



PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

23 March 2017 – Week 12 report (up to week 11 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

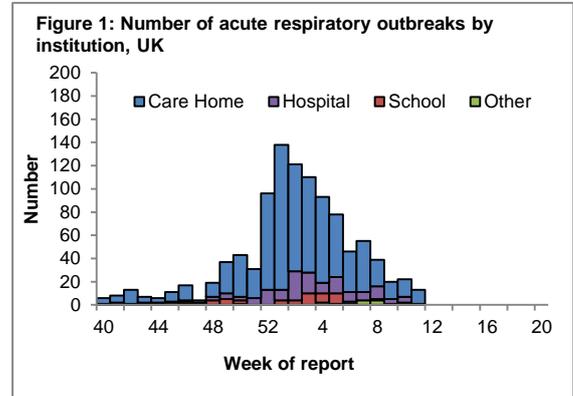
During week 11 (ending 19 March 2017), influenza activity continues to decrease across all indicators. The Department of Health has issued an [alert](#) on the prescription of antiviral medicines by GPs.

- [Community influenza surveillance](#)
 - Through the GP In Hours Syndromic Surveillance system, GP consultations for influenza-like illness (ILI) continue to decrease in week 11.
 - 13 new acute respiratory outbreaks have been reported in the past 7 days. 12 outbreaks were from care homes, where five tested positive for influenza (five influenza A(not subtyped)). One outbreak was from a hospital and tested positive for influenza A(not subtyped).
- [Overall weekly influenza GP consultation rates across the UK](#)
 - In week 11, the overall weekly influenza-like illness (ILI) GP consultation rate was 5.2 per 100,000 in England compared to 7.7 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 in Scotland and Wales but increased in Northern Ireland compared to the previous week.
- [Influenza-confirmed hospitalisations](#)
 - In week 11, there were eight admissions to ICU/HDU with confirmed influenza (four influenza A(unknown subtype) and four influenza B) were reported across the UK (128/156 Trusts in England) through the USSS mandatory ICU scheme with a rate of 0.02 per 100,000 compared to 0.04 per 100,000 in the previous week.
 - In week 11, there were 11 hospitalised confirmed influenza cases (five influenza A(H3N2), four influenza A(not subtyped) and two influenza B) reported through the USSS sentinel hospital network (16 NHS Trusts across England), with a rate of 0.20 per 100,000, compared to 0.55 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 11.
- [All-cause mortality data](#)
 - In week 11 2017, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England and in the devolved administrations.
- [Microbiological surveillance](#)
 - Eight samples tested positive for influenza (1 influenza A(H3N2) and 7 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 10.5% in week 10 compared to 21.0% in week 10.
 - 57 influenza positive detections were recorded through the DataMart scheme (36 influenza A(H3N2), 12 influenza A(unknown subtype) and 9 influenza B) in week 10. The overall positivity was at 5.1% in week 11 compared to 7.4% in week 10, which is now below the threshold for 2016/17 season of 8.6%. The highest age-specific positivities were seen in the 65+ year olds (7.4%).
- [Vaccination](#)
 - Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 63.4% were vaccinated by 28 February 2017, compared to 50.8% vaccinated in the previous season by 29 February 2016. The report provides uptake at Trust level.
 - 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 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 appeared to decrease. Influenza activity in many countries especially in East Asia and Europe already peaked. Worldwide, influenza A(H3N2) virus was predominant. In the Southern hemisphere, influenza activity with mainly A(H1N1) has been increasing. The [vaccine recommendation for the 2017-2018 northern hemisphere](#) influenza season has been made.

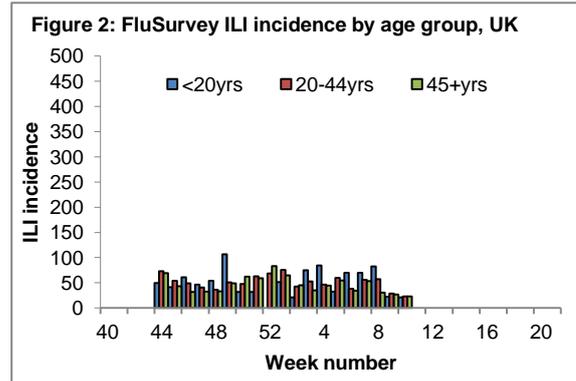
Through the GP In Hours Syndromic Surveillance system, GP consultations for influenza-like illness (ILI) continued to decrease in week 11. 13 new acute respiratory outbreaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance
 - During week 11, GP consultations for influenza-like illness continued to decrease.
 - For further information, please see the syndromic surveillance [webpage](#).

