



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

**At the start of the 2016/17 influenza season, activity is at low levels in week 44 (ending 06 November 2016). Respiratory Syncytial Virus (RSV) is circulating.**

- [Community influenza surveillance](#)
  - Through the GP In Hours Syndromic Surveillance system, GP consultations for a range of respiratory conditions remained stable, with the exception of lower respiratory tract infection and pneumonia, which both increased slightly.
  - Six new acute respiratory outbreaks have been reported in the past 7 days. Four outbreaks were from care homes with no test results available. One outbreak was from a hospital, which tested positive for parainfluenza. The remaining outbreak was from a school with no test results available.
- [Overall weekly influenza GP consultation rates across the UK](#)
  - In week 44, the overall weekly influenza-like illness (ILI) GP consultation rate was 8.5 per 100,000 in England compared to 5.6 per 100,000 in the previous week. ILI rates were low in the devolved administrations.
- [Influenza-confirmed hospitalisations](#)
  - In week 44, there were two admissions to ICU/HDU with confirmed influenza (one influenza A(H3N2) and one influenza A(unknown subtype)) were reported across the UK (135/156 Trusts in England) through the USISS mandatory ICU scheme.
  - In week 44, no hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network (22 NHS Trusts across England).
  - No confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 44.
- [All-cause mortality data](#)
  - In week 44 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](#)
  - One sample tested positive for influenza (A(H3N2)) through GP sentinel schemes across the UK.
  - Six influenza positive detections were recorded through the DataMart scheme (3 influenza A(H3N2) and 3 influenza A(not subtyped)). A positivity of 0.6% was seen in week 44, with the highest positivity seen in the 45-64 year olds (1.4%). This is below the all-age threshold for 2016/17 season of 8.6%.
  - Through the DataMart scheme, it has been noted that RSV is now circulating with an overall positivity of 12.1% in week 44 compared to 8.1% in week 43. The highest positivity was in the <5 year olds at 33.6% in week 44.
- [Vaccination](#)
  - Up to week 44 2016, in 89.2% 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: 35.8% in under 65 years in a clinical risk group, 34.5% in pregnant women, 59.0% in 65+ year olds. In 92.0% of GP practices reporting to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine was as follows: 23.8% in all 2 year olds, 24.9% in all 3 year olds and 19.7% in all 4 year olds.
- [International situation](#)
  - Globally, influenza activity is decreasing in the Southern Hemisphere and is low and at inter-seasonal levels in the Northern Hemisphere.

During week 44, GP consultations for a range of respiratory conditions remained stable, with the exception of lower respiratory tract infection and pneumonia, which both increased slightly. Six new acute respiratory outbreaks were reported in the past 7 days.

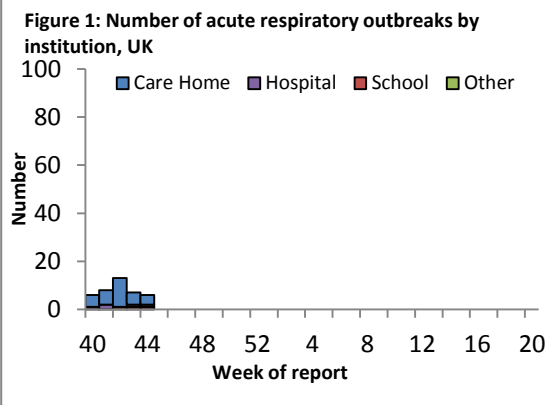
- PHE Real-time Syndromic Surveillance

- During week 44, GP consultations for a range of respiratory conditions remained stable, with the exception of lower respiratory tract infection and pneumonia, which both increased slightly.
- For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

- Six new acute respiratory outbreaks have been reported in the past 7 days. Four outbreaks were from care homes with no test results available. One outbreak was from a hospital, which tested positive for parainfluenza. The remaining outbreak was from a school 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).

