



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 13 2016 (ending 03 April 2016), allowing for Easter reporting breaks, influenza activity show signs of peaking however influenza continues to circulate 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 13, GP influenza-like consultations for influenza-like illness reported through the syndromic surveillance system have decreased but remain above baseline levels.
  - Nineteen new acute respiratory outbreaks have been reported in the past 7 days. 5 outbreaks were from schools. 7 outbreaks were from hospitals, where 4 tested positive for influenza A(not subtyped) and two for influenza B. 6 outbreaks were from care homes where one tested positive for influenza A(H1N1)pdm09 and one for influenza B. The 19th outbreak was from the other settings category (prison).
- [Overall weekly influenza GP consultation rates across the UK](#)
  - Due to the bank holiday in week 13 (ending 03 April 2016), GP surgeries were only open for four days – data should therefore be interpreted with caution.
  - In week 13, overall weekly influenza-like illness (ILI) GP consultation rate has decreased, but remains above the baseline threshold in England (21.8 per 100,000). In the devolved administrations, the ILI rates for Scotland (21.8 per 100,000), Wales (19.1 per 100,000) and Northern Ireland (10.0 per 100,000) have decreased in week 13.
  - Through the GP In Hours surveillance system, weekly ILI rates remain above baseline levels in week 12.
- [Influenza-confirmed hospitalisations](#)
  - One hundred and twenty-five new admissions to ICU/HDU with confirmed influenza (forty-five influenza A(H1N1)pdm09, thirty-nine influenza A(unknown subtype), four influenza A(H3N2) and thirty-seven influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (122 NHS Trusts in England) in week 13, a rate of 0.27 per 100,000, compared to 0.32 per 100,000 in week 12. Eleven new confirmed influenza deaths were also reported through this scheme.
  - One hundred and thirty-four new hospitalised confirmed influenza cases (forty-two influenza A(H1N1)pdm09, seventeen influenza A(unknown subtype) and seventy-five influenza B) were reported through the USISS sentinel hospital network across England (18 NHS Trusts), a rate of 1.75 per 100,000 in week 13 compared to 2.75 per 100,000 the previous week.
  - Since week 40, sixty-seven confirmed influenza admissions have been reported (fifty-nine influenza A(H1N1)pdm09, six influenza A(unknown subtype) and two influenza B) from the six Severe Respiratory Failure centres in the UK.
- [All-cause mortality data](#)
  - Up to week 13 2016 in England, excess mortality by date of death has been seen in 15-64 year olds from week 52 to 03, 05 to 07, 09 to 10 and 12 to 13; in <5 year olds in weeks 51 and 05, and 5-14 year olds in week 51 with the EuroMoMo algorithm. In the devolved administrations, significant excess was seen only in Northern Ireland (15-64 year olds) in week 13 2016.
- [Microbiological surveillance](#)
  - Thirty samples tested positive for influenza (7 influenza A(H1N1)pdm09, 1 influenza A(untyped), 3 influenza A(H3N2) and 19 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 35.3%, compared to 44.1% in the previous week.
  - Four hundred and eighteen influenza positive detections were recorded through the DataMart scheme (one hundred and twenty-four A(H1N1)pdm09, seven A(H3), thirty-five A(not subtyped) and two hundred and fifty-two influenza B). A positivity of 23.0% was seen in week 13, compared to 28.1% in week 12, with the highest positivity in 15-44 year olds (29.3%). 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](#)
  - Globally, elevated levels of influenza activity continued to be reported in the Northern Hemisphere with influenza B virus detections increasing.

**During week 13, GP influenza-like consultations for influenza-like illness reported through the syndromic surveillance system have decreased but remain above baseline levels. Nineteen new acute respiratory outbreaks were reported in the past 7 days.**