- Acute respiratory disease outbreaks
 - 13 new acute respiratory outbreaks have been reported in the past 7 days. 12 outbreaks were from care homes, where five tested positive for influenza (five influenza A(not subtyped)). One outbreak was from a hospital and 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.

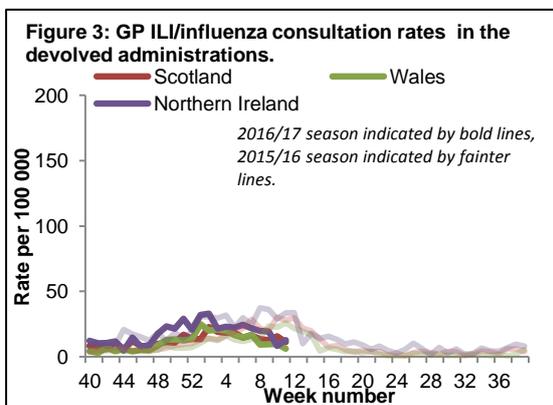


- FluSurvey
 - Internet-based surveillance of influenza-like illness in the general population is undertaken through the FluSurvey. A project run jointly by PHE and the London School of Hygiene and Tropical Medicine.
 - The overall ILI rate (all age groups) for week 11 was 24.0 per 1,000 (51/2,122 people reported at least 1 ILI), with the 20-44 years age group reporting a higher rate of 34.4 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 11, 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 in Scotland and Wales but increased in Northern Ireland compared to the previous week.

- Influenza/Influenza-Like-Illness (ILI)



Northern Ireland

- The Northern Ireland ILI rate has increased at 12.8 per 100,000 in week 11 compared to 8.4 per 100,000 in week 10 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).
- The highest rates were seen in the 65-74 year olds (23.4 per 100,000) and in the 75+ year olds (14.9 per 100,000).

Wales

-The Welsh ILI rate decreased at 6.1 per 100,000 in week 11 compared to 9.4 per 100,000 in week 10 (Figure 3). This is below the baseline threshold (10.3 per 100,000).

- The highest rates were seen in the 45-64 year olds (8.0 per 100,000) and 15-44 year olds (7.6 per 100,000).

Scotland

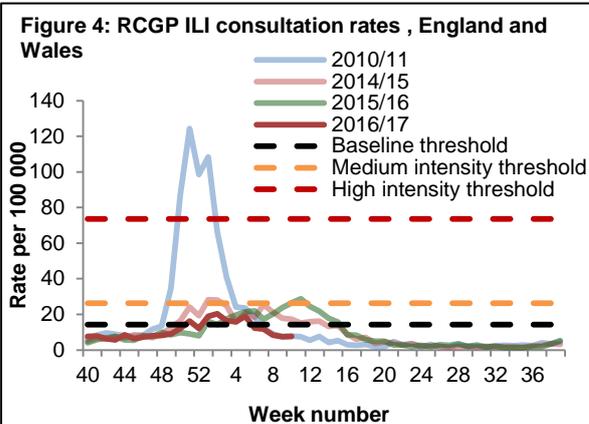
-The Scottish ILI rate decreased at 11.3 per 100,000 in week 11 compared to 15.6 per 100,000 in week 10 (Figure 3). This remains below the baseline threshold (36.1 per 100,000).

-The highest rates were seen in 45-64 year olds (14.7 per 100,000) and 75+ year olds (13.8 per 100,000).

RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is at 5.2 per 100,000 in week 11 compared to 7.7 per 100,000 in week 10. 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 (7.5 per 100,000) and 15-44 year olds (6.4 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.*



GP In Hours Syndromic Surveillance System (England)

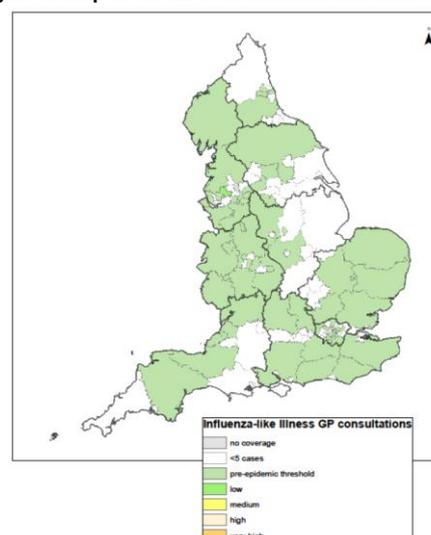
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 3.9 per 100,000 in week 11 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 11 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 11



Influenza confirmed hospitalisations

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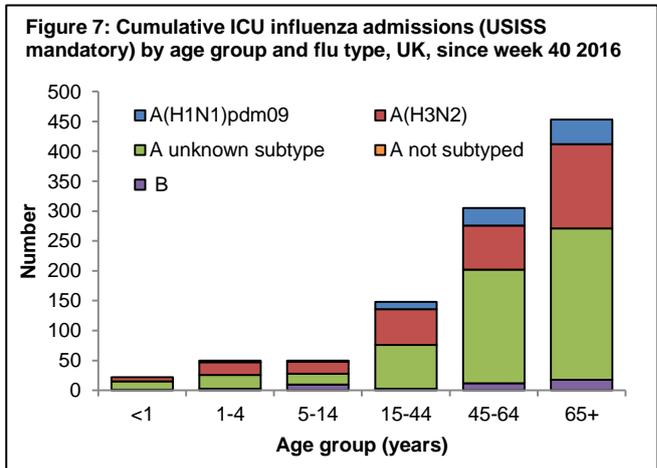
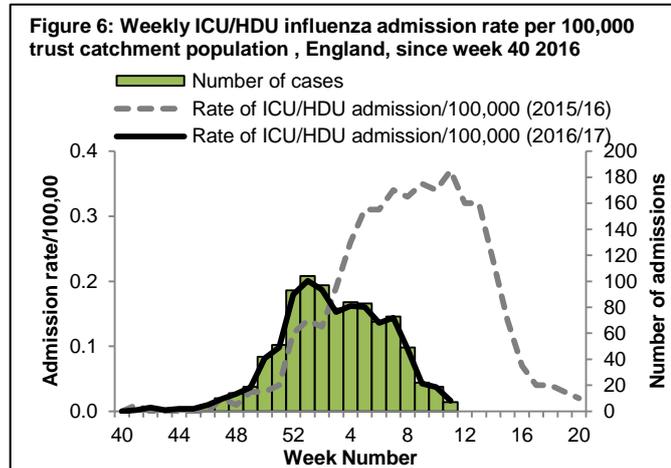
In week 11, there were eight admissions to ICU/HDU with confirmed influenza (four influenza A(unknown subtype) and four influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (128 Trusts). 11 hospitalised confirmed influenza cases (five influenza A(H3N2), four influenza A(not subtyped) and two influenza B) 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 11)

- In week 11, there were eight admissions to ICU/HDU with confirmed influenza (four influenza A(unknown subtype) and four influenza B) reported across the UK (128/156 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.02 per 100,000 compared to a rate of 0.04 per 100,000 in week 10 (Figures 6 and 7). Six deaths were reported to have occurred in week 11.