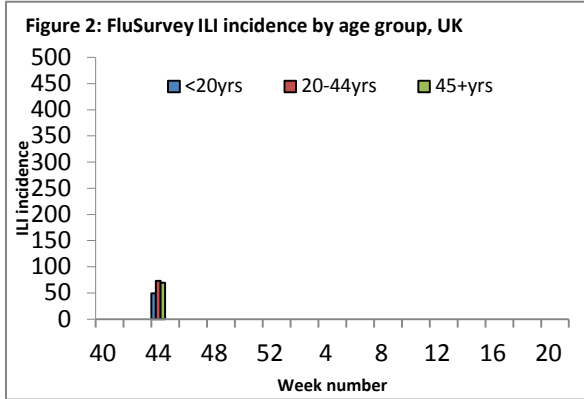


- FluSurvey

- 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.

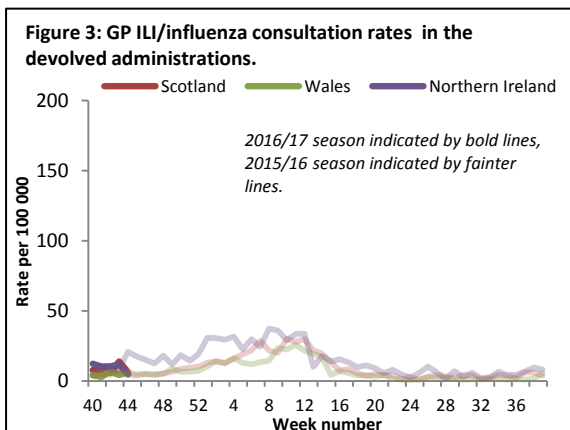
- The overall ILI rate (all age groups) for week 44 was 69.4 per 1,000 (112/1,502 people reported at least 1 ILI), with the 20-44 years age group reporting a higher rate of 72.9 per 1,000.

- 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 44, overall weekly influenza-like illness GP consultations remained low, with an increase seen in England and Wales but decreases were noted in Northern Ireland and Scotland.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland ILI rate has decreased and is at 4.7 per 100,000 in week 44 compared to 11.8 per 100,000 in week 43 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).

-The highest rates were seen in the 5-14 year olds (8.2 per 100,000) and 15-44 year olds (5.4 per 100,000).

### Wales

-The Welsh ILI rate has increased at 6.3 per 100,000 in week 44 compared to 4.2 per 100,000 in week 43 (Figure 3). This remains below the baseline threshold (10.3 per 100,000).

- The highest rates were seen in the 45-64 year olds (10.3 per 100,000) and 15-44 year olds (6.6 per 100,000).

### Scotland

-The Scottish ILI rate has decreased and is at 6.3 per 100,000 in week 44 compared to 14.0 per 100,000 in week 43 (Figure 3). This remains below baseline threshold (36.1 per 100,000).

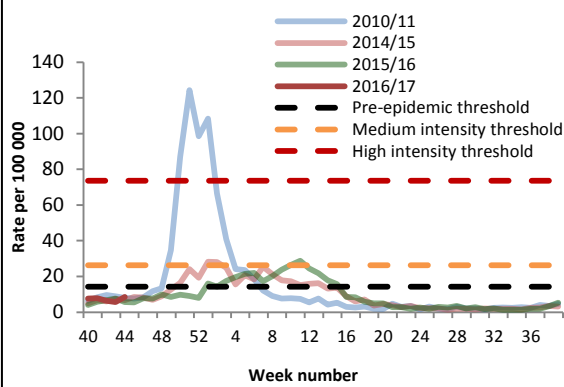
-The highest rates were seen in 45-64 year olds (7.7 per 100,000) and 15-44 year olds (7.6 per 100,000).

### RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance has increased and is at 8.5 per 100,000 in week 44 compared to 5.6 per 100,000 in week 43. This is below the baseline threshold (14.3 per 100,000) (Figure 4\*). By age group, the highest rates were seen in 45-64 year olds (11.2 per 100,000) and 15-44 year olds (10.6 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)