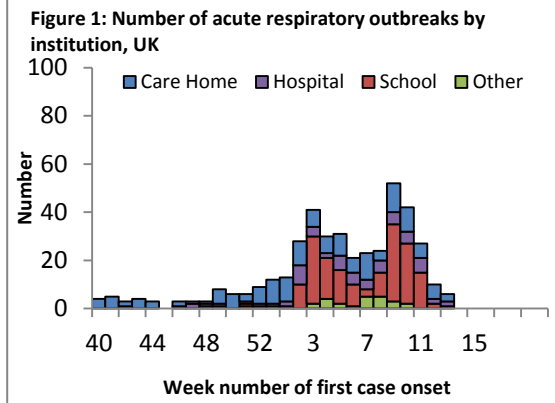
- PHE Real-time Syndromic Surveillance

- In week 13, selected respiratory indicators such as GP consultations for ILI have decreased; though remain above seasonal baseline levels across all systems. The highest GP ILI rates were observed in the south west
- For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

- 19 new acute respiratory outbreaks have been reported in the past 7 days. 5 outbreaks were from schools. 7 outbreaks were from hospitals, where 4 tested positive for influenza A(not subtyped) and 2 for influenza B. 6 outbreaks were from care homes where one tested positive for influenza A(H1N1)pdm09 and 1 for influenza B. The 19th outbreak was from the other settings category, a prison.

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

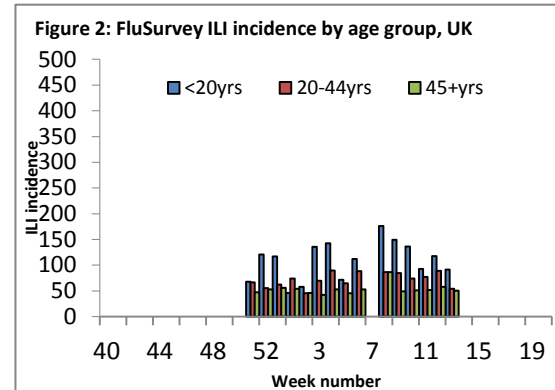


- FluSurvey

- 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.

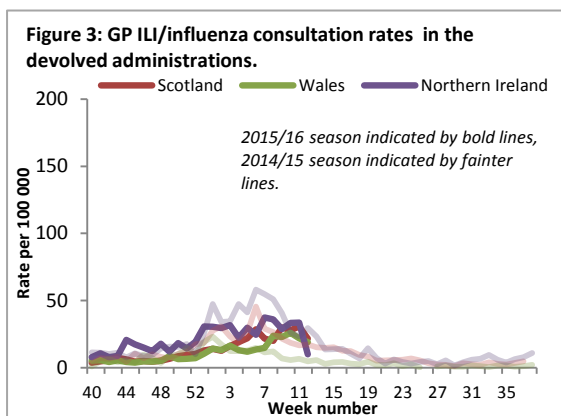
- The overall ILI rate (all age groups) for week 13 was 53.5 per 1,000 (120/2,441 people reported at least 1 ILI), with the <20 year age group reporting a higher rate of 91.8 per 1,000.

- 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 13, overall weekly influenza-like illness GP consultations have decreased but remained above the baseline threshold in England. ILI rates have also decreased in all 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 decreased at 10.0 per 100,000 in week 13 compared to 33.7 per 100,000 in week 12 (Figure 3). This remains below the baseline threshold (49.4 per 100,000).

-The highest rates were seen in the 45-64 year olds (15.4 per 100,000) and 15-44 year olds (10.1 per 100,000).

### Wales

-The Welsh influenza rate has decreased at 19.1 in week 13 compared to 22.0 in week 12 (Figure 3). This remains above the baseline threshold (10.3 per 100,000).

-The highest rates were seen in 15-44 year olds (25.3 per 100,000) and 45-64 year olds (23.5 per 100,000).

### Scotland

-The Scottish ILI rate has decreased at 21.8 per 100,000 in week 13 (Figure 3) compared to 29.9 per 100,000 in week 12. This remains below baseline threshold (37.0 per 100,000).

-The highest rates were seen in 15-44 year olds (28.4 per 100,000) and in 45-64 year olds (26.9 per 100,000).

