



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

23 February 2017 – Week 08 report (up to week 07 data)

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 07 (ending 19 February 2017), influenza continues to circulate with some indicators stabilising while others are decreasing. The Department of Health has issued an [alert](#) on the prescription of antiviral medicines by GPs.

- [Community influenza surveillance](#)
 - Through the GP In Hours Syndromic Surveillance system, GP consultations for respiratory conditions including influenza like illness (ILI) decreased further in week 07.
 - 56 new acute respiratory outbreaks have been reported in the past 7 days. 43 outbreaks were from care homes, where 20 tested positive for influenza (18 influenza A(not subtyped), one influenza A(H3) and one influenza B). Seven outbreaks were from hospitals where six tested positive for influenza (five influenza A (not subtyped) and one influenza B). One outbreak was reported from a school with no test results available. The remaining five outbreaks were from the Other settings category, where one tested positive for influenza A (not subtyped).
- [Overall weekly influenza GP consultation rates across the UK](#)
 - In week 07, the overall weekly influenza-like illness (ILI) GP consultation rate was 11.7 per 100,000 in England compared to 12.3 per 100,000 in the previous week. This is below the baseline threshold of 14.3 per 100,000 for this season. In the devolved administrations, ILI rates have decreased or slightly increased compared to the previous week.
- [Influenza-confirmed hospitalisations](#)
 - In week 07, there were 65 admissions to ICU/HDU with confirmed influenza (41 influenza A(unknown subtype), 12 influenza A(H3N2), seven influenza A(H1N1)pdm09 and five influenza B) were reported across the UK (133/156 Trusts in England) through the USISS mandatory ICU scheme with a rate of 0.14 per 100,000 compared to 0.14 per 100,000 in the previous week.
 - In week 07, there were 69 hospitalised confirmed influenza cases (32 influenza A(H3N2), 18 influenza A(not subtyped), 12 influenza A(H1N1)pdm09 and seven influenza B) reported through the USISS sentinel hospital network (13 NHS Trusts across England), with a rate of 1.47 per 100,000, compared to 1.66 per 100,000 in the previous week.
 - No confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 07.
- [All-cause mortality data](#)
 - In week 07 2017, statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England overall and by age group in the 65+ year olds.
- [Microbiological surveillance](#)
 - 39 samples tested positive for influenza (18 influenza A(H3N2), 13 influenza A(unknown subtype) and 8 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 31.5% in week 07 compared to 30.5% in week 06.
 - 336 influenza positive detections were recorded through the DataMart scheme (283 influenza A(H3N2), 39 influenza A(unknown subtype), one influenza A(H1N1)pdm09 and 13 influenza B) in week 07. The overall positivity was at 20.8% in week 07 compared to 20.7% in week 06, which remains above the threshold for 2016/17 season of 8.6%.The highest age-specific positivities were seen in the 65+ year olds (31.1%).
- [Vaccination](#)
 - Up to week 04 2017, in 85.0% 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: 48.5% in under 65 years in a clinical risk group, 44.9% in pregnant women and 70.5% in 65+ year olds. In 88.1% of GP practices reporting to Immform, the provisional proportion of children in England who had received the 2016/17 influenza vaccine was as follows: 39.0% in all 2 year olds, 41.6% in all 3 year olds and 33.8% in all 4 year olds.
 - Provisional data from the fourth monthly collection of influenza vaccine uptake by frontline healthcare workers show 63.0% were vaccinated by 31 January 2017, compared to 49.5% vaccinated in the previous season by 31 January 2016. The report provides uptake at Trust level.
 - Provisional data from the fourth monthly collection of influenza vaccine uptake in GP patients up to 31 January 2017 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 fourth 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 January 2017 in targeted groups was as follows: 57.6% in children of school Year 1 age (5-6 years); 55.3% in children of school Year 2 age (6-7 years); 53.3% in children of school Year 3 age (7-8 years).
- [International situation](#)
 - Globally, influenza activity in the temperate zone of the northern hemisphere remains elevated however some regions such as Europe and East Asia seem to have peaked or reporting decreasing trends. Worldwide, influenza A(H3N2) virus was predominant.

Through the GP In Hours Syndromic Surveillance system, GP consultations for respiratory conditions including influenza like illness (ILI) decreased further in week 07. 56 new acute respiratory outbreaks were reported in the past 7 days.