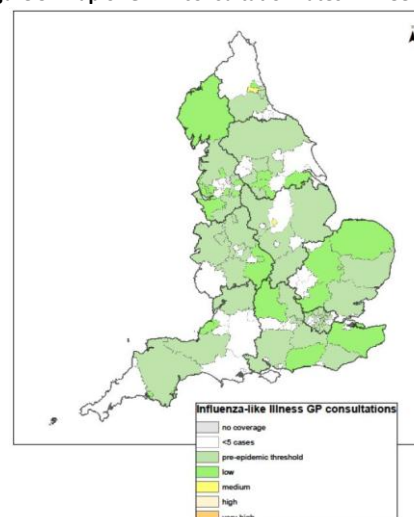
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system has decreased at 5.1 per 100,000 in week 44 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 44 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 44



## **Influenza confirmed hospitalisations**

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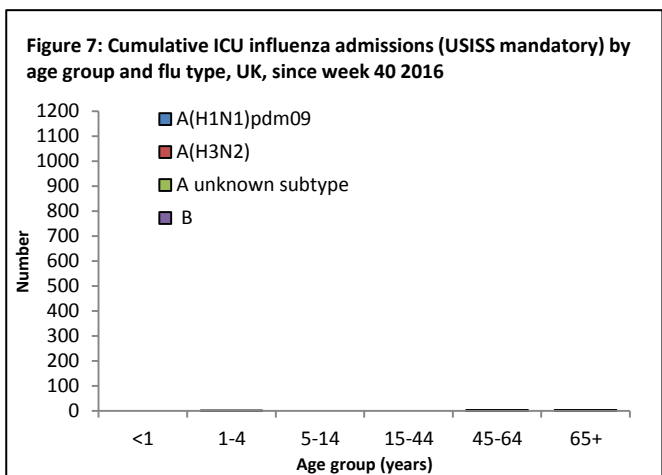
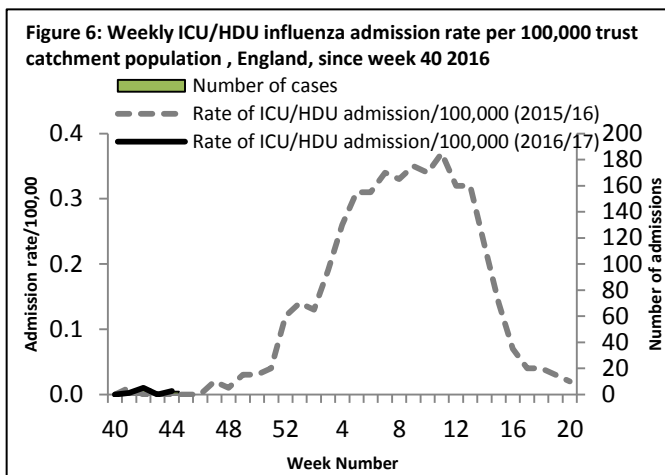
**In week 44, there were two admissions to ICU/HDU with confirmed influenza (1 influenza A(H3N2) and 1 influenza A(unknown subtype)) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (135 Trusts). No hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network across England (16 Trusts).**

A national mandatory collection (USISS mandatory ICU scheme) is operating in cooperation with the Department of Health to report the number of confirmed influenza cases admitted to Intensive Care Units (ICU) and High Dependency Units (HDU) and number of confirmed influenza deaths in ICU/HDU across the UK. A confirmed case is defined as an individual with a laboratory confirmed influenza infection admitted to ICU/HDU. In addition a sentinel network (USISS sentinel hospital network) of acute NHS trusts is established in England to report weekly laboratory confirmed hospital admissions. Further information on these systems is available through the [website](#). Please note data in previously reported weeks are updated and so may vary by week of reporting.

- Number of new admissions and fatal confirmed influenza cases in ICU/HDU (USISS mandatory ICU scheme), UK (week 44)