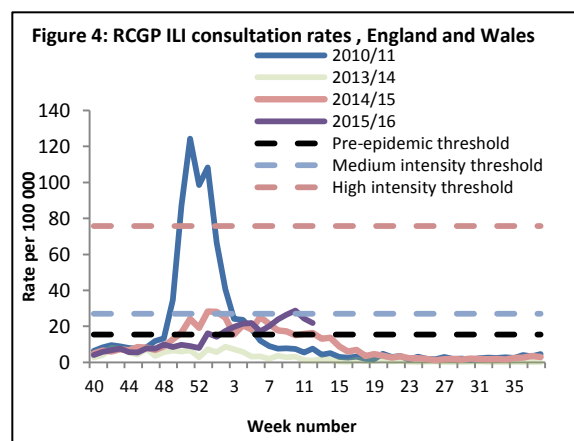
### RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is 21.8 per 100,000 in week 13 compared to 24.4 per 100,000 in week 12. This remains above the baseline threshold (15.4 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 15-44 year olds (25.5 per 100,000) and 45-64 year olds (21.0 per 100,000).

- Due to bank holidays in week 13 (ending 03 April 2016), GP surgeries were only open for four 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.*

**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)

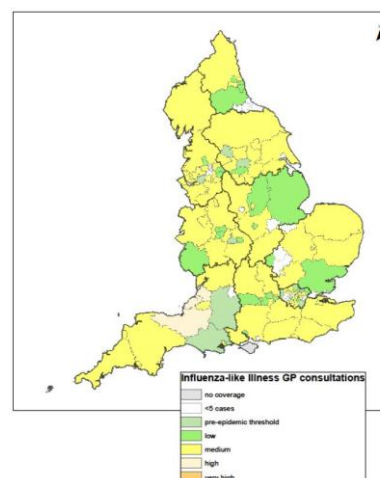
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system has decreased slightly at 17.7 per 100,000 in week 13 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 13 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 13



## Influenza confirmed hospitalisations

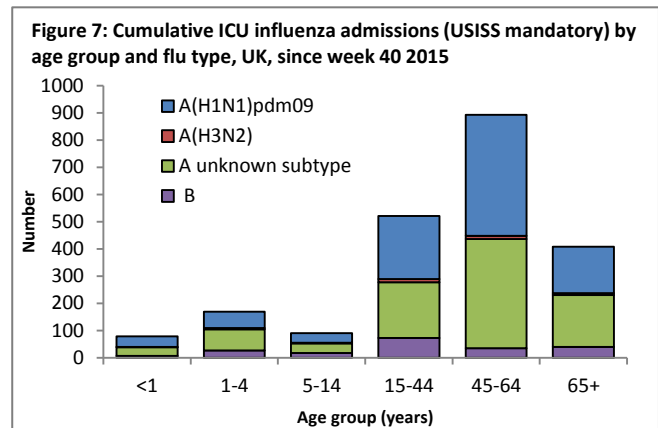
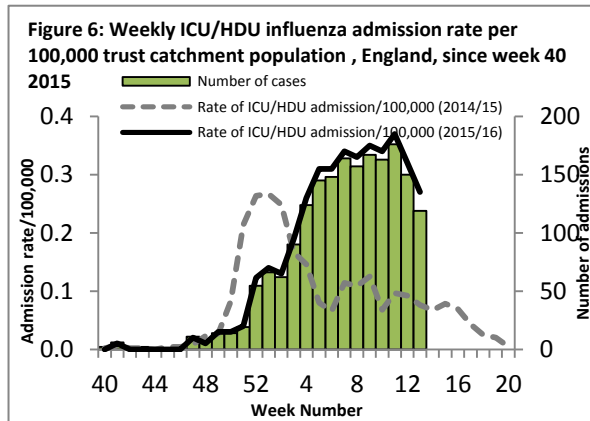
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**In week 13, one hundred and twenty-five new admissions to ICU/HDU with confirmed influenza (45 influenza A(H1N1)pdm09, 39 influenza A(unknown subtype), 4 influenza A(H3N2) and 37 influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (122 Trusts in England). One hundred and thirty-four new hospitalised confirmed influenza cases (42 influenza A(H1N1)pdm09, 17 influenza A(unknown subtype) and 75 influenza B) were reported through the USISS sentinel hospital network across England (18 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 13)

- In week 13, one hundred and twenty-five new admissions to ICU/HDU with confirmed influenza (45 influenza A(H1N1)pdm09, 39 influenza A(unknown subtype), 4 influenza A(H3N2) and 39 influenza B) were reported across the UK (122/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.27 per 100,000, compared to 0.32 in the previous week. Eleven new confirmed influenza deaths were also reported in week 13 2016. A total of 2,160 admissions (983 influenza A(H1N1)pdm09, 39 influenza A(H3N2), 940 influenza A (unknown subtype) and 198 influenza B) and 182 confirmed influenza deaths have been reported since week 40 2015.

