



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.

| [Summary](#) | [Community surveillance](#) | [GP consultation rates](#) | [Hospitalisations](#) | [All-cause mortality](#) | [Microbiological surveillance](#) | [Vaccination](#) | [International](#) | [Acknowledgements](#) | [Related links](#) |

#### Summary

**During week 46 (ending 20 November 2016), influenza activity is at low levels and Respiratory Syncytial Virus (RSV) continues to circulate.**

- [Community influenza surveillance](#)
  - Through the GP In Hours Syndromic Surveillance system, GP consultations increased further for a range of respiratory conditions, with lower respiratory tract infection and severe asthma being above seasonal baselines.
  - Sixteen new acute respiratory outbreaks have been reported in the past 7 days. Thirteen outbreaks were from care homes, where one tested positive for RSV and one for rhinovirus but no test results were available for the remaining. Two outbreaks were from schools where one tested positive for influenza A(H3N2). The remaining outbreak was in the other settings category, in a nursery with no test results available.
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 46, the overall weekly influenza-like illness (ILI) GP consultation rate was 7.3 per 100,000 in England compared to 6.4 per 100,000 in the previous week below the pre-epidemic threshold. ILI rates were low in the devolved administrations.
- [Influenza-confirmed hospitalisations](#)
  - In week 46, there were five admissions to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09, 1 influenza A(H3N2), 2 influenza A(not subtyped) and 1 influenza B) were reported across the UK (121/156 Trusts in England) through the USISS mandatory ICU scheme.
  - In week 46, one hospitalised confirmed influenza case (influenza A(H3N2)) was reported through the USISS sentinel hospital network (14 NHS Trusts across England).
  - No confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 46.
- [All-cause mortality data](#)
  - In week 46 2016, 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](#)
  - Eight samples tested positive for influenza (3 influenza A(H3N2), 2 influenza A(unknown subtype), 1 influenza A(H1N1)pdm09 and 2 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 6.1% in week 46.
  - Twenty influenza positive detections were recorded through the DataMart scheme (18 influenza A(H3N2), 1 influenza A(H1N1)pdm09 and 1 influenza B). A positivity of 1.6% was seen in week 45, with the highest positivity seen in the 5-14 year olds (2.9%). This is below the all-age threshold for 2016/17 season of 8.6%.
  - Through the DataMart scheme, RSV continues to circulate with an overall positivity of 19.9% in week 46 compared to 13.9% in week 45. The highest positivity was in the <5 year olds at 43.1% in week 46.
- [Vaccination](#)
  - Up to week 46 2016, in 90.2% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows: 40.9% in under 65 years in a clinical risk group, 38.8% in pregnant women, 64.5% in 65+ year olds. In 93.1% of GP practices reporting to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine was as follows: 30.5% in all 2 year olds, 31.9% in all 3 year olds and 25.4% in all 4 year olds.
  - Provisional data from the first monthly collection of influenza vaccine uptake in GP patients up to 31 October 2016 has been published. The report provides uptake at national, Area Team (AT), Clinical commissioning Group (CCG) and by Local Authority (LA) levels.
  - Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 40.4% were vaccinated by 31 October 2016, compared to 32.4% vaccinated in the previous season by 31 October 2015.
  - Provisional data from the first monthly collection of influenza vaccine uptake for children of school years 1, 2 and 3 age show the provisional proportion of children in England who received the 2016/17 influenza vaccine via school, pharmacy or GP practice by 31 October 2016 in targeted groups was as follows: 14.5% in children of school Year 1 age (5-6 years); 13.9% in children of school Year 2 age (6-7 years); 13.2% in children of school Year 3 age (7-8 years).
- [International situation](#)
  - Globally, influenza activity in temperate southern hemisphere countries is back at inter-seasonal levels. Influenza activity in the temperate zone of the northern hemisphere remains at inter-seasonal levels.

During week 46, there have been further increases in GP consultations for a range of respiratory conditions, with lower respiratory tract infection and severe asthma being above seasonal baselines. Sixteen new acute respiratory outbreaks were reported in the past 7 days.