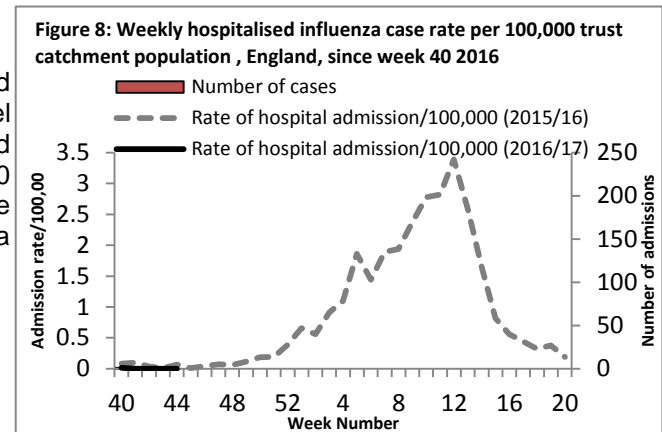
- In week 44, there were two admissions to ICU/HDU with confirmed influenza (1 influenza A(H3N2) and 1 influenza A(unknown subtype)) reported across the UK (135/156 Trusts) through the USISS mandatory ICU scheme, with a rate of 0.01 per 100,000 compared to a rate of 0.0 per 100,000 in week 43 (Figures 6 and 7). No confirmed influenza deaths were reported in week 44 2016.

A total of seven admissions (1 influenza A(H3N2), 3 influenza A(H1N1)pdm09, 3 influenza A(unknown subtype)) and no confirmed deaths have been reported since week 40 2016.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 44)

- In week 44, there were no hospitalised confirmed influenza cases reported through the USISS sentinel hospital network from 16 NHS Trusts across England (Figure 8), a rate of 0.00 per 100,000 compared to 0.00 per 100,000 in the previous week. A total of one hospitalised confirmed influenza admission (influenza A(H3N2)) has been reported since week 40 2016.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 44)

- In week 44, 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 44, 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 44 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 43 2016, an estimated 9,724 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a slight decrease compared to the 9,768 estimated death registrations in week 42 2016.

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

-In week 44 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 44 2016 (Table 2).

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

Country	Excess detected in week 44 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

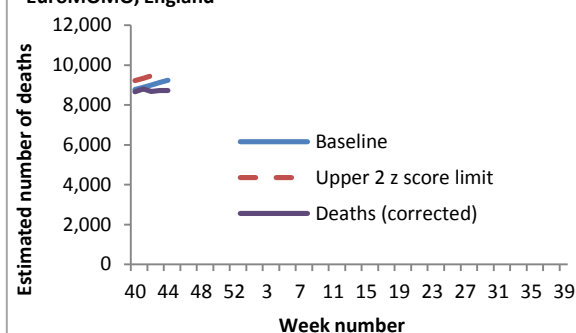
NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 1 + 2

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

Age group (years)	Excess detected in week 44 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

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



## Microbiological surveillance

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In week 44 2016, one sample tested positive for influenza (A(H3N2)) through the UK GP sentinel schemes. Six positive detections were recorded through the DataMart scheme (3 influenza A(H3N2) and 3 influenza A(not subtyped)).

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

-In week 44, one sample tested positive for influenza (A(H3N2)) through the UK GP sentinel swabbing schemes, an overall positivity of 0.9% compared to 0.6% in week 43 (Table 3).

Since week 40 2016, four samples (2 A(H3N2), 1 A(untyped) and 1 B) have tested positive for influenza through this scheme.

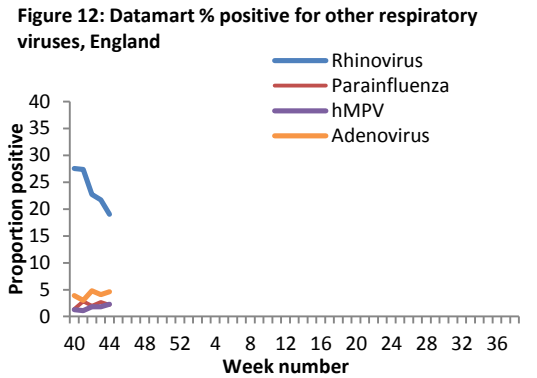
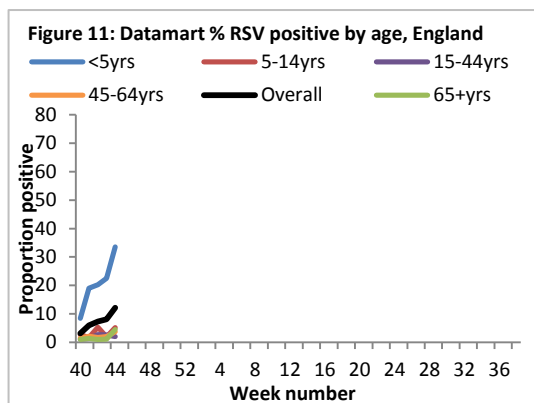
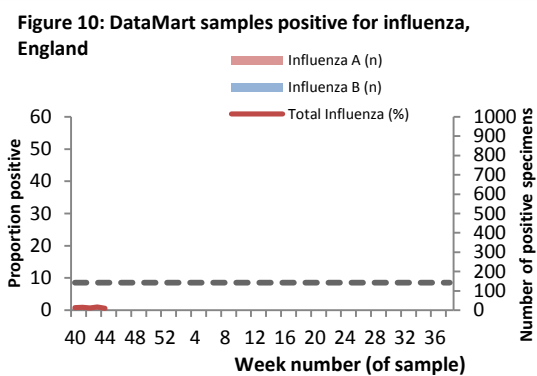
**Table 3: Sentinel influenza surveillance in the UK**

