



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

**During week 48 (ending 04 December 2016), influenza activity is at low levels and Respiratory Syncytial Virus (RSV) is nearing its peak.**

- [Community influenza surveillance](#)
  - Through the GP In Hours Syndromic Surveillance system, GP consultations increased further for lower respiratory tract infections and remained within seasonally expected levels for influenza like illness in week 48.
  - 19 new acute respiratory outbreaks have been reported in the past 7 days. 12 outbreaks were from care homes, where five tested positive for influenza A(not subtyped). Four outbreaks were from schools where one tested positive for influenza A(not subtyped). The remaining three outbreaks were from hospitals where one tested positive for influenza A(not subtyped).
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 48, the overall weekly influenza-like illness (ILI) GP consultation rate was 8.2 per 100,000 in England compared to 8.0 per 100,000 in the previous week and is below the pre-epidemic threshold. ILI rates have increased but remained within their respective pre-epidemic thresholds in the devolved administrations.
- [Influenza-confirmed hospitalisations](#)
  - In week 48, there were 12 admissions to ICU/HDU with confirmed influenza (5 influenza A(H3N2), 4 influenza A(not subtyped), 1 influenza A(H1N1)pdm09 and 2 influenza B) were reported across the UK (138/156 Trusts in England) through the USISS mandatory ICU scheme.
  - In week 48, there were 17 hospitalised confirmed influenza cases (15 influenza A(H3N2) and 2 influenza A(not subtyped)) reported through the USISS sentinel hospital network (13 NHS Trusts across England).
  - No confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 48.
- [All-cause mortality data](#)
  - In week 48 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](#)
  - Seven samples tested positive for influenza (4 influenza A(H3N2), 2 influenza A(unknown subtype) and 1 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 5.6% in week 48.
  - 70 influenza positive detections were recorded through the DataMart scheme (52 influenza A(H3N2), 15 influenza A(unknown subtype), 1 influenza A(H1N1)pdm09 and 2 influenza B). The overall positivity was at 4.7% in week 48, which is below the threshold for 2016/17 season of 8.6%. The highest positivity seen in the 65+ year olds (8.6%).
  - Through the DataMart scheme, RSV appears to be nearing its peak with an overall positivity of 23.1% in week 48 compared to 22.9% in week 47. The highest positivity was in the <5 year olds at 50.1% in week 48.
- [Vaccination](#)
  - Up to week 48 2016, in 90.1% 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: 44.0% in under 65 years in a clinical risk group, 42.0% in pregnant women, 67.5% in 65+ year olds. In 92.9% of GP practices reporting to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine was as follows: 34.6% in all 2 year olds, 36.4% in all 3 year olds and 29.3% 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. The [report](#) provides uptake at Trust level.
  - 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 the temperate zone of the northern hemisphere remains low but has started to increase in some European countries, the United States and Canada and the most commonly detected subtype is influenza A(H3N2). Influenza activity in temperate southern hemisphere countries is back at inter-seasonal levels.

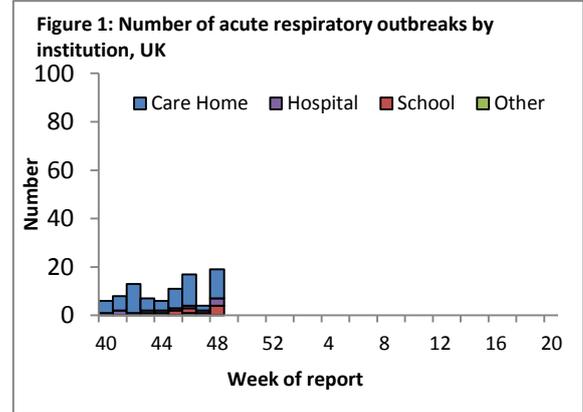
During week 48, there have been further increases in GP consultations for lower respiratory tract infections. 19 new acute respiratory outbreaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance

- During week 48 there were further increases in GP consultations for lower respiratory tract infections. Influenza-like illness remains stable and within seasonally expected levels.
- For further information, please see the syndromic surveillance [webpage](#).