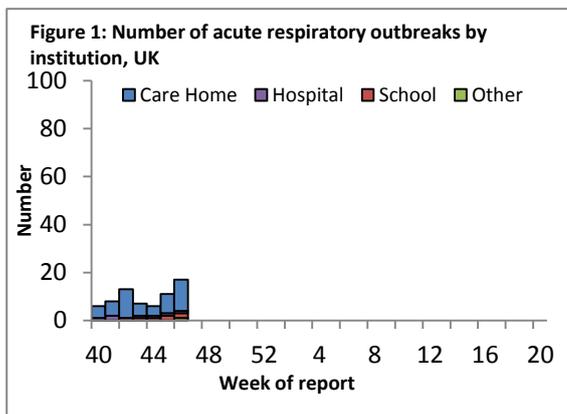
- PHE Real-time Syndromic Surveillance

- During week 46 there have been further increases in GP consultations for a range of respiratory conditions, with lower respiratory tract infection and severe asthma being above seasonal baselines.
- For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

- Sixteen new acute respiratory outbreaks have been reported in the past 7 days. Thirteen outbreaks were from care homes where one tested positive for RSV and one for rhinovirus but no test results were available for the remaining. Two outbreaks were from schools where one tested positive for influenza A(H3N2). The remaining outbreak was in the other settings category, in a nursery with no test results available.

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

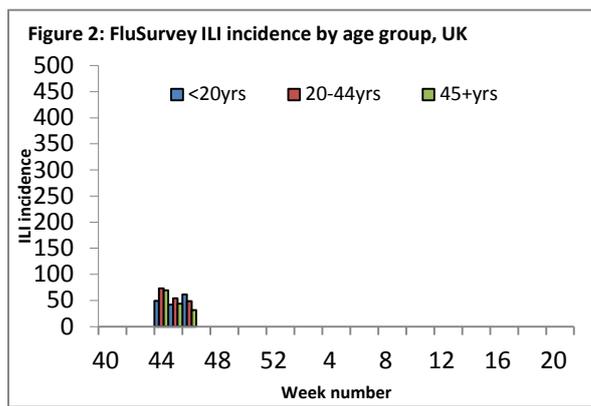


- FluSurvey

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

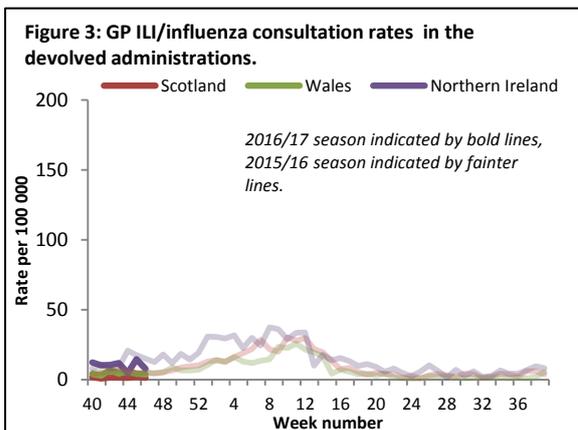
- The overall ILI rate (all age groups) for week 46 was 38.1 per 1,000 (68/1,716 people reported at least 1 ILI), with the 20-44 years age group reporting a higher rate of 61.2 per 1,000.

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



In week 46, overall weekly influenza-like illness GP consultations remained low, with decreases seen in England and Wales but increases were noted in Northern Ireland and Scotland.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland ILI rate has decreased and is at 7.8 per 100,000 in week 46 compared to 14.6 per 100,000 in week 45 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).

-The highest rates were seen in the 1-4 year olds (51.1 per 100,000) and 65-74 year olds (11.4 per 100,000).

### Wales

-The Welsh ILI rate is at 3.9 per 100,000 in week 46 compared to 4.3 per 100,000 in week 45 (Figure 3). This remains below the baseline threshold (10.3 per 100,000).

- The highest rates were seen in the 15-44 year olds (8.9 per 100,000) and 1-4 year olds (7.2 per 100,000).

### Scotland

-The Scottish ILI rate is at 1.4 per 100,000 in week 46 compared to 2.0 per 100,000 in week 45 (Figure 3). This remains below baseline threshold (36.1 per 100,000).

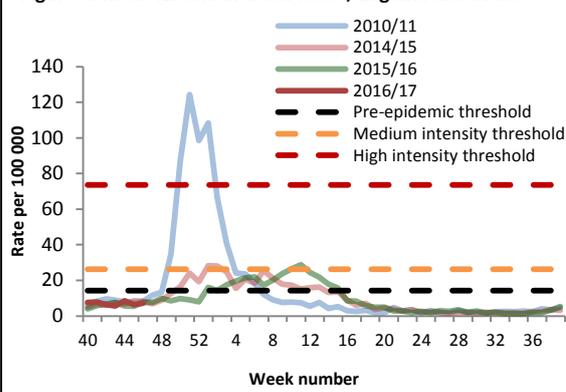
-The highest rates were seen in 65-74 year olds (12.4 per 100,000) and 45-64 year olds (11.1 per 100,000).

### RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is at 7.3 per 100,000 in week 46 compared to 6.4 per 100,000 in week 45. This is below the baseline threshold (14.3 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 75+ year olds (9.8 per 100,000) and 45-64 year olds (7.9 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.*

Figure 4: RCGP ILI consultation rates , England and Wales



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

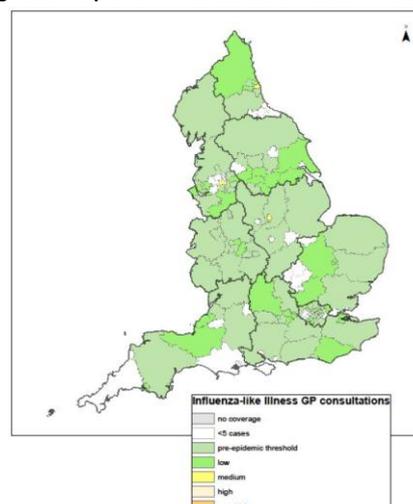
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system has decreased at 5.8 per 100,000 in week 46 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 46 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 46



### Influenza confirmed hospitalisations

[| Back to top |](#)

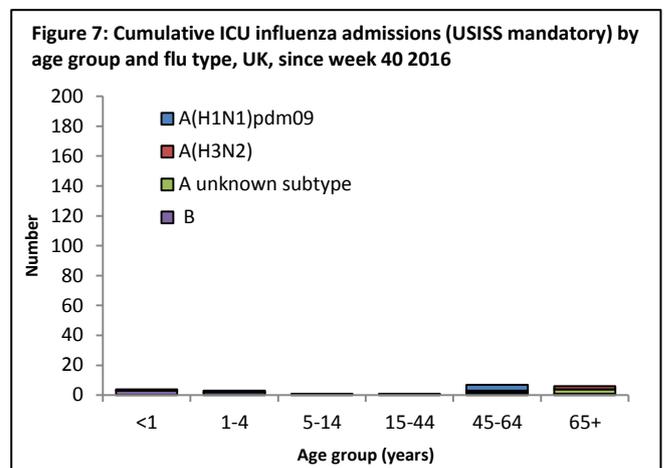
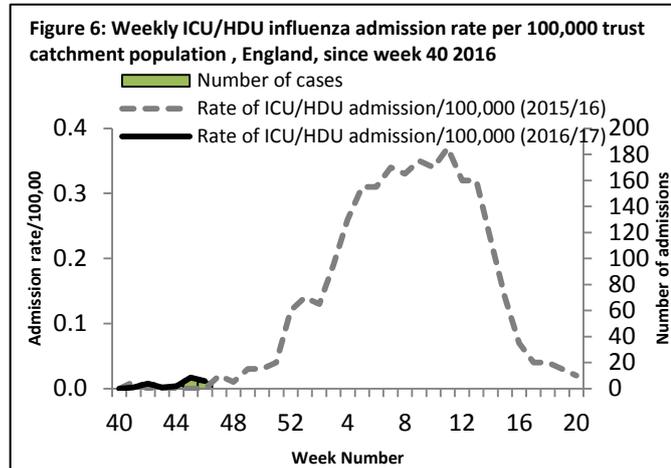
**In week 46, there were five admissions to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09, 1 influenza A(H3N2), 2 influenza A(not subtyped) and 1 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (121 Trusts). One hospitalised confirmed influenza case was reported through the USISS sentinel hospital network across England (14 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 46)