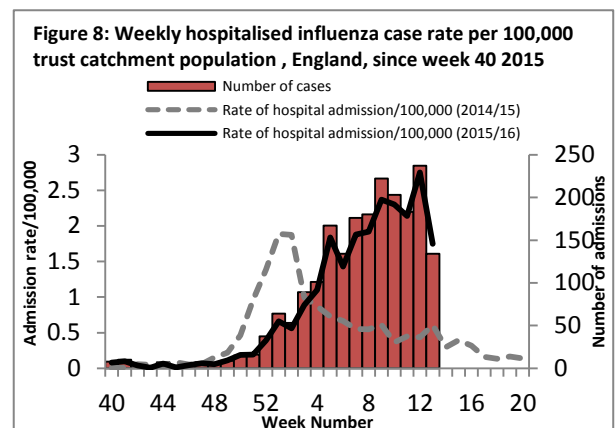


**NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 6 is an average of week 52 and week 53 data.

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 13)

- In week 13, one hundred and thirty-four new hospitalised confirmed influenza cases (42 influenza A(H1N1) pdm09, 17 influenza A(unknown subtype) and 75 influenza B) were reported through the USISS sentinel hospital network from 18 NHS Trusts across England (Figure 8), a rate of 1.75 per 100,000 compared to 2.75 per 100,000 the previous week. A total of 2,089 hospitalised confirmed influenza admissions (1,271 influenza A(H1N1)pdm09), 32 influenza A(H3N2), 343 influenza A (unknown subtype) and 443 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 13)

- In week 13, three new confirmed influenza admissions were reported to the six Severe Respiratory Failure Centres in the UK (3 influenza A(H1N1)pdm09). Since week 40, sixty-seven confirmed influenza admissions have been reported (59 influenza A(H1N1)pdm09, 6 influenza A(unknown subtype) and 2 influenza B) from the six Severe Respiratory Failure centres in the UK.

## All-cause mortality data

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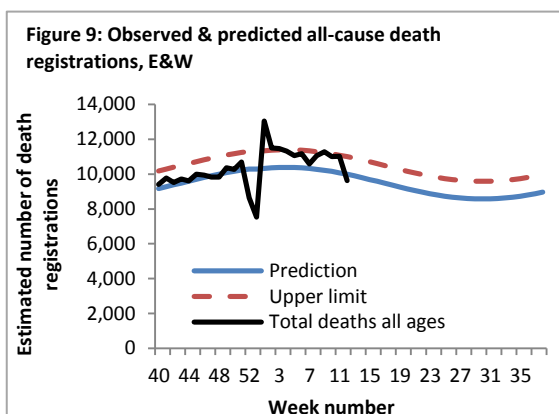
Up to week 13 2016 in England, excess mortality by date of death has been seen in 15-64 year olds from week 52 to 03, 05 to 07, 09 to 10 and 12 to 13; in <5 year olds in weeks 51 and 05 and in 5-14 year olds in week 51 with the EuroMoMo algorithm. In the devolved administrations, significant excess was noted in Northern Ireland (15-64 year olds) for week 13 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 12 2016, an estimated 9,635 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 11,022 estimated death registrations in week 11 2016, and is below the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9). The sharp drop in the number of deaths in week 53 corresponds to a week where there were bank holidays and fewer days when deaths were registered. Therefore this drop is likely to be artificial.



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

-Up to week 13 2016 in England, excess mortality by date of death above the upper 2 z-score threshold has been seen in 15-64 year olds from week 52 to 03, 05 to 07, 09 to 10 and 12 to 13; in <5 years olds in weeks 51 and 05, and in 5-14 year olds in week 51 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, significant excess mortality above the threshold was seen in Northern Ireland (15-64 year olds) in week 13 2016 (Table 2).