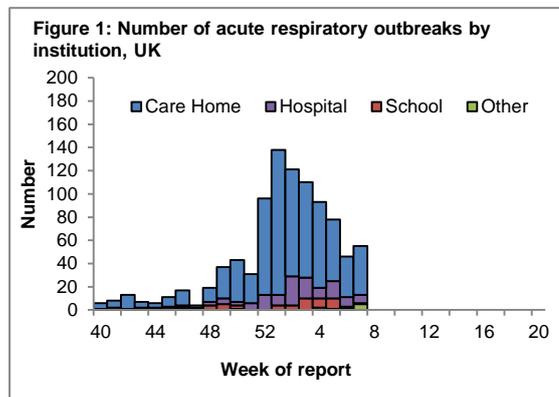
- PHE Real-time Syndromic Surveillance

- During week 07, GP consultations for respiratory conditions including ILI decreased further.
- For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks

- 56 new acute respiratory outbreaks have been reported in the past 7 days. 43 outbreaks were from care homes, where 20 tested positive for influenza (18 influenza A(not subtyped), one influenza A(H3) and one influenza B). Seven outbreaks were from hospitals where six tested positive for influenza (five influenza A (not subtyped) and one influenza B). One outbreak was reported from a school with no test results available. The remaining five outbreaks were from the Other settings category, 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 .

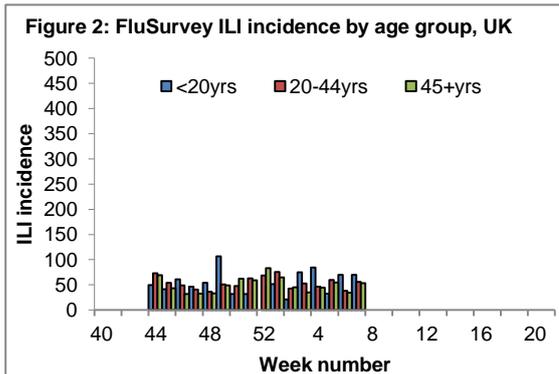


- FluSurvey

- 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.

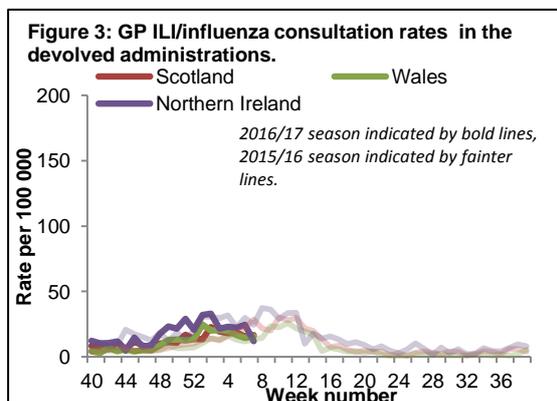
- The overall ILI rate (all age groups) for week 07 was 54.7 per 1,000 (118/2,159 people reported at least 1 ILI), with the <20 years age group reporting a higher rate of 70.0 per 1,000.

- 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 07, the overall weekly influenza-like illness GP consultation rate has decreased and is below the baseline threshold in England. In the devolved administrations, ILI rates have decreased or slightly increased compared to the previous week.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

-The Northern Ireland ILI rate has decreased at 12.0 per 100,000 in week 07 compared to 24.5 per 100,000 in week 06 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).

-The highest rates were seen in the <1 year olds (65.1 per 100,000) and the 75+ year olds (34.9 per 100,000).

Wales

- The Welsh ILI rate has increased slightly at 15.6 per 100,000 in week 07 compared to 14.5 per 100,000 in week 06 (Figure 3). This remains above the baseline threshold (10.3 per 100,000).
- The highest rates were seen in the 45-64 year olds (21.3 per 100,000) and 5-14 year olds (16.4 per 100,000).

Scotland

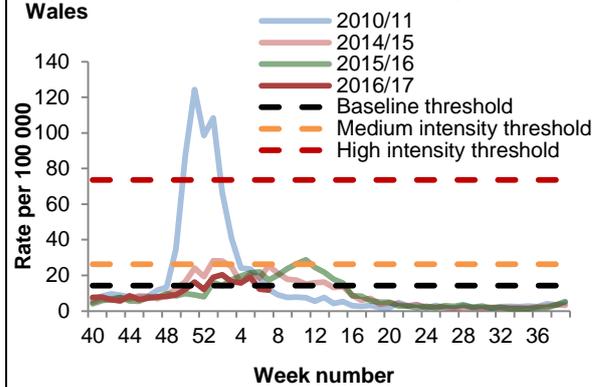
- The Scottish ILI rate increased slightly at 16.6 per 100,000 in week 07 compared to 15.3 per 100,000 in week 06 (Figure 3). This remains below the baseline threshold (36.1 per 100,000).
- The highest rates were seen in 45-64 year olds (22.2 per 100,000) and 15-44 year olds (18.6 per 100,000).

RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is at 11.7 per 100,000 in week 07 compared to 12.3 per 100,000 in week 06. This is below the baseline threshold (14.3 per 100,000) (Figure 4*). By age group, the highest rates were seen in <1 year olds (14.2 per 100,000), 15-44 year olds (13.6 per 100,000) and 45-64 year olds (13.5 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)

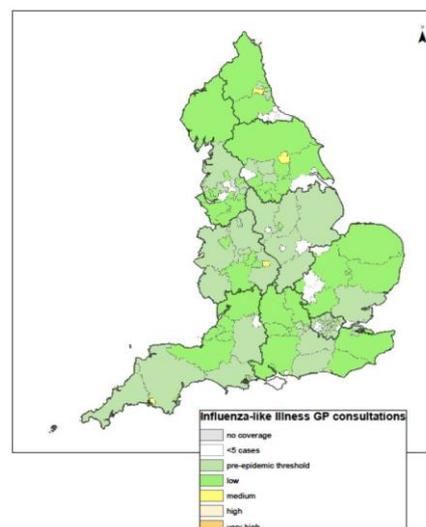
- The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 9.0 per 100,000 in week 07 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 07 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 07



Influenza confirmed hospitalisations

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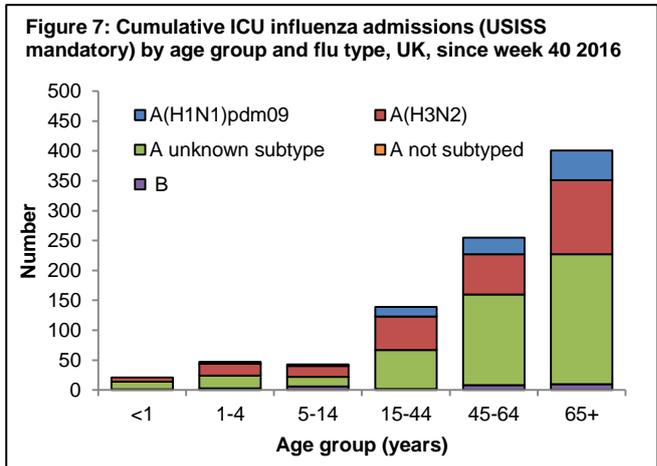
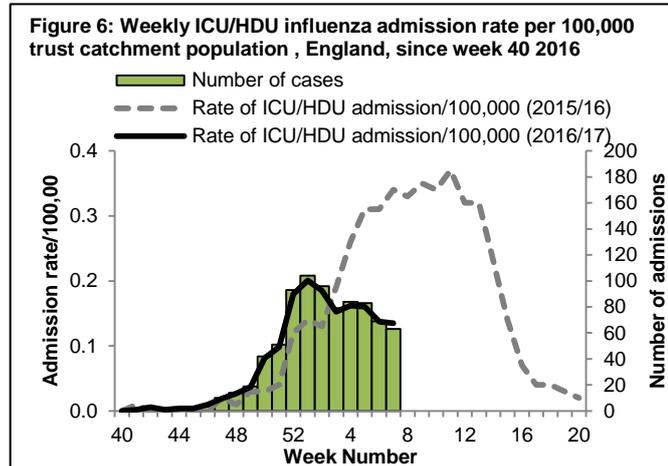
In week 07, there were 65 admissions to ICU/HDU with confirmed influenza (41 influenza A(unknown subtype), 12 influenza A(H3N2), seven influenza A(H1N1)pdm09 and five influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (133 Trusts). 69 hospitalised confirmed influenza cases (32 influenza A(H3N2), 18 influenza A(not subtyped), 12 influenza A(H1N1)pdm09 and seven influenza B) 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 07)

- In week 07, there were 65 admissions to ICU/HDU with confirmed influenza (41 influenza A(unknown subtype), 12 influenza A(H3N2), seven influenza A(H1N1)pdm09 and five influenza B) reported across the UK (133/156 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.14 per 100,000 compared to a rate of 0.14 per 100,000 in week 06 (Figures 6 and 7). Seven deaths were reported to have occurred in week 07.

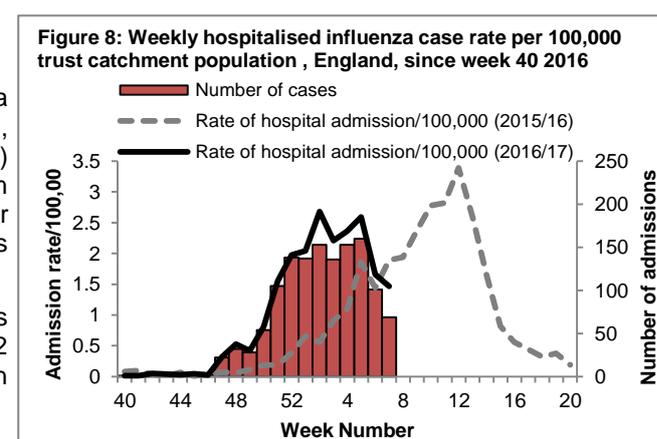
A total of 906 admissions (484 influenza A(unknown subtype), 292 influenza A(H3N2), 100 influenza A(H1N1)pdm09 and 30 influenza B) and 102 confirmed deaths have been reported since week 40 2016.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 07)

- In week 07, there were 69 hospitalised confirmed influenza cases (32 influenza A(H3N2), 18 influenza A(not subtyped), 12 influenza A(H1N1)pdm09 and seven influenza B) reported through the USISS sentinel hospital network from 13 NHS Trusts across England (Figure 8), a rate of 1.47 per 100,000 compared to 1.66 per 100,000 in the previous week.

