4% in all 2 year olds
  - 37.7% in all 3 year olds
  - 30.1% in all 4 year olds



- Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 50.8% were vaccinated by 29 February 2016 from 96.6% of Trusts, compared to 54.9% vaccinated in the previous season by 28 February 2015. The [report](#) provides uptake at national, area team and CCG level.
- Provisional data from the fourth 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 31 January 2016 was as follows: 53.6% in children school year 1 age (5-6 years) and 52.1% in children school year 2 age (6-7 years).
- Provisional data from the fourth monthly collection of influenza vaccine uptake in GP patients up to 31 January 2016 has been published. The [report](#) provides uptake at national, area team and CCG level.

## International Situation

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**Influenza activity in the Northern Hemisphere continued to decrease. A predominance of influenza B virus activity continued to be reported in parts of North America, in Northern Temperate Asia, South-East Asia and in parts of Europe.**

- [Europe](#) updated on 04 May 2016 (Joint ECDC-WHO Influenza weekly update)

In week 17/2016, influenza activity continued to decrease in the WHO European Region. Most countries (92%) reported low intensity, with lower numbers of specimens being collected and fewer testing positive for influenza virus (14%) than in the previous week (22%).

For week 17/2016, 608 of the specimens from non-sentinel sources tested positive for influenza viruses. Of these, 24% contained type A viruses: A(H1N1)pdm09 accounted for 63% and A(H3N2) for 37% of those subtyped. Most type B viruses were not ascribed to a lineage; of those that were, B/Victoria-lineage viruses predominated (70%).

For week 17/2016, five countries or regions in the eastern part of the Region reported data on cases of severe acute respiratory infection (SARI) from sentinel systems. The trends for such cases were declining or stable.

- [United States of America](#) Updated on 06 May 2016 (Centre for Disease Control report)

During week 17, influenza activity decreased in the United States. The most frequently identified influenza virus type reported by public health laboratories during week 17 was influenza B. The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased.

Nationwide during week 17, the proportion of outpatient visits for influenza-like illness (ILI) was 1.8%, which is below the national baseline of 2.1%.

During week 17, 6.8% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.9% for week 16. Four influenza-associated paediatric deaths were reported in week 17.

- [Canada](#) Updated on 06 May 2016 (Public Health Agency report)

In week 17, all influenza indicators declined from the previous week.

In week 17, the percentage of tests positive for influenza continued to decrease from the previous week [from 18% in week 16 to 17% in week 17], driven by the decline in influenza A.

In week 17, the number of hospitalizations reported by participating provinces and territories decreased from the previous week (from 129 in week 16 to 93 in week 17)\*. Influenza B accounted for the greatest proportion of hospitalizations (63%) in week 17. The largest proportion of cases reported was in adults ≥65 years of age (43%). Among hospitalizations with influenza B, children represented 31% of cases.

The national ILI consultation rate decreased from the previous week from 36.1 per 1,000 patient visits in week 16, to 31.1 per 1,000 patient visits in week 17. The highest ILI consultation rate was found in the 5-19 years age group (53.8 per 1,000) and the lowest was found in the 20-64 years age group (24.4 per 1,000)

- [Global influenza update](#) Updated on 02 May 2016 (WHO website)

Influenza activity in the Northern Hemisphere continued to decrease. A predominance of influenza B virus activity continued to be reported in parts of North America, in Northern Temperate Asia, South-East Asia and in parts of Europe. In a few countries in the Southern Hemisphere, slight increases in influenza-like illness (ILI) activity were reported.



In North America, influenza activity continued to decrease with influenza A(H1N1)pdm09 and influenza B viruses co-circulating.

Europe and Northern temperate Asia reported influenza activity decreased with a continued predominance of influenza B virus activity.

In North Africa and West Africa, influenza activity continued to decrease, with influenza A virus predominant, while influenza activity remained low in the other regions in Africa.

In Central America and the Caribbean countries, influenza activity in general was low. In Jamaica, severe acute respiratory infection (SARI) continued to decrease but remained elevated. In Guatemala and El Salvador, an increase in influenza activity was reported mainly due to influenza A(H1N1)pdm09 virus.

In parts of tropical South America, low but increasing influenza A(H1N1)pdm09 activity was reported. In Brazil, influenza activity was already above expected levels for this time of year with influenza A(H1N1)pdm09 virus predominating. Respiratory syncytial virus (RSV) activity remained elevated in Colombia.

In tropical countries of South Asia, influenza activity remained low.

In Temperate South America, an increase in ILI and SARI activities were reported in Argentina and Paraguay.

In the rest of the temperate countries of the Southern Hemisphere, influenza virus activity remained low.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 105,838 specimens between 04 April 2016 and 17 April 2016. 20,933 were positive for influenza viruses, of which 9,821(46.9%) were typed as influenza A and 11,112 (53.1%) as influenza B. Of the sub-typed influenza A viruses, 3,758 (84.8%) were influenza A(H1N1)pdm09 and 673 (15.2%) were influenza A(H3N2). Of the characterized B viruses, 481 (17.7%) belonged to the B-Yamagata lineage and 2,231 (82.3%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 26 April 2016 (WHO website)

### **Influenza A(H5) viruses**

On [4 May 2016](#), the National Health and Family Planning Commission (NHFPC) of China notified WHO of an additional laboratory-confirmed case of human infection with avian influenza A(H5N6) virus.

Five new human A(H5) virus infections were notified to WHO between 25 February and 4 April 2016: four human cases of A(H5N1) virus infection were reported from Egypt and one human case of A(H5N6) virus infection was reported from China.

Since 2003, a total of 850 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 449 deaths, have been reported to WHO from 16 countries. In addition, a total of 11 laboratory-confirmed cases of human infection with avian influenza A(H5N6) virus, including 6 deaths, have been detected in China since 2013. Although other influenza A(H5) viruses have the potential to cause disease in humans, no human cases have been reported so far. According to reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9), continue to be detected in birds in West Africa, Europe and Asia. Overall, the public health risk assessment for avian influenza A(H5) viruses remains unchanged since the assessment of [17 July 2015](#).

### **Influenza A(H7N9)**

On [19 April 2016](#), the Department of Health, Hong Kong Special Administrative Region notified WHO of a confirmed, imported case of human infection with avian influenza A(H7N9) virus.

On [18 April 2016](#), the National Health and Family Planning Commission (NHFPC) of China notified WHO of 17 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 5 deaths.

A total of 752 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 295 deaths have been reported to WHO.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 27 April 2016

Between [19 and 23 April 2016](#), the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 3 additional cases of Middle East Respiratory Syndrome (MERS-CoV).

Up to 11 May 2016, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in the UK. On-going surveillance has identified 747 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,728 laboratory-confirmed cases of infection with MERS-CoV, including at least 624 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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### Weekly consultation rates in national sentinel schemes

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

### Community surveillance

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

### Disease severity and mortality data

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

### Vaccination

- Seasonal influenza vaccine programme ([Department of Health Book](#))
- Childhood flu programme information for healthcare practitioners ([Public Health England](#))
- 2015/16 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))