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

Age group (years)	Excess detected in week 13 2016?	Weeks with excess in 2015/16
<5	x	51
5-14	x	51
15-64	✓	52-03, 05-07, 09,10,12,13
65+	x	NA

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

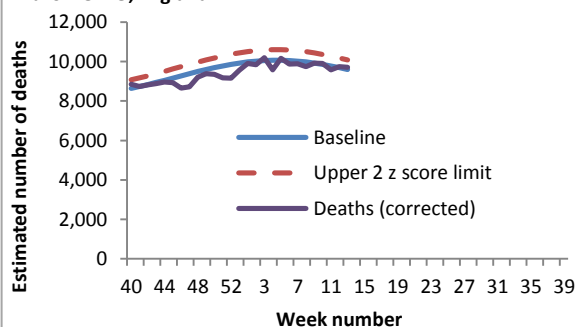
Table 2: Excess mortality by UK country\*

Country	Excess detected in week 13 2016?	Weeks with excess in 2015/16
England	✓	52-03, 05-07, 09,10,12,13
Wales	x	51,04,05,10
Scotland	x	48,02,04-05,07,09
Northern Ireland	✓	49-50,52,53,01-03,07,09,11-13

\* 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 all ages by week of death, EuroMOMO, England



## Microbiological surveillance

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In week 13 2016, thirty samples tested for influenza through the UK GP sentinel schemes were positive. Four hundred and eighteen influenza positive detections were recorded through the DataMart scheme (one hundred and twenty-four A(H1N1)pdm09, seven A(H3), thirty-five A(not subtyped) and two hundred and fifty-two influenza B).

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

-In week 13, thirty samples tested positive for influenza through the UK GP sentinel swabbing schemes. Of the thirty samples, seven tested positive for influenza A(H1N1)pdm09, three tested positive for influenza A(H3N2), one tested positive for influenza A(untyped) and sixteen for influenza B (Table 3).

Table 3: Sentinel influenza surveillance in the UK

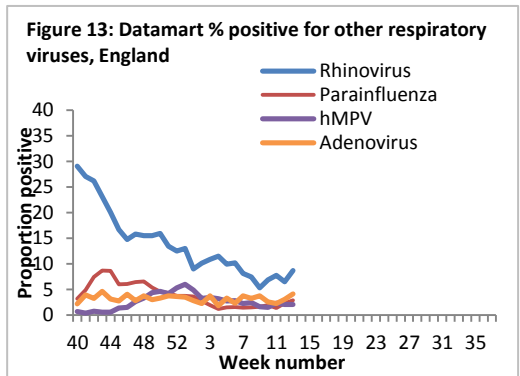
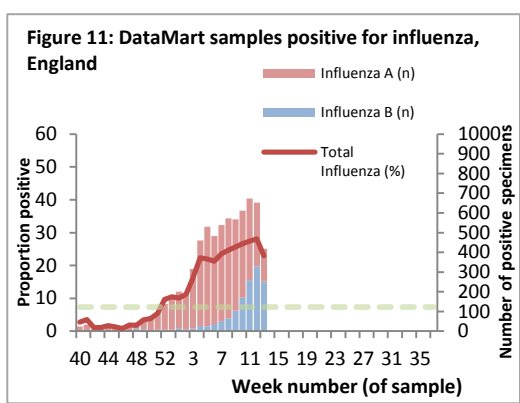
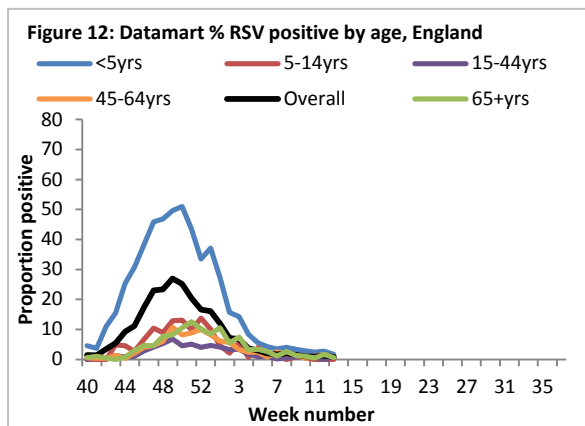
Week	England	Scotland	Northern Ireland	Wales
09	58/153 (37.9%)	32/95 (33.7%)	5/10 (50%)	12/14 (85.7%)
10	106/194 (54.6%)	21/90 (23.3%)	14/18 (77.8%)	6/9 (-)
11	80/129 (62%)	30/102 (29.4%)	6/9 (-)	11/17 (64.7%)
12	82/149 (55%)	23/81 (28.4%)	8/14 (57.1%)	2/4 (-)
13	20/44 (45.5%)	3/29 (10.3%)	0/1 (-)	7/11 (63.6%)