A total of 1,304 hospitalised confirmed influenza admissions (860 influenza A(H3N2), 384 influenza A(not subtyped), 42 influenza B and 18 influenza A(H1N1)pdm09)) have been reported since week 40 2016.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 07)

- In week 07, there were no confirmed influenza admissions reported from the six Severe Respiratory Failure (SRF) centres in the UK. There have been four confirmed influenza admissions (one influenza A(H3N2) and three influenza A(unknown subtype)) reported since week 40 2016.

All-cause mortality data

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In week 07 2017 in England, statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England overall and in 65+ year olds. In the devolved administrations, no significant excess all-cause mortality was observed in week 07.

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.

- All-cause death registrations, England and Wales

- In 06 2017, an estimated 12,269 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 12,485 estimated death registrations in week 05 2017.

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

-In week 07 2017 in England, excess mortality by week of death above the upper 2 z-score threshold was seen overall, after correcting ONS disaggregate data for reporting delay with the standardised [EuroMOMO](#) algorithm (Table 1). By age groups, significant excess was seen in 65+ year olds but no significant excess was seen in the other age groups. Subnationally, excess mortality was seen in the London, South East, South West, East Midlands, East of England and Yorkshire and Humber regions. 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 observed in Wales or Scotland in week 07 (Table 2). Data was not available for Northern Ireland.

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 07 2017?	Weeks with excess in 2016/17
<5	x	48
5-14	x	-
15-64	x	52-01
65+	✓	51-07

* 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

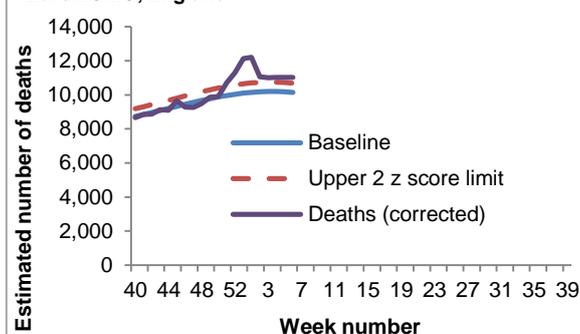


Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 07 2017?	Weeks with excess in 2016/17
England	✓	51-07
Wales	x	52-01,03
Scotland	x	46,50,51,01,05
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

Microbiological surveillance

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In week 07 2017, 39 samples tested positive for influenza (18 influenza A(H3N2), 13 influenza A(unknown subtype) and 8 influenza B) through the UK GP sentinel schemes with an overall positivity of 31.5%. 336 positive detections were recorded through the DataMart scheme (283 influenza A(H3N2), 39 influenza A(not subtyped), one influenza A(H1N1)pdm09 and 13 influenza B) with a positivity of 20.8% in week 07.

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

-In week 07, 39 samples tested positive for influenza (18 influenza A(H3N2), 13 influenza A(unknown subtype) and 8 influenza B) through the UK GP sentinel swabbing schemes, with an overall positivity of 31.5% compared to 30.5% in week 06 (Table 3).

Since week 40 2016, 786 samples (678 influenza A(H3N2), 49 influenza A(unknown subtype), 3 influenza A(H1N1)pdm09 and 56 influenza B) have tested positive for influenza through this scheme.