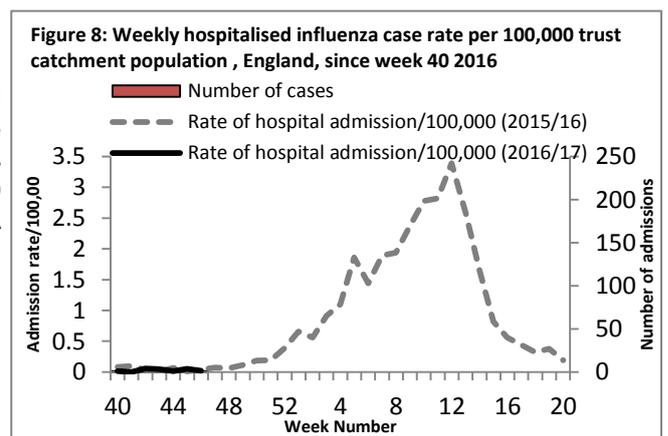
- In week 46, there were five admissions to ICU/HDU with confirmed influenza (1 influenza A(H1N1)pdm09, 1 influenza A(H3N2), 2 influenza A(not subtyped) and 1 influenza B) were reported across the UK (121/156 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.01 per 100,000 compared to a rate of 0.02 per 100,000 in week 45 (Figures 6 and 7). No confirmed influenza deaths were reported in week 46 2016.

A total of 22 admissions (3 influenza A(H3N2), 5 influenza A(H1N1)pdm09, 12 influenza A(unknown subtype) and 2 influenza B) and four confirmed deaths have been reported since week 40 2016.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 46)

- In week 46, there was one hospitalised confirmed influenza case (influenza A(H3N2)) reported through the USISS sentinel hospital network from 14 NHS Trusts across England (Figure 8), a rate of 0.02 per 100,000 compared to 0.05 per 100,000 in the previous week. A total of 13 hospitalised confirmed influenza admissions (9 influenza A (H3N2), 3 influenza A(not subtyped) and 1 B) have been reported since week 40 2016.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 46)

- In week 46, there were no confirmed influenza admissions reported from the six Severe Respiratory Failure (SRF) centres in the UK. There have been no admissions reported since week 40 2016.

### All-cause mortality data

[| Back to top |](#)

**In week 46, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England. In the devolved administrations, no significant excess mortality was noted in week 46 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 45 2016, an estimated 10,470 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a slight increase compared to the 10,152 estimated death registrations in week 44 2016.

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

-In week 46 2016 in England, 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 (Table 1). No significant excess was seen in any age groups or subnationally. 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 46 2016 (Table 2).

**Table 2: Excess mortality by UK country\***

Country	Excess detected in week 46 2016?	Weeks with excess in 2016/17
England	x	NA
Wales	x	NA
Scotland	x	NA
Northern Ireland	-	-

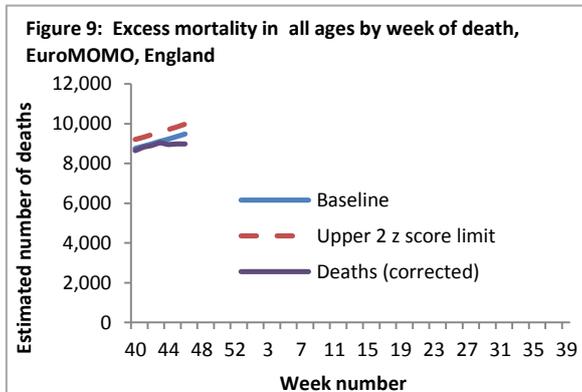
\* Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold

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 46 2016?	Weeks with excess in 2016/17
<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



## Microbiological surveillance

[Back to top](#)

In week 46 2016, eight samples tested positive for influenza (3 influenza A(H3N2), 2 influenza A(unknown subtype), 1 influenza A(H1N1)pdm09 and 2 influenza B) through the UK GP sentinel schemes a positivity of 6.1%. Twenty positive detections were recorded through the DataMart scheme (18 influenza A(H3N2), 1 influenza A(H1N1)pdm09 and 1 influenza B).

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

-In week 46, eight samples tested positive for influenza (3 influenza A(H3N2), 2 influenza A(unknown subtype), 1 influenza A(H1N1)pdm09 and 2 influenza B) through the UK GP sentinel swabbing schemes, with an overall positivity of 6.1% compared to 4.5% in week 45 (Table 3).

Since week 40 2016, 19 samples (10 influenza A(H3N2), 3 influenza A(untyped), 1 influenza A(H1N1)pdm09 and 5 influenza B) have tested positive for influenza through this scheme.