NB. Proportion positive omitted when fewer than 10 specimens tested



- Respiratory DataMart System (England)

In week 13 2016, out of the 1,820 respiratory specimens reported through the Respiratory DataMart System, 418 samples (23.0%) were positive for influenza (124 A(H1N1)pdm09, 7 A(H3), 35 A(not subtyped) and 252 B) (Figure 11). The highest positivity was in the 15-44 year olds at 29.3%. The overall positivity for RSV remained at low levels, 0.9% in week 13 (Figure 12). Positivity for parainfluenza remained low at 2.8% in week 13. Positivity for rhinovirus remained low at 8.7% and positivity for hMPV remained low at 2.1%. Adenovirus positivity increased to 4.1% (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 917 A(H1N1)pdm09 influenza viruses; 248 genetically and 67 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 736 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. 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. Of 41 influenza B viruses analysed genetically since week 40/2015, 9 viruses have been characterised as belonging to the B/Yamagata/16/88-lineage and 32 viruses as belonging to the B/Victoria/2/87 lineage. Thirty-two influenza B viruses have been isolated and antigenically characterised since week 40 2015. Five 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. Twenty-seven 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, 1703 influenza A(H1N1)pdm09, seven influenza A(H3N2) and 40 influenza B have been tested for oseltamivir susceptibility with ten influenza A(H1N1)pdm09 virus and one influenza A(H3N2) found to be resistant in the UK. Eight of the 10 A(H1N1) resistant samples have information on antiviral use, while the remaining two 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. 321 influenza A(H1N1)pdm09 and 27 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 April 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 April 2016, E&W**

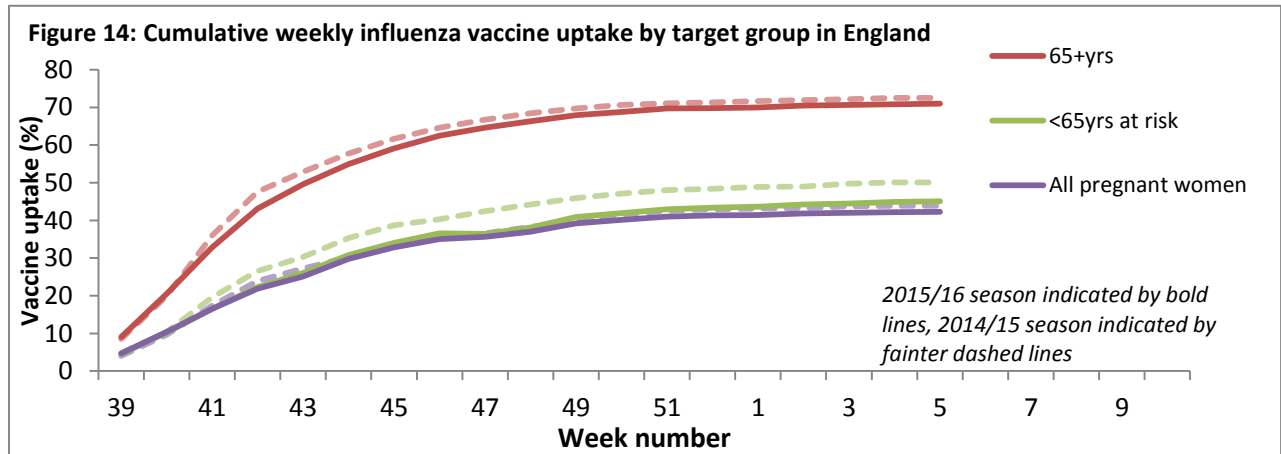
Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,966	92
	Macrolides	3,252	82
	Tetracycline	3,113	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	13,947	71
	Co-amoxiclav	13,431	93
	Macrolides	4,473	24
	Tetracycline	13,709	99
<i>S. aureus</i>	Methicillin	4,199	89
	Macrolides	4,148	72
MRSA	Clindamycin	402	45
	Tetracycline	463	86
MSSA	Clindamycin	2,386	79
	Tetracycline	3,433	93