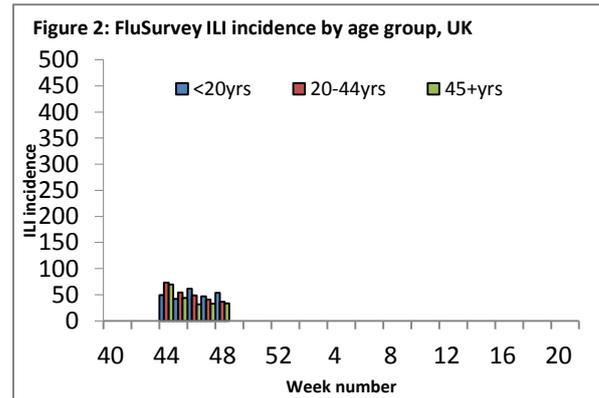
- Acute respiratory disease outbreaks

- 19 new acute respiratory outbreaks have been reported in the past 7 days. 12 outbreaks were from care homes, where five tested positive for influenza A(not subtyped). Four outbreaks were from schools where one tested positive for influenza A(not subtyped). The remaining three outbreaks were from hospitals where one tested positive for influenza A(not subtyped).
- Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and [Respscidsc@phe.gov.uk](mailto:Respscidsc@phe.gov.uk) .



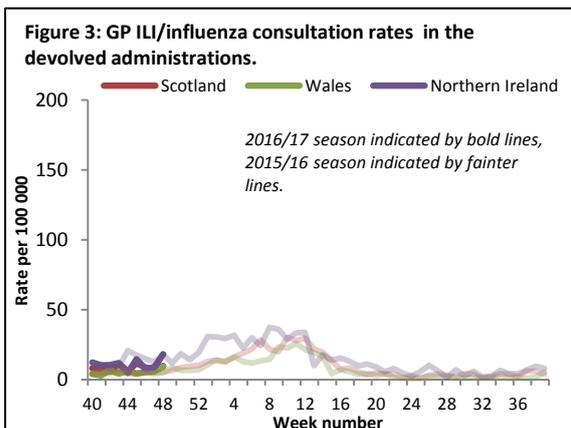
- FluSurvey

- 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 48 was 35.1 per 1,000 (63/1,731 people reported at least 1 ILI), with the 0-19 years age group reporting a higher rate of 53.8 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 48, overall weekly influenza-like illness GP consultations remained low in England. ILI rates have increased but remained within their respective pre-epidemic thresholds in the devolved administrations.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

- The Northern Ireland ILI rate has increased at 18.1 per 100,000 in week 48 compared to 8.8 per 100,000 in week 47 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).
- The highest rates were seen in the 1-4 year olds (36.5 per 100,000) and 75+ year olds (25.9 per 100,000).

### Wales

-The Welsh ILI rate has increased at 9.2 per 100,000 in week 48 compared to 6.0 per 100,000 in week 47 (Figure 3). This remains below the baseline threshold (10.3 per 100,000).

- The highest rates were seen in the 1-4 year olds (14.4 per 100,000) and 45-64 year olds (12.7 per 100,000).

### Scotland

-The Scottish ILI rate has increased at 9.9 per 100,000 in week 48 compared to 7.5 per 100,000 in week 47 (Figure 3). This remains below the baseline threshold (36.1 per 100,000).

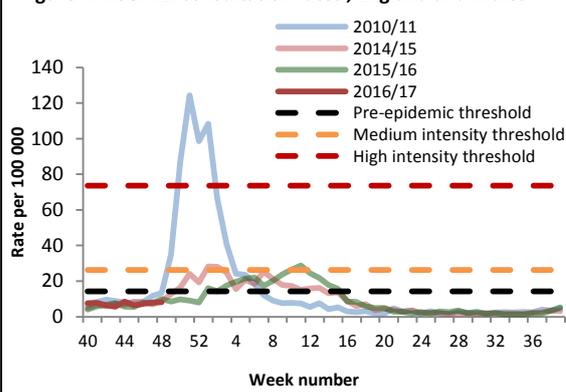
-The highest rates were seen in 45-64 year olds (11.8 per 100,000) and 15-44 year olds (11.6 per 100,000).

### RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is at 8.2 per 100,000 in week 48 compared to 8.0 per 100,000 in week 47. This is below the baseline threshold (14.3 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 1-4 year olds (10.2 per 100,000) and 15-44 year olds (9.6 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)

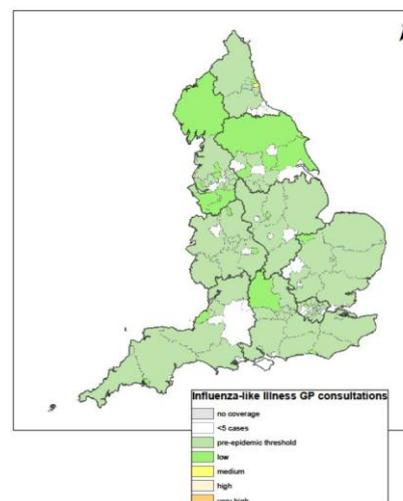
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 6.3 per 100,000 in week 48 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 48 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 48



## **Influenza confirmed hospitalisations**

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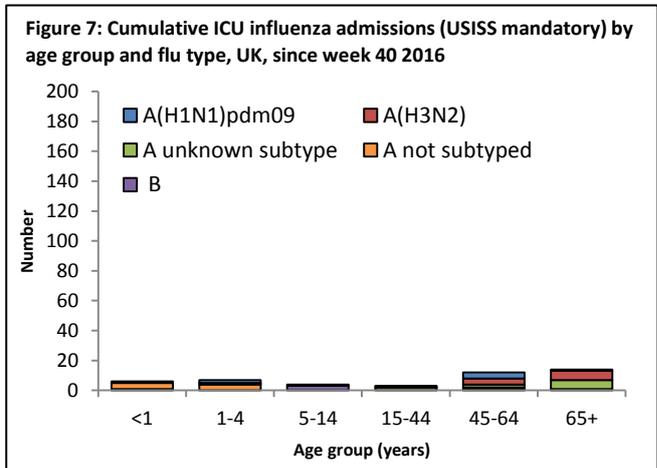
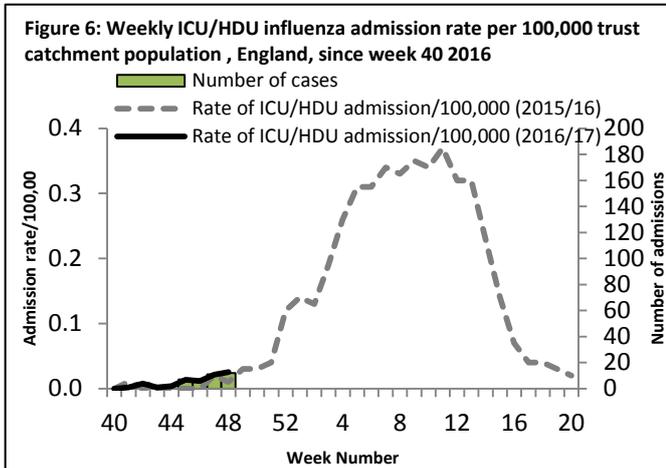
**In week 48, there were 12 admissions to ICU/HDU with confirmed influenza (5 influenza A(H3N2), 4 influenza A(not subtyped), 1 influenza A(H1N1)pdm09 and 2 influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (138 Trusts). 17 hospitalised confirmed influenza cases (15 influenza A(H3N2) and 2 influenza A(not subtyped)) were reported through the USISS sentinel hospital network across England (13 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 48)

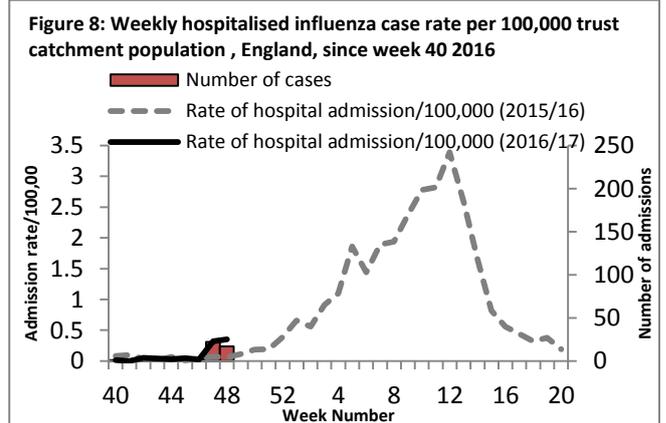
- In week 48, there were 12 admissions to ICU/HDU with confirmed influenza (5 influenza A(H3N2), 4 influenza A(not subtyped), 1 influenza A(H1N1)pdm09 and 2 influenza B) were reported across the UK (138/156 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.03 per 100,000 compared to a rate of 0.02 per 100,000 in week 47 (Figures 6 and 7). One confirmed influenza death was reported in week 48 2016.