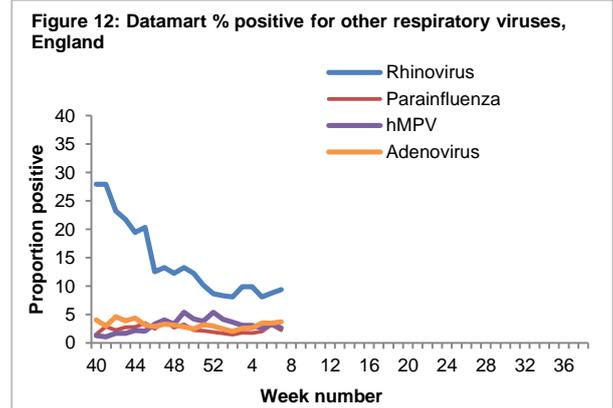
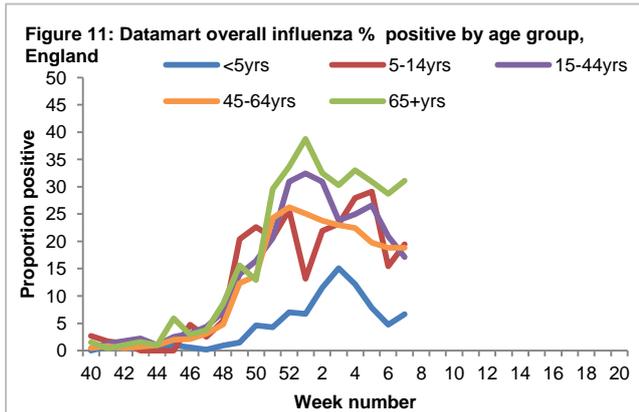
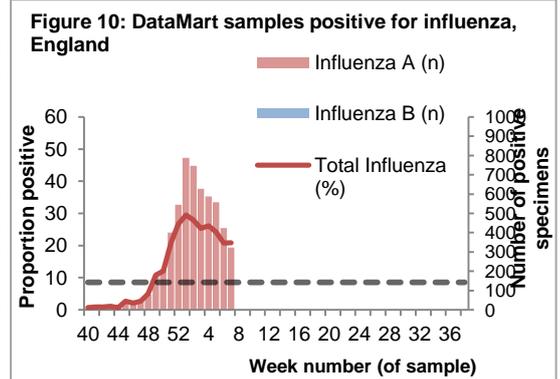
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
03	52/131 (39.7%)	31/85 (36.5%)	3/12 (25%)	4/12 (33.3%)
04	30/104 (28.8%)	27/71 (38%)	6/12 (50%)	8/17 (47.1%)
05	42/102 (41.2%)	28/79 (35.4%)	0/5 (-)	9/14 (64.3%)
06	13/56 (23.2%)	23/73 (31.5%)	2/7 (-)	15/38 (39.5%)
07	15/48 (31.3%)	19/52 (36.5%)	1/3 (-)	4/21 (19%)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 07 2017, out of the 1,614 respiratory specimens reported through the Respiratory DataMart System, 336 samples (20.8%) were positive for influenza (283 influenza A(H3N2), 39 influenza A(not subtyped), one influenza A(H1N1)pdm09 and 13 influenza B) (Figure 10), which is above the MEM threshold for this season of 8.6%. The highest positivity by age group was seen in the 65+ year olds (31.1%)(Figure 11). The overall positivity for RSV remained low at 2.1% in week 07. Positivities for rhinovirus and adenovirus increased slightly at 9.4% and 3.7% respectively in week 07. Positivities for parainfluenza and human metapneumovirus (hMPV) decreased slightly at 2.2% and 2.6% respectively in week 07.



**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. Occasionally, this can lead to a biased view of the properties of circulating viruses, as the viruses which can be recovered and analysed antigenically, may not be fully representative of majority variants, and genetic characterisation data does not always predict the antigenic characterisation

Since the start of the 2016/17 winter influenza season in week 40 2016, the PHE Respiratory Virus Unit has characterised three A(H1N1)pdm09 influenza viruses: one both genetically and antigenically and two 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 three viruses antigenically analysed are similar to the A/California/7/2009 Northern Hemisphere 2016/17 (H1N1)pdm09 vaccine strain. Genetic characterisation of 254 A(H3N2) influenza viruses since week 40 showed that they all belong to genetic subclade 3C.2a, with 135 belonging to a cluster within this genetic subclade designated as 3C.2a1. The Northern Hemisphere 2016/17 influenza A(H3N2) vaccine strain A/HongKong/4801/2014 belongs in genetic subclade 3C.2a. This seasons A(H3N2) viruses are difficult to cultivate, and only 18 influenza A(H3N2) viruses have been isolated and antigenically characterised since week 40 2016, representing a minority of the detections, indicating the bias in antigenic data. The viruses antigenically analysed are similar to the A/HongKong/4801/2014 Northern Hemisphere 2016/17 A(H3N2) vaccine strain. Of the 18 antigenically characterised viruses, three early isolates have also been genetically characterised, with all belonging in genetic group 3C.2a, and two belonging in the recently emerged 3C.2a1 cluster. Ten influenza B viruses have been analysed genetically since week 40/2015; eight have been characterised as belonging to the B/Yamagata/16/88-lineage and 2 belonging to the B/Victoria/2/1987-lineage. Thirteen influenza B viruses have been isolated and antigenically characterised since week 40 2016. Nine viruses were characterised as belonging to the B/Yamagata/16/88-lineage and were antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2016/17 Northern Hemisphere quadrivalent vaccine. Four viruses were characterised as belonging to the B/Victoria/2/87-lineage and were antigenically similar to B/Brisbane/60/2008, the influenza B/Victoria-lineage component of 2016/17 Northern Hemisphere trivalent and quadrivalent vaccines.

- Antiviral susceptibility

Influenza positive samples are screened for mutations in the virus neuraminidase gene known to confer oseltamivir and/or zanamivir resistance. Additionally, testing of influenza A (H1N1)pdm09, A(H3N2), and influenza B virus isolates for neuraminidase inhibitor susceptibility (oseltamivir and zanamivir) is performed at PHE-RVU using a functional assay. The data summarized below combine the results of both testing methods. The samples tested are routinely obtained for surveillance purposes, but diagnostic testing of patients suspected to be infected with neuraminidase inhibitor-resistant virus is also performed.