**Table 3: Sentinel influenza surveillance in the UK**

Week	England	Scotland	Northern Ireland	Wales
42	0/81 (0%)	0/78 (0%)	0/2 (-)	1/3 (-)
43	1/81 (1.2%)	0/81 (0%)	0/1 (-)	0/2 (-)
44	0/80 (0%)	1/97 (1%)	1/2 (-)	0/1 (-)
45	3/70 (4.3%)	4/79 (5.1%)	0/7 (-)	0/0 (-)
46	4/72 (5.6%)	4/53 (7.6%)	0/4 (-)	0/3 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 46 2016, out of the 1,237 respiratory specimens reported through the Respiratory DataMart System, 20 samples (1.6%) were positive for influenza (18 influenza A(H3N2), 1 influenza A(H1N1)pdm09 and 1 influenza B) (Figure 10). The highest positivity was in the 5-14 year olds at 2.9%. The overall positivity for RSV continued to increase from 13.9% in week 45 to 19.9% in week 46. The highest positivity was noted in the <5 year olds at 43.1% in week 46 compared to 36.3% in week 45. An increase was also noted in the 5-14 year olds increasing from 7.1% in week 45 to 18.0% in week 46 (Figure 11). Positivity for rhinovirus decreased from 20.2% in week 45 to 12.9% in week 46. Positivity for parainfluenza decreased from 3.5% in week 45 to 2.7% in week 46. Positivities for adenovirus remained low at 2.5% in week 46, whereas positivity for human metapneumovirus (hMPV) increased from 2.1% in week 45 to 3.9% in week 46 (Figure 12).

Figure 10: DataMart samples positive for influenza, England

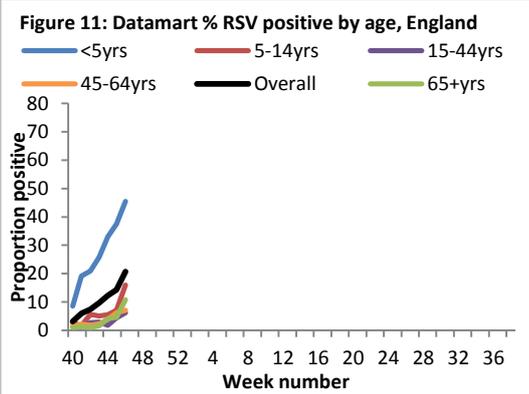
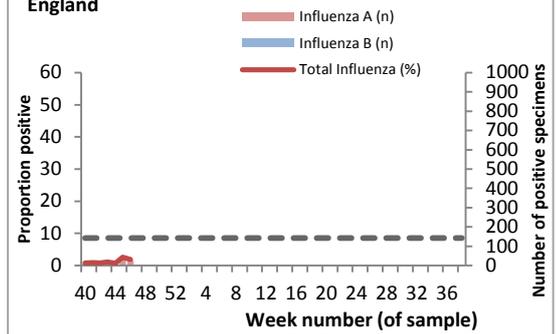
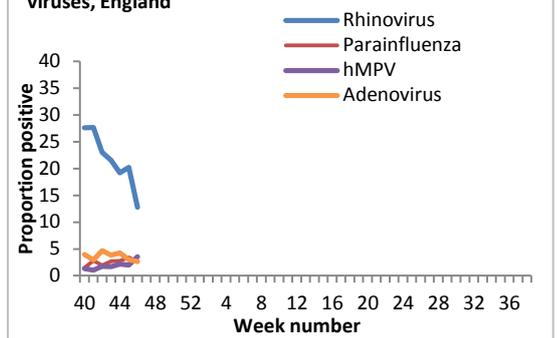


Figure 12: Datamart % positive for other respiratory viruses, England



*\*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 8.6% in 2016/17.*

- Virus characterisation

PHE characterises the properties of influenza viruses through one or more tests, including genome sequencing (genetic analysis) and haemagglutination inhibition (HI) assays (antigenic analysis). These data are used to compare how similar the currently circulating influenza viruses are to the strains included in seasonal influenza vaccines, and to monitor for changes in circulating influenza viruses. The interpretation of genetic and antigenic data sources is complex due to a number of factors, for example, not all viruses can be cultivated in sufficient quantity for antigenic characterisation, so that viruses with sequence information may not be able to be antigenically characterised as well.

Since the start of the 2016/17 winter influenza season in week 40 2016, the PHE Respiratory Virus Unit has characterised two A(H1N1)pdm09 influenza viruses: one genetically and one antigenically. The A(H1N1)pdm09 virus genetically characterised belongs in the genetic subgroup 6B.1, which was the predominant genetic subgroup in the 2015/16 season. The virus antigenically analysed is similar to the A/California/7/2009 Northern Hemisphere 2016/17 (H1N1)pdm09 vaccine strain.