A total of 46 admissions (12 influenza A(H3N2), 7 influenza A(H1N1)pdm09, 22 influenza A(not subtyped) and 5 influenza B) and five confirmed deaths have been reported since week 40 2016.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 48)

- In week 48, there were 17 hospitalised confirmed influenza cases (15 influenza A(H3N2) and 2 influenza A(not subtyped)) reported through the USISS sentinel hospital network from 13 NHS Trusts across England (Figure 8), a rate of 0.35 per 100,000 compared to 0.32 per 100,000 in the previous week. A total of 55 hospitalised confirmed influenza admissions (40 influenza A(H3N2), 14 influenza A(not subtyped) and 1 influenza B) have been reported since week 40 2016.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 48)

- In week 48, 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

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**In week 48, 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 48 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 47 2016, an estimated 10,603 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a slight decrease compared to the 10,694 estimated death registrations in week 46 2016.

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

-In week 48 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 48 2016 (Table 2).

**Table 2: Excess mortality by UK country, for all ages\***

Country	Excess detected in week 48 2016?	Weeks with excess in 2016/17
England	x	NA
Wales	x	NA
Scotland	x	46
Northern Ireland	-	-

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

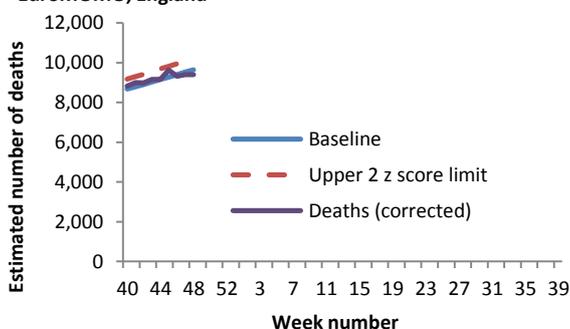
NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2

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

Age group (years)	Excess detected in week 48 2016?	Weeks with excess in 2016/17
<5	x	NA
5-14	x	NA
15-64	x	45
65+	x	NA

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

**Figure 9: Excess mortality in all ages by week of death, EuroMOMO, England**



## Microbiological surveillance

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In week 48 2016, seven samples tested positive for influenza (4 influenza A(H3N2) and 2 influenza A(unknown subtype) and 1 influenza B) through the UK GP sentinel schemes with an overall positivity of 5.6%. 70 positive detections were recorded through the DataMart scheme (52 influenza A(H3N2), 15 influenza A(not subtype), 1 influenza A(H1N1)pmd09 and 2 influenza B).

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

-In week 48, seven samples tested positive for influenza (4 influenza A(H3N2) and 2 influenza A(unknown subtype) and 1 influenza B) through the UK GP sentinel swabbing schemes, with an overall positivity of 5.6% compared to 4.8% in week 47 (Table 3).

Since week 40 2016, 34 samples (20 influenza A(H3N2), 5 influenza A(untyped), 2 influenza A(H1N1)pdm09 and 7 influenza B) have tested positive for influenza through this scheme.

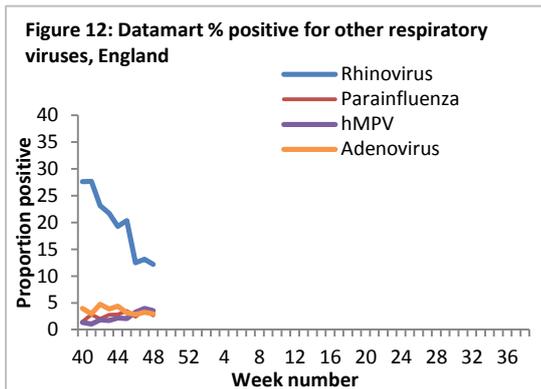
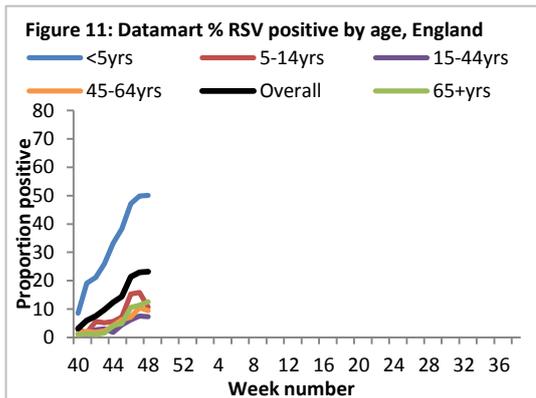
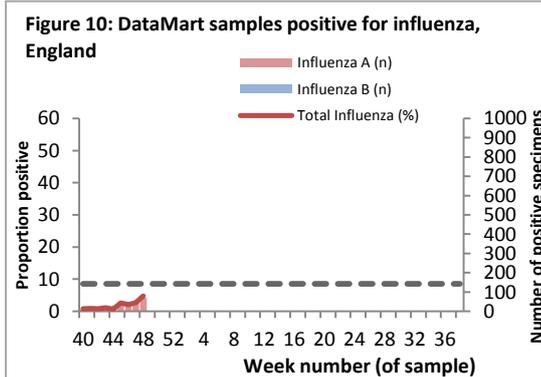
**Table 3: Sentinel influenza surveillance in the UK**