Week	England	Scotland	Northern Ireland	Wales
40	0/42 (0%)	1/62 (1.6%)	0/2 (-)	0/3 (-)
41	0/75 (0%)	0/69 (0%)	0/3 (-)	0/3 (-)
42	0/81 (0%)	0/78 (0%)	0/2 (-)	1/3 (-)
43	1/79 (1.3%)	0/81 (0%)	0/1 (-)	0/2 (-)
44	0/25 (0%)	1/79 (1.3%)	0/1 (-)	0/1 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 44 2016, out of the 940 respiratory specimens reported through the Respiratory DataMart System, six samples (0.6%) were positive for influenza (3 influenza A(H3N2) and 3 influenza A(not subtyped)) (Figure 10). The highest positivity was in the 45-64 year olds at 1.4%. The overall positivity for RSV continued to increase slightly from 8.1% in week 43 to 12.1% in week 44. The highest positivity was noted in the <5 year olds at 33.6% in week 44 compared to 22.5% in week 43 (Figure 11). Positivity for rhinovirus continued to decrease from 21.7% in week 43 to 19.0% in week 44. Positivities for adenovirus and parainfluenza remained slightly increased at 4.6% and 2.9% respectively in week 44. Positivity for human metapneumovirus (hMPV) increased from 1.8% in week 43 to 2.3% in week 44 (Figure 12).



*\*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 two A(H3N2) influenza viruses since week 40 showed that they belong to a cluster within the genetic subclade 3C.2a, 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 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 06 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 06 November 2016, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	2,560	88
	Macrolides	2,865	80
	Tetracycline	2,764	81
<i>H. influenzae</i>	Amoxicillin/ampicillin	12,185	70
	Co-amoxiclav	12,395	87
	Macrolides	4,842	13
	Tetracycline	12,243	98
<i>S. aureus</i>	Methicillin	5,715	92
	Macrolides	6,187	68
MRSA	Clindamycin	302	45
	Tetracycline	456	85
MSSA	Clindamycin	2,974	77
	Tetracycline	4,863	93

