PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

02 February 2017 – Week 05 report (up to week 04 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.

Summary

During week 04 (ending 29 January 2017), influenza activity continued to stabilise with further decreases noted in some indicators such as GP consultations for influenza-like illness and influenza-related hospital admissions. 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, there were continued decreases in GP consultations for respiratory conditions during week 04.
  - 93 new acute respiratory outbreaks have been reported in the past 7 days. 73 outbreaks were from care homes, where 19 tested positive for influenza (18 influenza A(not subtyped) and 1 influenza A(H3)). 10 outbreaks were from hospitals where seven tested positive for influenza (6 influenza A(not subtyped) and 1 influenza A(H3N2)). Eight outbreaks were from schools, where two tested positive for influenza (2 influenza A(not subtyped)). The remaining two outbreaks were from the Other settings category (one nursery and a navy base), where one tested positive for influenza A (not subtyped).
- Overall weekly influenza GP consultation rates across the UK
  - In week 03, the overall weekly influenza-like illness (ILI) GP consultation rate was 15.9 per 100,000 in England compared to 16.5 per 100,000 in the previous week. This is above the baseline threshold of 14.3 per 100,000 for this season, consistent with influenza circulating in the community. In the devolved administrations, ILI rates have remained similar to the previous week.
- Influenza-confirmed hospitalisations
  - In week 04, there were 64 admissions to ICU/HDU with confirmed influenza (38 influenza A(unknown subtype), 20 influenza A(H3N2), five influenza A(H1N1)pdm09 and one influenza B) were reported across the UK (113/156 Trusts in England) through the USISS mandatory ICU scheme with a rate of 0.15 per 100,000 compared to 0.15 per 100,000 in the previous week.
  - In week 04, there were 107 hospitalised confirmed influenza cases (58 influenza A(H3N2), 44 influenza A(not subtyped) and five influenza B) reported through the USISS sentinel hospital network (15 NHS Trusts across England), with a rate of 1.90 per 100,000, compared to 2.19 per 100,000 in the previous week.
  - Two confirmed influenza admissions have been reported from the six Severe Respiratory Failure centres in the UK in week 04.
- All-cause mortality data
  - In week 04 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 15-64 year olds and 65+ year olds.
- Microbiological surveillance
  - 43 samples tested positive for influenza (30 influenza A(H3N2), 9 influenza A(unknown subtype) and 4 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 32.1% in week 04 compared to 37.7% in week 03.
  - 511 influenza positive detections were recorded through the DataMart scheme (410 influenza A(H3N2), 95 influenza A(unknown subtype), 1 influenza A(H1N1)pdm09 and 5 influenza B) in week 04. The overall positivity was at 25.6% in week 04, which is above the threshold for 2016/17 season of 8.6%.The highest age-specific positivities were seen in the 65+ year olds (32.5%).
- 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 third monthly collection of influenza vaccine uptake in GP patients up to 31 December 2016 has been published. The report provides uptake at national, Area Team (AT), Clinical Commissioning Group (CCG) and by Local Authority (LA) levels.
  - Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 61.8% were vaccinated by 31 December 2016, compared to 47.6% vaccinated in the previous season by 31 December 2015. The report provides uptake at Trust level.
  - Provisional data from the third 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 December 2016 in targeted groups was as follows: 56.6% in children of school Year 1 age (5-6 years); 54.4% in children of school Year 2 age (6-7 years); 52.4% in children of school Year 3 age (7-8 years).
- International situation
  - Globally, influenza activity in the temperate zone of the northern hemisphere continued to increase, with many countries especially in Europe and East Asia passing their seasonal threshold early in comparison with previous years. Worldwide, influenza A(H3N2) virus was predominant.