Week	England	Scotland	Northern Ireland	Wales
44	0/81 (0%)	1/98 (1%)	1/2 (-)	0/1 (-)
45	3/70 (4.3%)	4/79 (5.1%)	0/7 (-)	0/0 (-)
46	4/87 (4.6%)	5/74 (6.8%)	0/4 (-)	0/3 (-)
47	5/77 (6.5%)	2/66 (3%)	0/0 (-)	0/2 (-)
48	3/67 (4.5%)	4/53 (7.5%)	0/0 (-)	0/4 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 48 2016, out of the 1,474 respiratory specimens reported through the Respiratory DataMart System, 70 samples (4.7%) were positive for influenza (52 influenza A(H3N2), 15 influenza A(not subtyped), 1 influenza A(H1N1)pdm09 and 2 influenza B) (Figure 10). The highest positivity was in the 65+ year olds at 8.6%. The overall positivity for RSV appears to be nearing its peak period at 23.1% in week 48 compared to 22.9% in week 47. The highest positivity was noted in the <5 year olds at 50.1% in week 48 compared to 49.8% in week 47 (Figure 11). Positivity for rhinovirus decreased slightly from 13.1% in week 47 to 12.2% in week 48. Similarly, positivity for parainfluenza also decreased slightly from 3.8% in week 47 to 2.7% in week 48. Positivity for adenovirus remained at low levels at 3.0% in week 48 whereas positivity for human metapneumovirus (hMPV) remained slightly increased at 3.5% in week 48.



\*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 14 A(H3N2) influenza viruses since week 40 showed that they all belong to genetic subclade 3C.2a, with 10 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, two influenza A(H1N1)pdm09 virus and one influenza B (Yamagata) virus have been tested for oseltamivir susceptibility and all of them are sensitive to oseltamivir. One influenza A(H1N1)pdm09 virus and one influenza B (Yamagata) virus have also been tested for zanamivir susceptibility and both are sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 04 December 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 04 December 2016, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3,142	89
	Macrolides	3,519	81
	Tetracycline	3,401	83
<i>H. influenzae</i>	Amoxicillin/ampicillin	12,877	70
	Co-amoxiclav	13,208	87
	Macrolides	5,047	13
<i>S. aureus</i>	Tetracycline	12,907	98
	Methicillin	5,966	91
	Macrolides	6,428	66
MRSA	Clindamycin	326	40
	Tetracycline	493	83
MSSA	Clindamycin	3,068	76
	Tetracycline	5,077	93