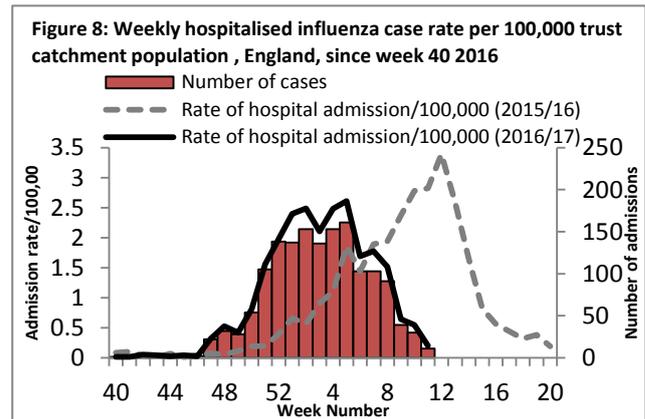
A total of 1,028 admissions (571 influenza A(unknown subtype), 323 influenza A(H3N2), 87 influenza A(H1N1)pdm09 and 47 influenza B) and 125 confirmed deaths have been reported since week 40 2016.



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 11)

- In week 11, there were 11 hospitalised confirmed influenza cases (five influenza A(H3N2), four influenza A(not subtyped) and two influenza B) reported through the USISS sentinel hospital network from 16 NHS Trusts across England (Figure 8), a rate of 0.20 per 100,000 compared to 0.55 per 100,000 in the previous week.

A total of 1,512 hospitalised confirmed influenza admissions (1,010 influenza A(H3N2), 414 influenza A(not subtyped), 62 influenza B and 26 influenza A(H1N1pdm09)) have been reported since week 40 2016.



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 11)

- In week 11, 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 11 2017 in England, 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 all-cause mortality was observed in week 11.

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 10 2017, an estimated 11,077 all-cause deaths were registered in England and Wales (source: [Office for National Statistics](#)). This is a decrease compared to the 11,248 estimated death registrations in week 09 2017.

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

-In week 11 2017 in England, no excess mortality by week of death above the upper 2 z-score threshold was seen overall, by age group or subnationally, after correcting ONS disaggregate data for reporting delay with the standardised EuroMOMO algorithm (Table 1). 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 and Scotland in week 11 (Table 2). Data was not available for Northern Ireland.

Table 1: Excess mortality by age group, England*

Age group (years)	Excess detected in week 11 2017?	Weeks with excess in 2016/17
<5	×	52
5-14	×	-
15-64	×	52-01
65+	×	52-05

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

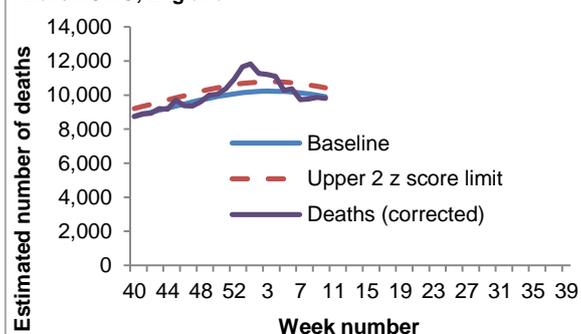
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 11 2017?	Weeks with excess in 2016/17
England	×	52-05
Wales	×	03
Scotland	×	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

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



Microbiological surveillance

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In week 11 2017, eight samples tested positive for influenza (one influenza A(H3N2) and seven influenza B) through the UK GP sentinel schemes with an overall positivity of 10.5%. 57 positive detections were recorded through the DataMart scheme (36 influenza A(H3N2), 12 influenza A(not subtyped) and 9 influenza B) with a positivity of 5.1% in week 11.

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

-In week 11, eight samples tested positive for influenza (one influenza A(H3N2) and seven influenza B) through the UK GP sentinel swabbing schemes, with an overall positivity of 10.5% compared to 21.0% in week 10 (Table 3).

Since week 40 2016, 889 samples (745 influenza A(H3N2), 55 influenza A(unknown subtype), 3 influenza A(H1N1)pdm09 and 86 influenza B) have tested positive for influenza through this scheme.