Community surveillance

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Through the GP In Hours Syndromic Surveillance system, there were continued decreases in GP consultations for respiratory conditions during week 04. 93 new acute respiratory out breaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance

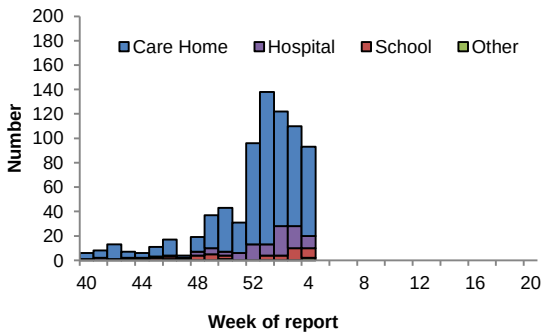
- During week 04, there were continued decreases in GP consultations for respiratory conditions in particular in adults aged 45 years and over but increases were noted in consultations for children for upper respiratory tract infections.

- For further information, please see the syndromic surveillance webpage.

- Acute respiratory disease outbreaks

- 93 new acute respiratory outbreaks have been reported in the past 7 days. 73 outbreaks were from care homes, where 19 tested positive for influenza (18 influenza A(not subtyped) and 1 influenza A(H3)) and two tested positive for RSV.10 outbreaks were in hospitals where seven tested positive for influenza (6 influenza A(not subtyped) and 1 influenza A(H3N2)). Eight outbreaks were from schools, where two tested positive for influenza (2 influenza A(not subtyped)). The remaining two outbreaks were from the Other settings category (one nursery and a navy base), 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 .

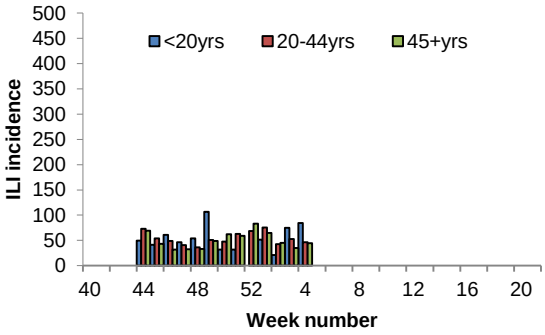
Figure 1: Number of acute respiratory outbreaks by institution, UK



- 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 04 was 46.6 per 1,000 (93/1,997 people reported at least 1 ILI), with the <20 years age group reporting a higher rate of 84.3 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.

Figure 2: FluSurvey ILI incidence by age group, UK



Weekly consultation rates in national sentinel schemes

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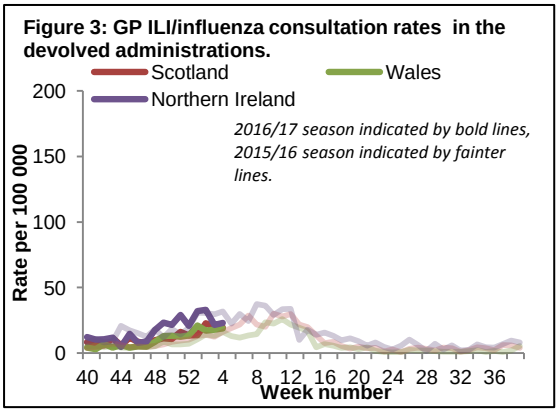
In week 04, the overall weekly influenza-like illness GP consultation rate has decreased but remains above the baseline threshold in England. In the devolved administrations, ILI rates have remained similar to the previous week.

- Influenza/Influenza-Like-Illness (ILI)

Figure 3: GP ILI/influenza consultation rates in the devolved administrations.



Northern Ireland

-The Northern Ireland ILI rate has increased slightly at 23.0 per 100,000 in week 04 compared to 21.4 per 100,000 in week 03 (Figure 3). This remains below the baseline threshold (47.9 per 100,000).

-The highest rates were seen in the 65-74 year olds (35.8 per 100,000) and 15-44 year olds (27.7 per 100,000).

Wales

-The Welsh ILI rate has remained similar at 18.9 per 100,000 in week 04 compared to 17.8 per 100,000 in week 03 (Figure 3). This remains above the baseline threshold (10.3 per 100,000).

- The highest rates were seen in the 45-64 year olds (24.5 per 100,000) and 15-44 year olds (22.4 per 100,000).

Scotland

-The Scottish ILI rate remained similar to the previous week at 19.6 per 100,000 in week 04 compared to 19.7 per 100,000 in week 03 (Figure 3). This remains below the baseline threshold (36.1 per 100,000).