\*Macrolides = erythromycin, azithromycin and clarithromycin

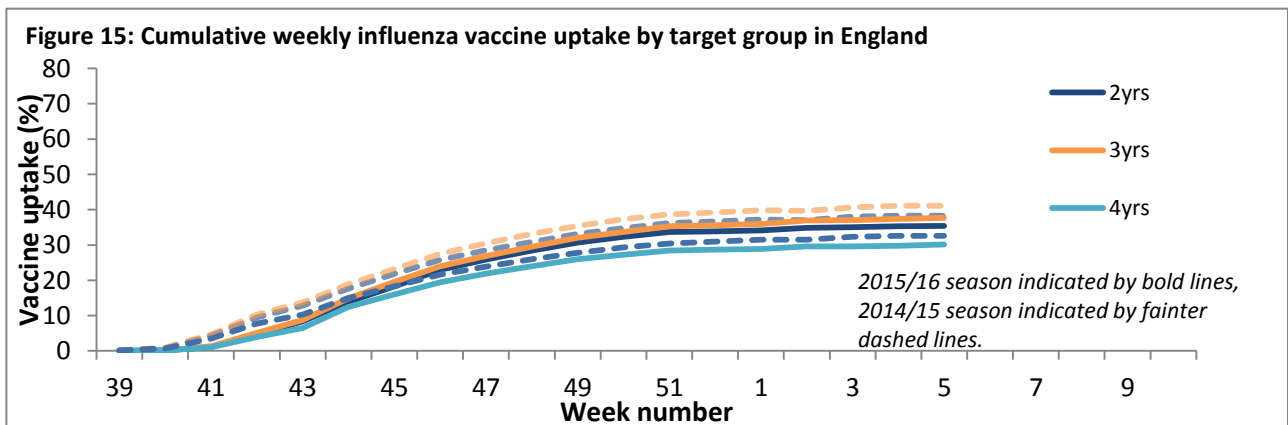
## Vaccination

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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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**Globally, elevated levels of influenza activity continued to be reported in the Northern Hemisphere with influenza A(H1N1)pdm09 being the predominant strain. Influenza B virus detections have been increasing the Northern Hemisphere.**

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

For week 12/2016, of 41 countries that reported epidemiological data, 14 indicated medium-intensity influenza activity and 27 reported low-intensity and decreasing activity. Influenza was still reported as widespread in the southern and western part of the WHO European region.

For week 12/2016, 46% of the specimens from sentinel sources tested positive for influenza viruses. Of 27 countries in which 10 or more sentinel specimens were tested, 21 had positivity rates higher than 30%.

Of the positive specimens, 33% (versus 34% for week 11/2016) contained type A virus, with A(H1N1)pdm09 viruses accounting for 89% of subtyped A viruses. Of B viruses ascribed to a lineage, 98% were B/Victoria lineage.

The proportions of type A viruses detected in hospitalized patients were 70% in intensive care units (ICUs) and 61% in regular wards.

The ECDC mid-season [risk assessment](#) has now been published for this season 2015/16.

- [United States of America](#) Updated on 01 April 2016 (Centre for Disease Control report)

During week 12, influenza activity decreased slightly, but remained elevated in the United States. The most frequently identified type reported to be influenza A with influenza A (H1N1)pdm09 viruses predominating.

Nationwide during week 12, the proportion of outpatient visits for influenza-like illness (ILI) was 2.9%, which is above the national baseline of 2.1%.

The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased.

During week 12, 7.7% 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 12. Three influenza-associated paediatric deaths were reported in week 12.

- [Canada](#) Updated on 01 April 2016 (Public Health Agency report)

Overall in week 12, influenza activity has decreased for the second consecutive week across Canada.

In week 12, the percent positive for influenza continued to decrease from the previous week [from 31% in week 11 to 30% in week 12]. The number of positive influenza B tests reported continues to increase, but still accounted for only 30% of positive influenza tests in week 12.