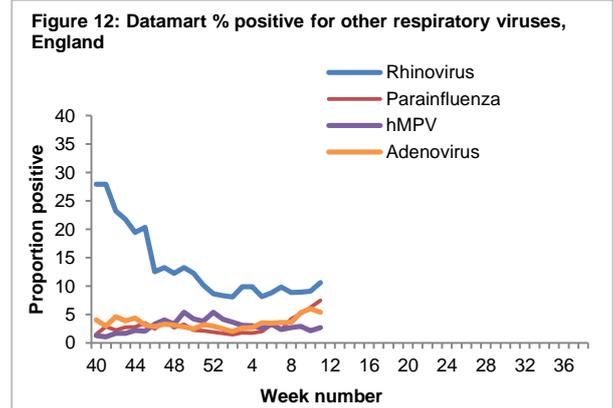
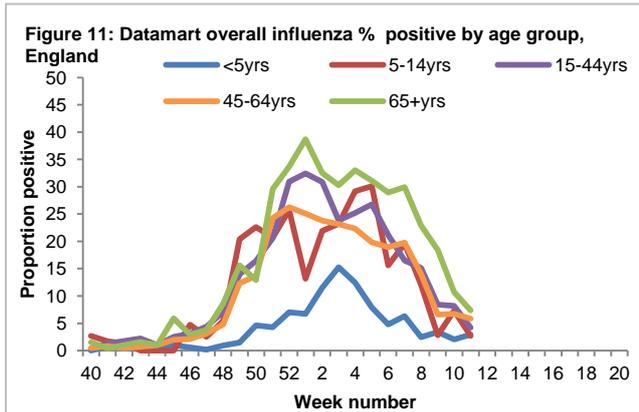
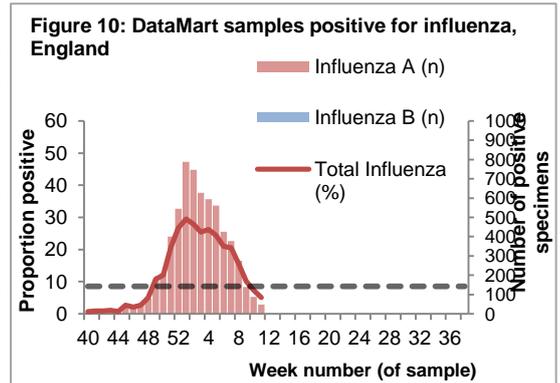
Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
07	21/60 (35%)	21/58 (36.2%)	2/4 (-)	4/21 (19%)
08	15/58 (25.9%)	12/56 (21.4%)	2/4 (-)	4/12 (33.3%)
09	4/23 (17.4%)	12/46 (26.1%)	1/6 (-)	2/16 (12.5%)
10	5/56 (8.9%)	12/35 (34.3%)	3/7 (-)	1/2 (-)
11	0/26 (0%)	6/44 (13.6%)	2/6 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 11 2017, out of the 1,123 respiratory specimens reported through the Respiratory DataMart System, 57 samples (5.1%) were positive for influenza (36 influenza A(H3N2), 12 influenza A(not subtyped) and 9 influenza B) (Figure 10), which is below the MEM threshold for this season of 8.6%. The highest positivity by age group was seen in the 65+ year olds (7.4%)(Figure 11). The overall positivity for RSV remained low at 2.1% in week 11. Positivity for rhinovirus, parainfluenza and human metapneumovirus (hMPV) increased at 10.6%, 7.5% and 2.7% respectively in week 11. Positivity for adenovirus decreased at 5.4% in week 11.



**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 four A(H1N1)pdm09 influenza viruses: one both genetically and antigenically and three 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 318 A(H3N2) influenza viruses since week 40 showed that they all belong to genetic subclade 3C.2a, with 158 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 23 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 23 antigenically characterised viruses, eight isolates have also been genetically characterised, with all belonging in genetic group 3C.2a, and six also belonging in the recently emerged 3C.2a1 cluster. Sixteen influenza B viruses have been analysed genetically since week 40/2015; 13 have been characterised as belonging to the B/Yamagata/16/88-lineage and 3 belonging to the B/Victoria/2/1987-lineage. Sixteen influenza B viruses have been isolated and antigenically characterised since week 40 2016. Twelve 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, 305 influenza A(H3N2) have been tested for oseltamivir susceptibility; 300 are fully susceptible. 286 of the 305 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 tested for zanamivir susceptibility. All four R292K cases and the E119V case have been identified in patients with underlying medical conditions with some exposure to oseltamivir. Seven influenza A(H1N1)pdm09 and 17 influenza B (Yamagata) viruses have been tested for oseltamivir susceptibility and all were fully susceptible. One of the seven influenza A(H1N1)pdm09 virus and all 17 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 March 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 March 2017, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
<i>S. pneumoniae</i>	Penicillin	3,952	91
	Macrolides	4,431	83
	Tetracycline	4,170	85
<i>H. influenzae</i>	Amoxicillin/ampicillin	19,129	69
	Co-amoxiclav	20,061	88
	Macrolides	7,321	11
	Tetracycline	19,674	98
<i>S. aureus</i>	Methicillin	6,597	90
	Macrolides	7,286	68
MRSA	Clindamycin	407	36
	Tetracycline	596	79
MSSA	Clindamycin	3,584	78
	Tetracycline	5,488	93