Genetic characterisation of 12 A(H3N2) influenza viruses since week 40 showed that they all belong to genetic subclade 3C.2a, with 9 belonging to a cluster within this genetic subclade designated as 3C.2a1. Viruses within this cluster are antigenically similar to other 3C.2a subclade viruses, which was the majority group circulating during the 2015/16 season. The Northern Hemisphere 2016/17 influenza A(H3N2) vaccine strain A/HongKong/4801/2014 belongs in genetic subclade 3C.2a.

One influenza B virus has been analysed genetically since week 40/2015 and has been characterised as belonging to the B/Yamagata/16/88-lineage. One influenza B virus has been isolated and antigenically characterised since week 40 2016. This virus was characterised as belonging to the B/Yamagata/16/88-lineage and was antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2016/17 Northern Hemisphere quadrivalent vaccine.

- Antiviral susceptibility

Since week 40 2016, one influenza A(H1N1)pdm09 and one influenza B (Yamagata) viruses have been tested for oseltamivir and zanamivir susceptibility, both of them were sensitive to oseltamivir and zanamivir.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 20 November 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 20 November 2016, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,919	88
	Macrolides	3,273	80
	Tetracycline	3,159	82
<i>H. influenzae</i>	Amoxicillin/ampicillin	12,771	69
	Co-amoxiclav	13,074	87
	Macrolides	5,056	13
	Tetracycline	12,881	98
<i>S. aureus</i>	Methicillin	5,898	91
	Macrolides	6,356	67
MRSA	Clindamycin	309	38
	Tetracycline	472	84
MSSA	Clindamycin	3,021	76
	Tetracycline	5,021	93

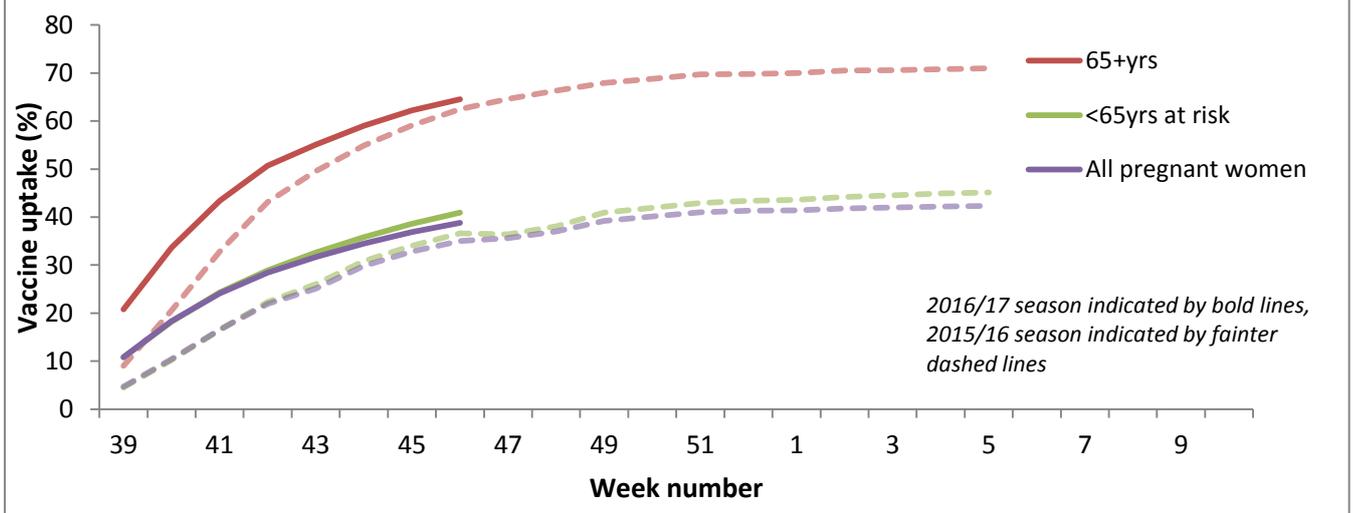
\*Macrolides = erythromycin, azithromycin and clarithromycin

## Vaccination

[| Back to top |](#)