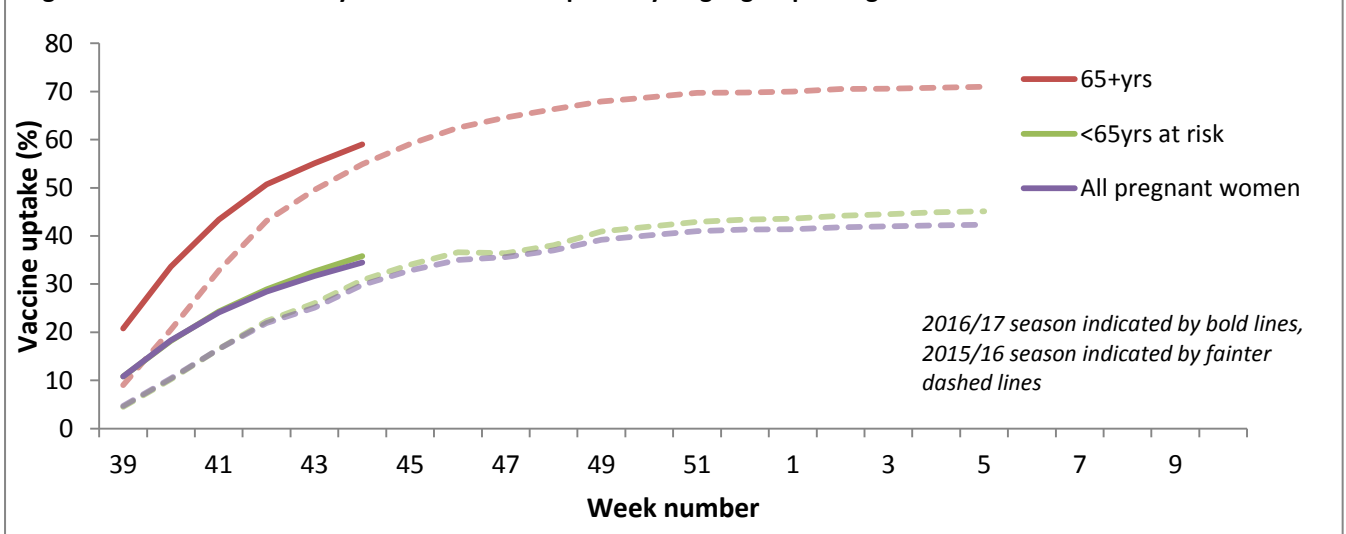
\*Macrolides = erythromycin, azithromycin and clarithromycin

## Vaccination

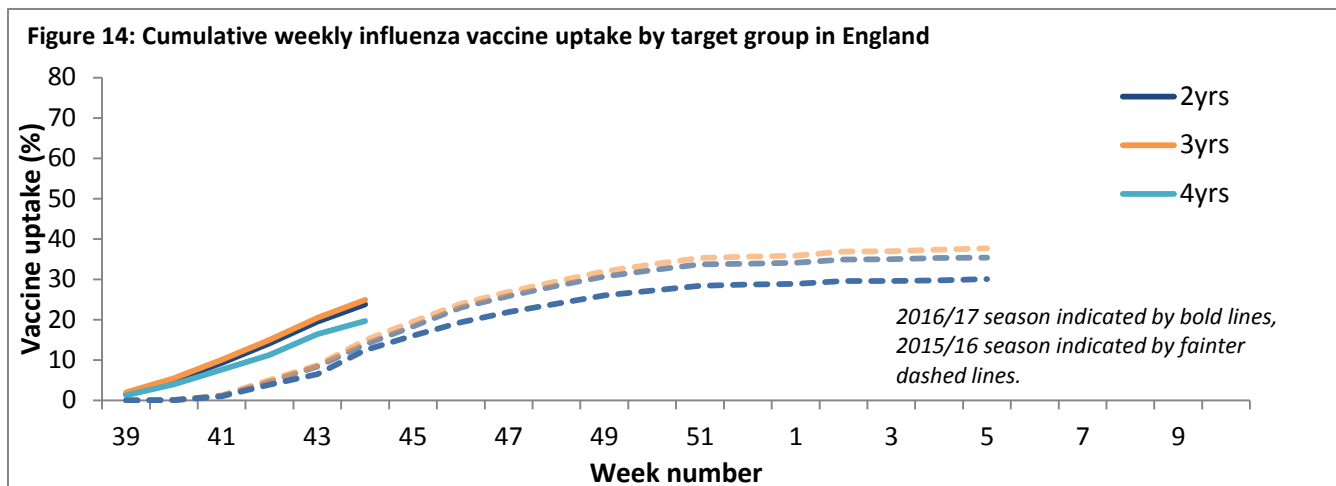
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- Up to week 44 2016 in 89.2% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
  - 35.8% in under 65 years in a clinical risk group
  - 34.5% in pregnant women
  - 59.0% 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 44 2016 in 92.0% 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):
  - 23.8% in all 2 year olds
  - 24.9% in all 3 year olds
  - 19.7% in all 4 year olds



## International Situation

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**Influenza activity is low and at inter-seasonal levels in the Northern Hemisphere but showing signs of decreasing in the Southern hemisphere.**

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

In week 43/2016, influenza activity in the WHO European Region has remained at low levels, with few samples testing positive for influenza viruses (2% of sentinel samples), and is at levels similar to that observed for the same period in recent seasons.