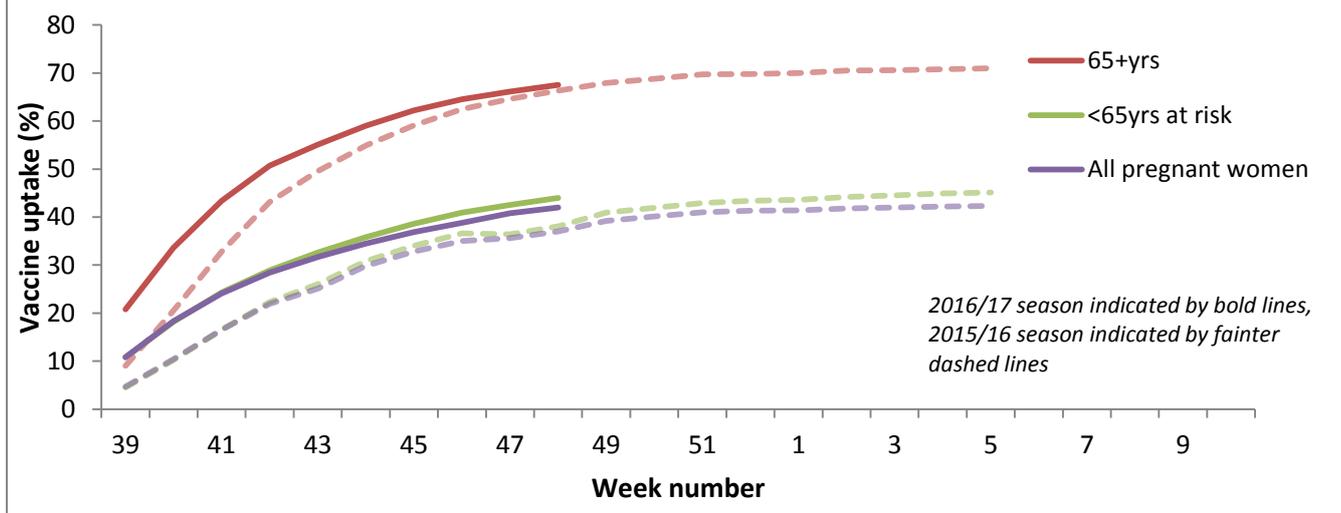
\*Macrolides = erythromycin, azithromycin and clarithromycin

## Vaccination

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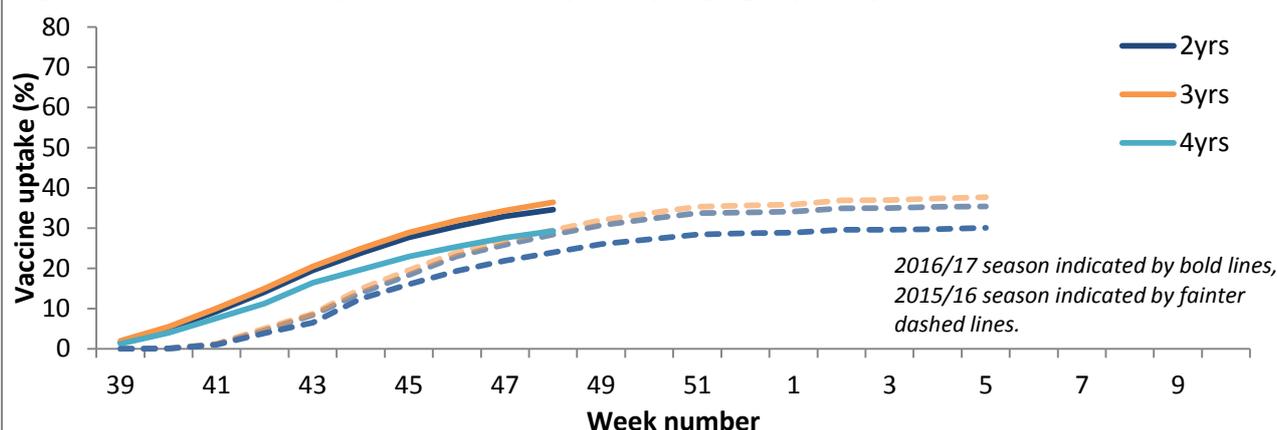
- Up to week 48 2016 in 90.1% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
  - 44.0% in under 65 years in a clinical risk group
  - 42.0% in pregnant women
  - 67.5% 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 48 2016 in 92.9% 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):
  - 34.6% in all 2 year olds
  - 36.4% in all 3 year olds
  - 29.3% 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 has been published.
- 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 Trust 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

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

- [Europe](#) updated on 02 December 2016 (Joint ECDC-WHO Influenza weekly update)

In week 47/2016, influenza activity remained low but has started to increase in some countries. The number of virus detections among sentinel surveillance specimens increased to 16% of the total tested and indicates increasing regional activity. The majority of viruses detected this week were influenza A(H3N2). Influenza virus detections increased to 10% among sentinel surveillance specimens during week 46/2016. This is the earliest in a season that the positivity rate has reached 10% since the emergence of A(H1N1)pdm09 viruses in the 2009-2010 influenza season; during the last six seasons this occurred between weeks 48 and 51.