Since week 40 2016, 302 influenza A(H3N2) have been tested for oseltamivir susceptibility; 297 are fully susceptible. 284 of the 302 were also tested for zanamivir susceptibility with 280 being fully susceptible. Four A(H3N2) viruses have been detected with an R292K amino acid substitution, which causes resistance to oseltamivir and a reduction in susceptibility to zanamivir, and one A(H3N2) virus with an E119V amino acid substitution was detected, causing resistance to oseltamivir but not affecting zanamivir susceptibility. All four R292K cases and the E119V case have been identified in patients with underlying medical conditions with some exposure to oseltamivir. Two influenza A(H1N1)pdm09 and 16 influenza B (Yamagata) viruses have been tested for oseltamivir susceptibility and all were fully susceptible. One of the two influenza A(H1N1)pdm09 virus and all 16 influenza B (Yamagata) virus have been tested for zanamivir susceptibility and all were fully susceptible.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 19 February 2017, 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 19 February 2017, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	4,001	91
	Macrolides	4,526	82
	Tetracycline	4,309	84
<i>H. influenzae</i>	Amoxicillin/ampicillin	17,669	69
	Co-amoxiclav	18,471	88
	Macrolides	6,605	12
	Tetracycline	18,044	98
<i>S. aureus</i>	Methicillin	6,615	91
	Macrolides	7,199	67
MRSA	Clindamycin	386	40
	Tetracycline	583	80
MSSA	Clindamycin	3,619	77
	Tetracycline	5,553	93

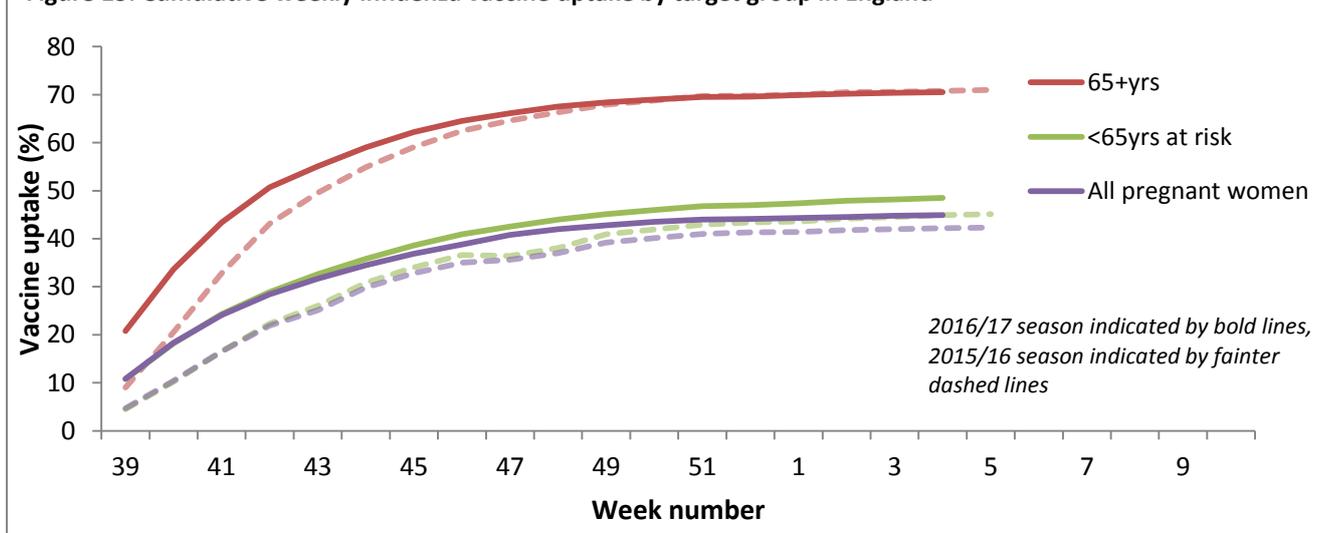
*Macrolides = erythromycin, azithromycin and clarithromycin