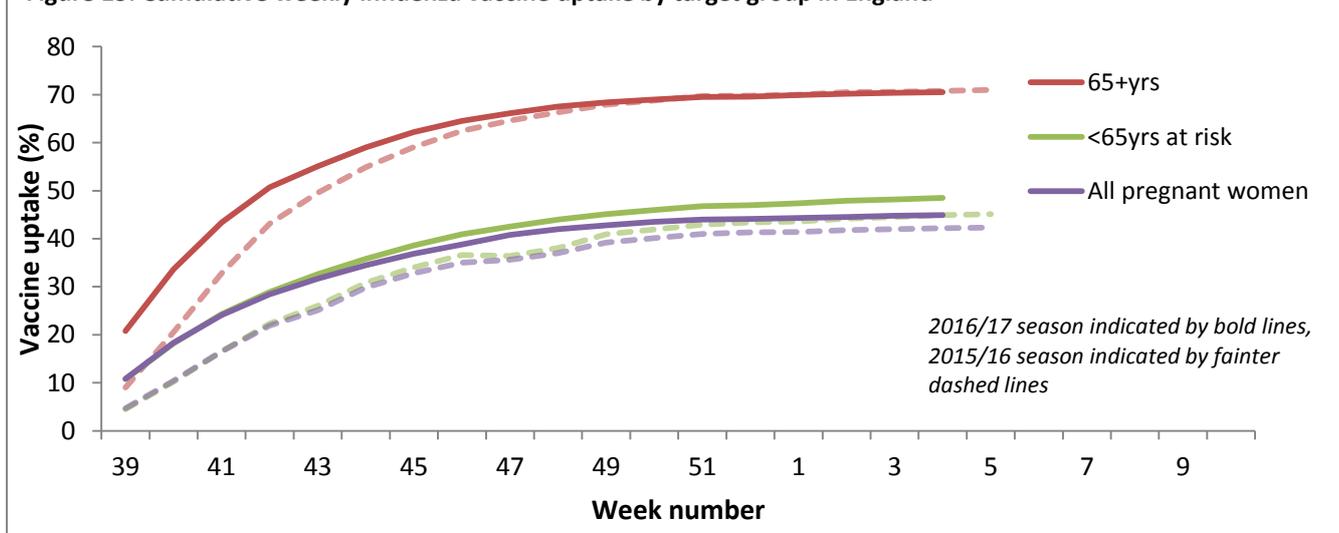
*Macrolides = erythromycin, azithromycin and clarithromycin