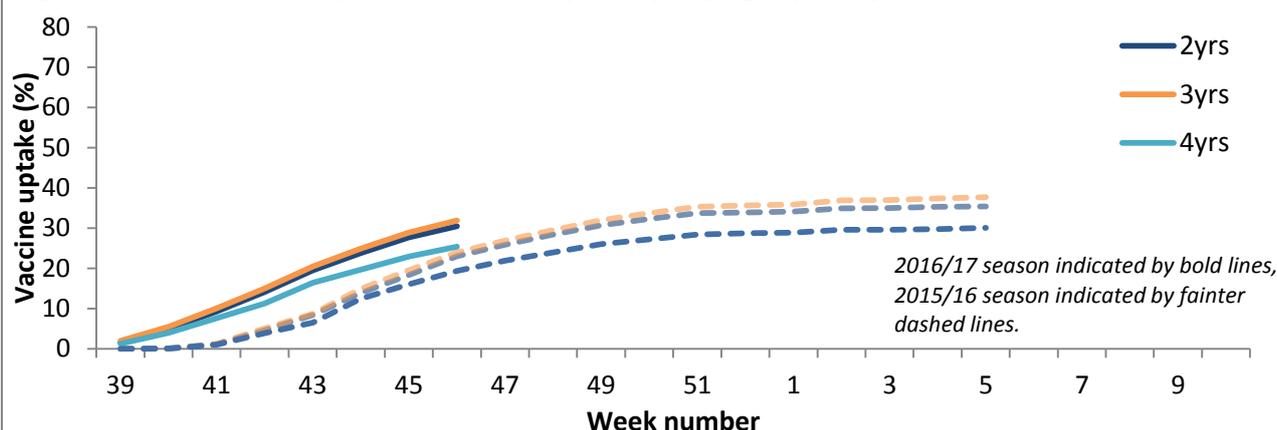
- Up to week 46 2016 in 90.2% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
  - 40.9% in under 65 years in a clinical risk group
  - 38.8% in pregnant women
  - 64.5% in 65+ year olds

Figure 13: Cumulative weekly influenza vaccine uptake by target group in England



- In 2016/17, 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, 2 and 3 age. Up to week 46 2016 in 93.5% of GP practices reporting weekly to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine in targeted groups was as follows (Figure 14):
  - 30.5% in all 2 year olds
  - 31.9% in all 3 year olds
  - 25.4% in all 4 year olds

**Figure 14: Cumulative weekly influenza vaccine uptake by target group in England**



- Provisional data from the first monthly collection of influenza vaccine uptake in GP patients up to 31 October 2016 show that in 93.7% of all GP practices in England responding to the main GP survey, the proportion of people in England who received the 2016/17 influenza vaccine was as follows:
  - 33.3% in under 65 years in a clinical risk group
  - 32.4% in pregnant women
  - 56.0% in 65+ year olds
- Provisional data from the first monthly collection of influenza vaccine uptake in GP patients up to 31 October 2016 show that in 94.4% of all GP practices in England responding to the main GP survey, the proportion of people in England who received the 2016/17 influenza vaccine was as follows:
  - 20.3% in all 2 year olds
  - 21.5% in all 3 year olds
  - 17.1% in all 4 year olds
- Provisional data from the first monthly collection of influenza vaccine uptake by frontline healthcare workers show 40.4% were vaccinated by 31 October 2016 from 95.8% of Trusts, compared to 32.4% vaccinated in the previous season by 31 October 2015. The report provides uptake at national, area team and CCG level.
- Provisional data from the first monthly collection of influenza vaccine uptake for children of school years 1, 2 and 3 age (from a sample of 89.5% of all Local Authorities in England) show the provisional proportion of children in England who received the 2016/17 influenza vaccine via school, pharmacy or GP practice by 31 October 2016 in targeted groups was as follows:
  - 14.5% in children of school Year 1 age (5-6 years)
  - 13.9% in children of school Year 2 age (6-7 years)
  - 13.2% in children of school Year 3 age (7-8 years)

## International Situation

[Back to top](#)

**Influenza activity in temperate southern hemisphere countries is back at inter-seasonal levels. Influenza activity in the temperate zone of the northern hemisphere remains at inter-seasonal levels.**

- [Europe](#) updated on 18 November 2016 (Joint ECDC-WHO Influenza weekly update)

In week 45/2016, activity remained low in the region, with few specimens testing positive for influenza viruses (3% of sentinel specimens), and is at a level similar to that observed for the same period in recent seasons. Increased activity was reported from countries in Northern Europe.

Since week 40/2016, influenza A viruses have predominated, with most of those subtyped being A(H3N2).

For week 45/2016, 24 of 753 sentinel specimens tested (3%) were positive for influenza virus. Of these, 21 (88%) were type A and three were type B. All, but one of the subtyped influenza A viruses were A(H3N2).