Vaccination

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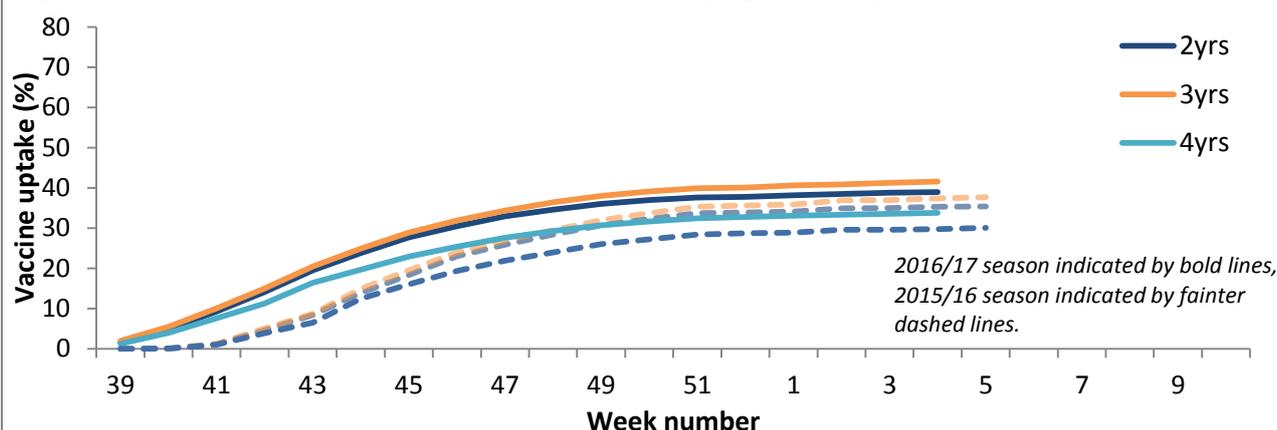
- Up to week 04 2017 in 85.0% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
 - 48.5% in under 65 years in a clinical risk group
 - 44.9% in pregnant women
 - 70.5% 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 04 2017 in 88.1% 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):
 - 39.0% in all 2 year olds
 - 41.6% in all 3 year olds
 - 33.8% in all 4 year olds

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



- Provisional data from the fourth monthly collection of influenza vaccine uptake by frontline healthcare workers show 63.0% were vaccinated by 31 January 2017 from 97.3% of Trusts, compared to 49.5% vaccinated in the previous season by 31 January 2016. The report provides uptake at Trust level.
- Provisional data from the fourth monthly collection of influenza vaccine uptake in GP patients up to 31 January 2017 show that in 97.3% 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:
 - 48.7% in under 65 years in a clinical risk group
 - 44.8% in pregnant women
 - 70.4% in 65+ year olds
- Provisional data from the fourth monthly collection of influenza vaccine uptake in GP patients up to 31 January 2017 show that in 96.7% of all GP practices in England responding to the child GP survey, the proportion of people in England who received the 2016/17 influenza vaccine was as follows:
 - 38.9% in all 2 year olds
 - 41.5% in all 3 year olds
 - 33.9% in all 4 year olds
- Provisional data from the fourth monthly collection of influenza vaccine uptake for children of school years 1, 2 and 3 age (from a sample of 100% of all Local Authorities in England) show the proportion of children in England who received the 2016/17 influenza vaccine via school, pharmacy or GP practice by 31 January 2017 in targeted groups was as follows:
 - 57.6% in children of school Year 1 age (5-6 years)
 - 55.3% in children of school Year 2 age (6-7 years)
 - 53.3% 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 elevated however some regions such as Europe and East Asia seem to have peaked or reporting decreasing trends. Worldwide, influenza A(H3N2) virus was predominant.

- [Europe](#) updated on 17 February 2017 (Joint ECDC-WHO Influenza weekly update)

In week 06/2017, influenza activity remained elevated across Europe with 24 of 43 countries reporting medium to very high intensity.

In week 06/2017, 1,090 of 2,601 (42%) sentinel specimens tested positive for influenza viruses. Of these, 92% were type A and 8% were type B. The great majority (99%) of subtyped influenza A viruses were A(H3N2). The lineage of 45 influenza B viruses was determined of which 32 (71%) fell in B/Yamagata and 13 (29%) in B/Victoria lineages. Of 30 countries across the region that each tested at least 10 sentinel specimens, 19 reported proportions of influenza virus detections above 30% (median 52, range 36% to 68%).

For week 06/2017, of 1,374 SARI cases reported, 218 were tested for influenza virus and 52 (24%) were positive: two A untyped, three A(H1N1)pdm09, 31 A(H3N2) and 16 type B viruses. Since week 40/2016, 23,903 SARI cases have been reported from 15 countries with 6 373 tested for influenza virus, of which

2,353 (37%) were positive: 1,992 (85%) were type A and 361 (15%) type B viruses. Of the influenza A viruses, 1 872 (94%) were A(H3N2), 4 (<1%) were A(H1N1)pdm09 and 116 (6%) were not subtyped.

For week 06/2017, 6,327 specimens from non-sentinel sources (such as hospitals, schools, non-sentinel primary care facilities, nursing homes and other institutions) tested positive for influenza viruses. Of these, 88% were type A (with 99% of the subtyped viruses being A(H3N2)), and 12% type B.

The majority of reporting countries across the European region continue to see a marked increase in all-cause excess mortality among the elderly aged 65 years or older. In addition, a substantial increase has been observed in the 15–64 years age group. This is probably due to the dominance of influenza A(H3N2) virus circulation.

- [United States of America](#) updated on 17 February 2017 (Centre for Disease Control report)

During week 06, influenza activity increased in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 06 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased.

A cumulative rate for the season of 29.4 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.