Hospitalizations, ICU admissions and deaths among the paediatric population, while declining, remain above expected levels based on the past several influenza seasons.

The national ILI consultation rate decreased from the previous week from 53.6 per 1,000 patient visits in week 11, to 43.6 per 1,000 patient visits in week 12. The highest ILI consultation rate was found in the 5-19 years age group (84.2 per 1,000) and the lowest was found in the ≥65 years age group (14.7 per 1,000).



- [Global influenza update](#) Updated on 04 April 2016 (WHO website)

Globally, elevated levels of influenza activity continued to be reported in North America, in parts of Europe and in Northern Temperate Asia. An increase in influenza B virus activity has been reported in Northern Temperate Asia, South East Asia and Europe.

In North America, influenza activity has peaked and remained elevated with influenza A(H1N1)pdm09 virus predominating. Canada reported increased detections of influenza B virus.

In Europe, high level of influenza activity was still reported with increasing detections of influenza B virus. In most countries influenza activity seemed to have peaked.

Northern Temperate Asia continued to report ongoing and elevated levels of influenza with increasing proportions of influenza B.

In western Asia, influenza activity continued to decline as seen in previous reporting weeks.

In Central America and the Caribbean, Jamaica reported elevated SARI activity associated with influenza A(H1N1)pdm09 virus infection. High influenza activity due to influenza A(H1N1)pdm09 was reported in Guatemala.

In tropical South America, influenza activity in Brazil continued to remain high with influenza A(H1N1)pdm09 predominating. Elevated SARI activity associated with respiratory syncytial virus (RSV) infection was reported in Ecuador.

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

Based on FluNet reporting, the WHO GISRS laboratories tested more than 138,525 specimens between 07 March 2016 and 20 March 2016. 40,448 were positive for influenza viruses, of which 24,973 (61.7%) were typed as influenza A and 15,475 (38.3%) as influenza B. Of the sub-typed influenza A viruses, 10,087 (87.5%) were influenza A(H1N1)pdm09 and 1,442 (12.5%) were influenza A(H3N2). Of the characterized B viruses, 862 (18.3%) belonged to the B-Yamagata lineage and 3,836 (81.7%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 29 March 2016 (WHO website)

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

Since 2003, a total of 846 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 10 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(H5N6)**

On [15 March 2016](#), the National Health and Family Planning Commission (NHFP) of China notified WHO of 1 additional laboratory-confirmed case of human infection with avian influenza A(H5N6).

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

On [18 March 2016](#), the National Health and Family Planning Commission (NHFP) of China notified WHO of 29 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus, including 11 deaths.

On [23 February 2016](#), the Department of Health (DH), Hong Kong Special Administrative Region (SAR) notified WHO of an additional laboratory-confirmed case of human infection with avian influenza A (H7N9) virus. For further updates and WHO travel and clinical management advice, please see the [WHO website](#).

Since the last WHO Influenza update on 20 January 2016, 28 new laboratory-confirmed human cases of avian influenza A(H7N9) virus infection were reported to [WHO](#). The majority of cases were exposed to live poultry or live poultry markets. A total of 722 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 286 deaths have been reported to WHO.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 16 March 2016

Between [15 and 16 March 2016](#), 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 1 death.

On [21 February 2016](#), the National IHR Focal Point of Qatar notified WHO of 1 additional case of Middle East respiratory syndrome coronavirus (MERS-CoV) infection.

Up to 06 April 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 710 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,698 laboratory-confirmed cases of infection with MERS-CoV, including at least 609 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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This report was prepared by the Influenza section, Respiratory Diseases Department, Centre for Infectious Disease Surveillance and Control, Public Health England. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the PHE Real-time Syndromic Surveillance team, the PHE Respiratory Virus Unit, the PHE Modelling and Statistics unit, the PHE Dept. of Healthcare Associated Infection & Antimicrobial Resistance, PHE regional microbiology laboratories, NHS Direct, Office for National Statistics, the Department of Health, Health Protection Scotland, National Public Health Service (Wales), the Public Health Agency Northern Ireland, the Northern Ireland Statistics and Research Agency, QSurveillance<sup>®</sup> and EMIS and EMIS practices contributing to the QSurveillance<sup>®</sup> database.

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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](#))