Vaccination

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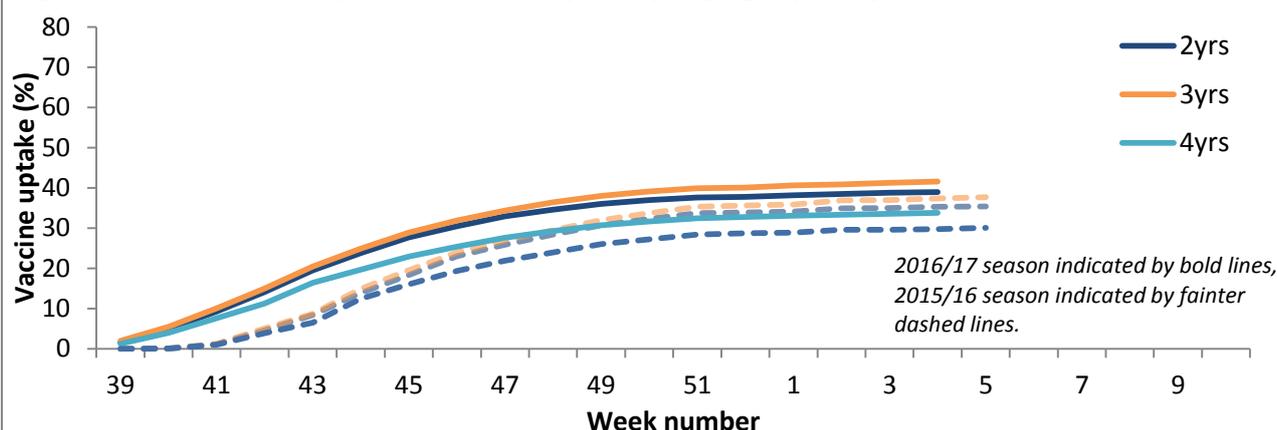
- Up to week 04 2017 in 85.0% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
 - 48.5% in under 65 years 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 fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 63.4% were vaccinated by 28 February 2017 from 98.9% of Trusts, compared to 50.8% vaccinated in the previous season by 29 February 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 appeared to decrease. Influenza activity in many countries especially in East Asia and Europe already peaked. Worldwide, influenza A(H3N2) virus was predominant. In the Southern hemisphere, influenza activity with mainly A(H1N1) has been increasing. The vaccine recommendation for the 2017-2018 northern hemisphere influenza season has been made.

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

In week 10/2017, Influenza activity across the region continued to decrease with the great majority of countries reporting low intensity. Among the 41 countries reporting on influenza activity for week 10/2017, 37 countries reported a return to baseline levels and 4 countries reported medium intensity. Of the 42 countries reporting on geographic spread, 7 reported widespread influenza activity.

For week 10/2017, 243 of 1,162 (21%) sentinel specimens tested positive for influenza viruses. Of these, 59% were type A and 41%, an increase from 31% in week 09/2017, were type B. The proportion of type B viruses commonly increases in the second half of an influenza season; however absolute numbers of detections have remained low with the number in week 10/2017 being lower than week 09/2017. The great majority (94%) of subtyped influenza A viruses was A(H3N2). The lineage of 27 influenza B viruses was

determined, of which 16 (59%) fell in B/Yamagata and 11 (41%) in B/Victoria lineages. Of 23 countries across the region that each tested at least 10 sentinel specimens, 7 reported proportions of influenza virus detections of 30% or above (median 39%, range 32% to 47%).

For week 10/2017, of 1,130 SARI cases reported, 260 were tested for influenza viruses, with 44 (17%) testing positive: 7 A(H3N2) and 37 type B viruses. Since week 40/2016, 29,401 SARI cases have been reported from 15 countries with 7,720 being tested for influenza viruses, of which 2,680 (35%) were positive: 2,118 (79%) were type A and 562 (21%) type B viruses. Of the influenza A viruses, 1,996 (94%) were A(H3N2), 5 (<1%) were A(H1N1)pdm09 and 117 (6%) were not subtyped.

For week 10/2017, 2,516 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, 63% were type A (with 98% of the subtyped viruses being A(H3N2)), and 37% type B.

The majority of participating European countries have had a marked excess in all-cause mortality since the end of 2016; in particular among elderly aged 65 years and older. However, mortality levels seem to have normalised now. The excess mortality coincided with a high level of influenza activity, dominated by circulation of influenza A(H3N2), which usually leads to increased mortality in the elderly. However, some countries experienced extremely cold weather in the beginning of the year, which probably contributed to the excess mortality.

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

During week 10, influenza activity decreased but remained elevated in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 10 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased.

A cumulative rate for the season of 46.9 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.

Nationwide during week 10, the proportion of outpatient visits for influenza-like illness (ILI) was 3.7%, which is above the national baseline of 2.2%.

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

Overall, the decline in influenza activity in Canada has been slow compared to previous seasons. Many parts of Canada, particularly in the Eastern and Atlantic regions are still reporting elevated activity in week 10.