Nationwide during week 06, the proportion of outpatient visits for influenza-like illness (ILI) was 5.2%, which is above the national baseline of 2.2%.

- [Canada](#) updated on 17 February 2017 (Public Health Agency report)

For week 06, widespread or localised influenza activity continues to be reported across Canada.

In week 06, the percentage of tests positive for influenza has remained stable for the past four weeks (ranging from 23% to 24% of tests positive for influenza).

In week 06, 67 laboratory confirmed outbreaks were reported (up from 57 in the previous week); the majority in long-term care facilities and due to influenza A.

In week 06, the number of hospitalizations reported by participating provinces and territories and sentinel hospital networks decreased.

A(H3N2) continues to be the most common type of influenza affecting Canadians.

The majority of laboratory detections, hospitalizations and deaths have been among adults aged 65+ years.

- [Global influenza update](#) updated on 20 February 2017 (WHO website)

Influenza activity in the temperate zone of the northern hemisphere continued to be elevated. Many countries especially in East Asia and Europe appeared to have already peaked and were reporting decreasing trends. Worldwide, influenza A(H3N2) virus was predominant. The majority of influenza viruses characterized so far were similar antigenically to the reference viruses contained in vaccines for use in the 2016-2017 northern hemisphere influenza season. Nearly all tested viruses collected recently for antiviral sensitivity were susceptible to the neuraminidase inhibitor antiviral medications.

In North America, influenza activity with A(H3N2) virus predominating increased in the United States of America and Mexico, whereas in Canada influenza activity continued to decrease.

In Europe, influenza activity remained elevated with influenza A (H3N2) virus being the most prominent subtype. Most of the countries reported stable or decreasing trends compared with previous weeks. Persons aged over 65 years were most frequently associated with severe disease from influenza infection.

In East Asia, influenza activity appeared to be decreasing with influenza A(H3N2) virus predominant.

In Western Asia, influenza activity was decreasing with influenza A(H3N2) predominant in the region. Low levels of influenza B viruses were also detected.

In Southern Asia, influenza activity sharply increased in India and Sri Lanka, with mainly influenza A(H1N1)pdm09 reported followed by influenza B and A(H3N2).

In South East Asia, influenza activity remained low.

In Northern Africa, influenza activity seemed to have peaked; influenza A(H3N2) and influenza B virus detections were reported.

In West Africa, influenza B continued to be detected in Ghana.

In the Caribbean countries and Central America, influenza and other respiratory virus activity remained low in general, except in Puerto Rico where influenza activity remained above the seasonal threshold with influenza A(H3N2) predominating.

In tropical South America, influenza and other respiratory virus activity remained low, although RSV activity remained elevated in Colombia.

In the temperate zone of the Southern Hemisphere, influenza activity was at inter-seasonal levels.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 154,949 specimens between 23 January 2017 and 05 February 2017. 40,292 were positive for influenza viruses, of which 36,922 (91.6%) were typed as influenza A and 3,370 (8.4%) as influenza B. Of the sub-typed influenza A viruses, 418 (2.9%) were influenza A(H1N1)pdm09 and 14,024 (97.1%) were influenza A(H3N2). Of the characterized B viruses, 332 (62.8%) belonged to the B-Yamagata lineage and 197 (37.2%) to the B-Victoria lineage.

- [Avian Influenza](#) latest update on 20 February 2017 (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 (NHFP) 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)

Between [19 January and 14 February 2017](#), a total of 304 additional laboratory-confirmed cases of human infection have been reported to WHO from mainland China through the China National IHR focal point.

A total of 1,222 laboratory-confirmed human infections with avian influenza A (H7N9) virus have been reported through IHR notification since early 2013.

Influenza A(H7N2)

Between [20 December 2016 and 16 January 2017](#), the United States of America (USA) reported one laboratory confirmed human case of influenza A(H7N2) virus infection to WHO. The likely source of infection in the human was through close contact with ill cats infected with an A(H7N2) virus. More information on influenza in cats, influenza A(H7N2), and the human infection with A(H7N2) can be found [here](#).

Influenza A(H9N2)

Between [20 December 2016 and 16 January 2017](#), One new laboratory-confirmed human case of A(H9N2) virus infection was reported to WHO from China in a seven-month-old girl from Guangdong province. Avian influenza A(H9N2) viruses are enzootic in poultry in China.

- [Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#) latest update on 10 February 2017

Between [10 January and 03 February 2017](#) the National International Health Regulations Focal Point of Saudi Arabia reported seventeen (17) additional cases of Middle East Respiratory Syndrome (MERS) including four (4) fatal cases. Three (3) deaths among previously reported MERS cases (case no. 1 and 2 in DON published on 26 January 2017 and case no. 6 in DON published on 17 January 2017) were also reported.

Up to 22 February 2017, 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 937 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,905 laboratory-confirmed cases of infection with MERS-CoV, including at least 677 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.

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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](#))