For week 47/2016, 153 of 986 (16%) sentinel specimens tested positive for influenza virus. Of these, 91% were type A and 9% were type B. All of the subtyped influenza A viruses were A(H3N2). The lineage of 12 of 14 influenza B viruses was determined, of which seven were B/Victoria lineage and five were B/Yamagata lineage.

For week 47/2016, of those countries, territories and regions that conduct surveillance based on hospitalized laboratory-confirmed influenza cases in intensive care units (ICU) or other wards, three cases (1 A; 2 A(H3N2)) were reported from ICU by Spain and Finland, and 14 cases (seven A; five A(H3N2); two B) in other wards by Ireland, Spain and the United Kingdom.

For week 47/2016, 692 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 (Table 2). Similar to the previous week, 97% were type A and 3% type B, with 96% of the subtyped influenza A viruses being A(H3N2).

- [United States of America](#) updated on 02 December 2016 (Centre for Disease Control report)

During week 47, influenza activity increased slightly but remained low in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 47 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased slightly, but remained low.

Nationwide during week 47, the proportion of outpatient visits for influenza-like illness (ILI) was 1.8%, which is below the national baseline of 2.2%

- [Canada](#) updated on 02 December 2016 (Public Health Agency report)

Influenza activity is reaching seasonal levels with many regions in Canada reporting increasing influenza activity in week 47.

A total of 256 positive influenza detections were reported in week 47. Influenza A(H3N2) continues to be the most common subtype detected.

In week 47, 1.2% of visits to sentinel healthcare professionals were due to influenza-like symptoms.

Nine laboratory-confirmed influenza outbreaks were reported in week 47 with the majority in long-term care facilities.

37 hospitalizations were reported from participating provinces and territories in week 47; the majority due to influenza A(H3N2).

To date this season, detailed information on age and type/subtype has been received for 1047 laboratory confirmed influenza cases. Adults aged 65+ accounted for over 41% of reported influenza cases. Among cases of influenza A(H3N2), adults aged 65+ accounted for 42% of cases.

- [Global influenza update](#) updated on 28 November 2016 (WHO website)

In North America and Europe, influenza activity was still low with few influenza virus detections and influenza-like illness (ILI) levels below seasonal thresholds. In the United States, respiratory syncytial virus (RSV) activity continued to be reported.

In East Asia, an increased level of influenza activity was reported in Southern China, influenza A(H3N2) remained the dominant virus circulating.

In Western Asia influenza detections remained low.

In the Caribbean countries, influenza and other respiratory virus activity remained low. In Central America, there was a slight increase in influenza virus activity 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 Colombia where RSV activity continued to be reported.

In tropical countries of South Asia, influenza virus detections remained low.

In South East Asia, influenza activity continued to be reported at low levels in Cambodia, Lao People's Democratic Republic (PDR), Thailand and Vietnam with influenza A(H3N2) virus predominating. In African region, influenza detections increased in Ghana with B viruses dominating.

In temperate South America, influenza and RSV activity continue to decrease throughout the sub-region.

In Oceania, influenza virus activity was at inter-seasonal levels.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 75,463 specimens between 31 October 2016 and 13 November 2016. 3,603 were positive for influenza viruses, of which 3,248 (90.1%) were typed as influenza A and 355 (9.9%) as influenza B. Of the sub-typed influenza A viruses, 63 (2.5%) were influenza A(H1N1)pdm09 and 2,482 (97.5%) were influenza A(H3N2). Of the characterized B viruses, 34 (37.0%) belonged to the B-Yamagata lineage and 58 (63.0%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 07 December 2016 (WHO website)

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

On [07 December 2016](#), two new laboratory-confirmed human case of influenza A(H5N6) virus infection was reported to WHO from the National Health and Family Planning Commission (NHFPC) of China.

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) subtype viruses have the potential to cause disease in humans, no human cases, other than those with influenza A(H5N1) and A(H5N6), have been reported so far. According to

reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes continue to be detected in birds in West Africa, Europe and Asia. There have also been numerous detections of influenza A(H5N8) viruses in wild birds and domestic poultry in several countries in Asia and Europe since June 2016.

### **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 322 deaths, have been reported to WHO.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 05 December 2016

Between [12 and 27 November 2016](#) the National IHR Focal Point of Saudi Arabia reported nine (9) additional cases of Middle East Respiratory Syndrome (MERS) including one fatal case.

Up to 07 December 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 888 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,841 laboratory-confirmed cases of infection with MERS-CoV, including at least 652 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, 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](#))
- 2016/17 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))