In week 10, the number of positive tests (1,726) and the percentage of tests positive for influenza (20%) decreased from the previous week. Peak influenza detections occurred in week 02 at 27%. After a decline from the peak in week 03, detections have remained relatively stable (ranging from 20% to 25% in weeks 03 to 10).

In week 10, laboratory detections, influenza-like illness, outbreaks and hospitalizations from participating provinces and territories and sentinel networks decreased from the previous week.

Influenza B activity in Canada is slowly increasing but remain below what has been observed in previous seasons. 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 March 2017 (WHO website)

Influenza activity in the temperate zone of the northern hemisphere appeared to decrease. Influenza activity in many countries especially in East Asia and Europe already peaked. Worldwide, influenza A(H3N2) virus was predominant. In South Asia influenza activity with mainly H1N1 has been increasing. 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, overall influenza and other respiratory virus activity decreased in Canada and United States of America. Influenza activity slightly increased in Mexico with influenza A(H1N1)pdm09 virus predominating.

In Europe, influenza activity appeared to decrease with influenza A (H3N2) and influenza B viruses predominant in the region. Detections of influenza B virus increased in the recent weeks. Persons aged over 65 years continued to be reported as most frequently associated with severe disease from influenza infection.

In East Asia, influenza activity continued to decrease with influenza A(H3N2) virus predominant.

In Western Asia, influenza activity continued to decrease with influenza A(H3N2) and B viruses co-circulating in the region.

In Southern Asia, influenza activity continued to increase in India, the Maldives and Sri Lanka, with mainly influenza A(H1N1)pdm09 virus reported followed by influenza B virus.

In South East Asia, influenza activity remained low.

In Northern Africa, low influenza activity was reported in Tunisia, with influenza A(H3N2) and influenza B virus co-circulating.

In West Africa, influenza activity continued to be reported in Ghana and Mali, with influenza B being the main virus detected. In Eastern Africa, influenza activity was reported in Ethiopia and Mauritius with influenza A(H3N2) virus predominant.

In the Caribbean countries and Central America, influenza and other respiratory virus activity remained low in general.

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 156,226 specimens between 20 February 2017 and 05 March 2017. 34,376 were positive for influenza viruses, of which 26,581 (77.3%) were typed as influenza A and 7,795 (22.7%) as influenza B. Of the sub-typed influenza A viruses, 651 (8.1%) were influenza A(H1N1)pdm09 and 7,392 (91.9%) were influenza A(H3N2). Of the characterized B viruses, 614 (71.4%) belonged to the B-Yamagata lineage and 246 (28.6%) to the B-Victoria lineage.

The vaccine recommendation for the 2017-2018 northern hemisphere influenza season has been made. It is recommended that trivalent vaccines for use in the 2017-2018 northern hemisphere influenza season contain the following:

- an A/Michigan/45/2015 (H1N1)pdm09-like virus;
- an A/Hong Kong/4801/2014 (H3N2)-like virus; and
- a B/Brisbane/60/2008-like virus.

It is recommended that quadrivalent vaccines containing two influenza B viruses contain the above three viruses and a B/Phuket/3073/2013-like virus. The full report can be found [here](#).

- [Avian Influenza](#) latest update on 16 March 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 (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 [10 March 2017](#), the National Health and Family Planning Commission of China (NHFPC) notified WHO of 26 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus in mainland China.

Between [24 February and 7 March 2017](#), a total of 58 additional laboratory-confirmed cases of human infection have been reported to WHO from mainland China and China, Hong Kong Special Administrative Region (SAR).

A total of 1,307 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 March 2017

Between [06 and 21 February 2017](#), the National International Health Regulations (IHR) Focal Point of Saudi Arabia reported twelve (12) additional cases of Middle East Respiratory Syndrome (MERS) including three (3) fatal cases. Four (4) deaths among previously reported MERS cases were also reported (case numbers 1, 2, 4 and 6 in the Disease Outbreak News published on 10 February 2017).

Up to 22 March 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 943 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,917 laboratory-confirmed cases of infection with MERS-CoV, including at least 684 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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