For week 43/2016, of 731 sentinel specimens tested, 11 (2%) were positive for influenza virus. Of these, nine (82%) were type A and two were type B. All six subtyped influenza A viruses were A(H3N2).

For week 43/2016, two influenza-positive cases were reported by Spain out of three countries (Ireland, Spain and UK) that submitted surveillance data on this indicator (based on hospitalized laboratory-confirmed influenza cases in intensive care units or other wards, or sentinel severe acute respiratory infections (SARI) systems).

For week 43/2016, 82 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, 90% were type A and 10% type B. Of 18 influenza A viruses subtyped, 16 (89%) were A(H3N2). Similar distributions of types and subtypes have been observed since week 40/2016.

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

During week 43, influenza activity was low in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 43 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories was low.

Nationwide during week 43, the proportion of outpatient visits for influenza-like illness (ILI) was 1.3%, which is below the national baseline of 2.2%.

- [Canada](#) updated on 04 November 2016 (Public Health Agency report)

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



A total of 85 positive influenza detections were reported in week 43. Influenza A(H3N2) continues to be the most common subtype detected.

In week 43, 1.0% of visits to sentinel healthcare professionals were due to influenza-like symptoms.

One laboratory-confirmed influenza outbreak was reported in week 43.

Five hospitalizations were reported in week 43; all in adults  $\geq 65$  years and all due to influenza A(H3N2).

- [Global influenza update](#) updated on 31 October 2016 (WHO website)

Influenza activity in temperate southern hemisphere countries continued to decrease or remained low. Influenza activity in the temperate zone of the northern hemisphere remained at inter-seasonal levels

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

In the temperate countries of Southern Africa, influenza detections continued to decrease.

In Oceania, influenza virus activity continued to decrease in the last few weeks. Influenza A(H3N2) remained the dominant circulating influenza virus. In Australia, activity decreased from the peak in September.

In the Caribbean countries, influenza and other respiratory virus activity remained low except in Cuba where influenza B virus detections continued and in French Guiana where ILI activity and influenza detections of influenza A(H3N2) viruses increased slightly. In Central America, influenza virus activity in most countries remained low, except in Costa Rica where there was a slight increase in influenza detections. RSV continued to circulate in several countries as the predominant respiratory virus.

In tropical South America, respiratory virus activities remained low.

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

In South East Asia, a decreasing trend in influenza detection was observed, although detections continued to increase in Lao People's Democratic Republic (PDR) and Thailand

In tropical Africa, Burkina Faso and La Réunion Island (France) reported slightly increased influenza A(H3N2) virus activity.

In Northern temperate Asia, influenza activity remained low with predominantly influenza A(H3N2) detections in northern China.

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 increased.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 70,925 specimens between 03 October 2016 and 16 October 2016. 2,979 were positive for influenza viruses, of which 2,540 (85.3%) were typed as influenza A and 439 (14.7%) as influenza B. Of the sub-typed influenza A viruses, 135 (6.6%) were influenza A(H1N1)pdm09 and 1,911 (93.4%) were influenza A(H3N2). Of the characterized B viruses, 21 (25.9%) belonged to the B-Yamagata lineage and 60 (74.1%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 03 October 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)**

Since the last update on 19 July 2016, China reported five laboratory-confirmed human cases of A(H7N9) virus infection to WHO on [11 August 2016](#), including one fatal case. One cluster of three cases was reported for which the possibility of human-to-human transmission for two cases in the cluster cannot be excluded.

A total of 798 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 31 October 2016

Between [16 September and 10 October 2016](#) the National IHR Focal Point of Saudi Arabia seven (7) additional cases of Middle East Respiratory Syndrome (MERS) including one (1) fatal case.

Up to 09 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 874 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,813 laboratory-confirmed cases of infection with MERS-CoV, including at least 645 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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### Community surveillance

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### Disease severity and mortality data

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### Vaccination

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- Childhood flu programme information for healthcare practitioners ([Public Health England](#))
- 2016/17 Northern Hemisphere seasonal influenza vaccine recommendations ([WHO](#))