For week 45/2016, of those countries, territories and regions that conduct surveillance based on hospitalized laboratory-confirmed influenza cases in intensive care units (ICU) or other wards, Ireland reported one case due to influenza A virus infection in other ward. Since week 40/2016 Spain, Ireland and the UK have reported six cases in other wards due to influenza A virus infection and two in ICU, one case each with influenza A and B virus infection.

For week 45/2016, 207 specimens from non-sentinel sources (such as hospitals, schools, non-sentinel primary care units, nursing homes and other care institutions) tested positive for influenza viruses. Similar to

the previous week, 93% were type A and 7% type B, with 83% of the subtyped influenza A viruses being A(H3N2).

- [United States of America](#) updated on 18 November 2016 (Centre for Disease Control report)

During week 45, influenza activity was low in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 45 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories was low.

Nationwide during week 45, the proportion of outpatient visits for influenza-like illness (ILI) was 1.6%, which is below the national baseline of 2.2%

- [Canada](#) updated on 18 November 2016 (Public Health Agency report)

Influenza activity is at interseasonal levels with the majority regions in Canada reporting no activity.

A total of 181 positive influenza detections were reported in week 45. Influenza A(H3N2) continues to be the most common subtype detected.

In week 45, 1.6% of visits to sentinel healthcare professionals were due to influenza-like symptoms, a slight increase from week 44.

Two laboratory-confirmed influenza outbreaks were reported in week 45, a decrease from the previous week.

Sixteen hospitalizations were reported from participating Provinces and Territories in week 45; all due to influenza A. Less than five ICU admissions have been reported in week 45.

To date, the majority of paediatric hospitalizations reported were due to Influenza A(H3N2). Influenza activity is at interseasonal levels with the majority regions in Canada reporting low activity.

- [Global influenza update](#) updated on 14 November 2016 (WHO website)

In temperate South America, influenza and respiratory syncytial virus (RSV) activity continue to decrease throughout the sub-region.

In South Africa and Oceania, influenza virus activity is now at inter-seasonal levels.

In African countries, few reported surveillance activity in this period. Senegal and Kenya reported influenza A virus detections, and Côte d'Ivoire reported influenza B virus detections.

In the Caribbean countries, influenza and other respiratory virus activity remained low except in Cuba where influenza A(H3N2) and influenza B viruses continue to be detected.

In Central America, influenza virus activity remained low but RSV continued to circulate in several countries as the predominant respiratory virus.

In tropical South America, respiratory virus activities remained low with exception of French Guyana where influenza A(H3N2) viruses detections increased slightly.

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

In South East Asia, a decreasing trend in influenza detection was observed, although influenza activity continued to be reported in Lao People's Democratic Republic (PDR), Thailand and Cambodia. Influenza activity also increased in southern China, with influenza A(H3N2) virus predominating.

In Western Asia influenza detections remained low.

In North America and Europe, influenza activity was low with few influenza virus detections and ILI levels below seasonal thresholds. In the United States, RSV activity continued to be reported.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 65,111 specimens between 17 October 2016 and 30 October 2016. 2,215 were positive for influenza viruses, of which 1,866 (84.2%) were typed as influenza A and 349 (15.8%) as influenza B. Of the sub-typed influenza A viruses, 73 (5.3%) were influenza A(H1N1)pdm09 and 1,306 (94.7%) were influenza A(H3N2). Of the characterized B viruses, 15 (30.0%) belonged to the B-Yamagata lineage and 35 (70.0%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 17 November 2016 (WHO website)

### Influenza A(H5) viruses

Since 2003, a total of 856 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 452 deaths, have been reported to WHO from 16 countries. 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.

### Influenza A(H7N9)

On [11 November 2016](#), the National Health and Family Planning Commission (NHFPC) of China notified WHO of two additional cases of laboratory-confirmed human infection with avian influenza A(H7N9) virus. A total of 800 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 320 deaths, have been reported to WHO.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 11 November 2016

Between [15 and 29 October 2016](#) the National IHR Focal Point of Saudi Arabia reported thirteen (13) additional cases of Middle East Respiratory Syndrome (MERS) including four (4) fatal cases.

Up to 16 November 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 881 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,826 laboratory-confirmed cases of infection with MERS-CoV, including at least 649 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

[| Back to top |](#)

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, 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.

### Related links

[| Back to top |](#)

#### 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](#))
- 2016/17 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))