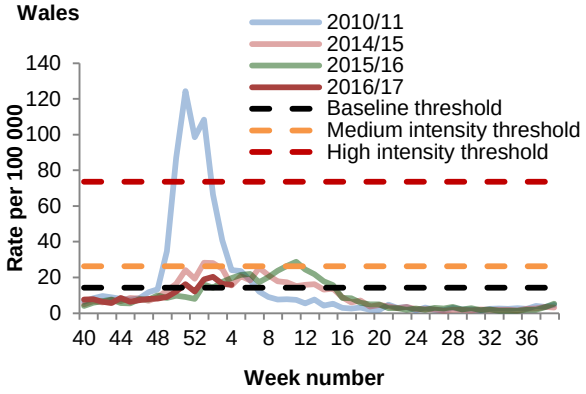
-The highest rates were seen in 75+ year olds (40.5 per 100,000) and 45-64 year olds (21.9 per 100,000).

RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is at 15.9 per 100,000 in week 04 compared to 16.5 per 100,000 in week 03. This is above the baseline threshold (14.3 per 100,000), consistent with influenza circulating in the community (Figure 4*). By age group, the highest rates were seen in 45-64 year olds (19.8 per 100,000) and 15-44 year olds (17.7 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)

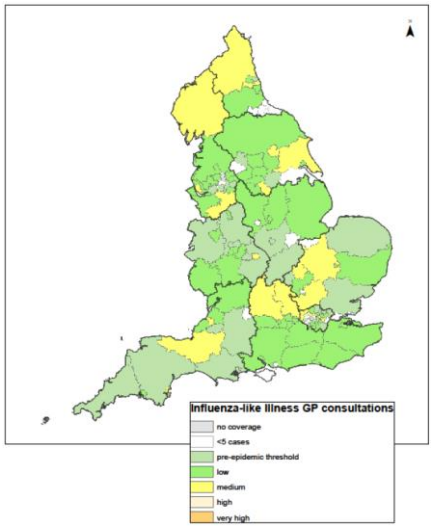
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system is at 12.8 per 100,000 in week 04 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 04 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 04



Influenza confirmed hospitalisations

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In week 04, there were 64 admissions to ICU/HDU with confirmed influenza (38 influenza A(unknown subtype), 20 influenza A(H3N2), five influenza A(H1N1)pdm09 and one influenza B) reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (113 Trusts). 107 hospitalised confirmed influenza cases (58 influenza A(H3N2), 44 influenza A(not subtyped) and five influenza B) were reported through the USISS sentinel hospital network across England (15 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 04)

- In week 04, there were 64 admissions to ICU/HDU with confirmed influenza (38 influenza A(unknown subtype), 20 influenza A(H3N2), five influenza A(H1N1)pdm09 and one influenza B) reported across the UK (113/156 Trusts in England) through the USISS mandatory ICU scheme, with a rate of 0.15 per 100,000 compared to a rate of 0.15 per 100,000 in week 03 (Figures 6 and 7).

A total of 639 admissions (336 influenza A(unknown subtype), 201 influenza A(H3N2), 82 influenza A(H1N1)pdm09 and 20 influenza B) and 70 confirmed deaths have been reported since week 40 2016.

Figure 6: Weekly ICU/HDU influenza admission rate per 100,000 trust catchment population , England, since week 40 2016

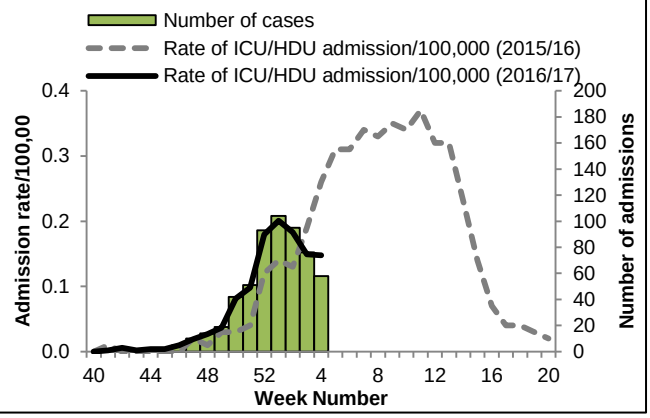
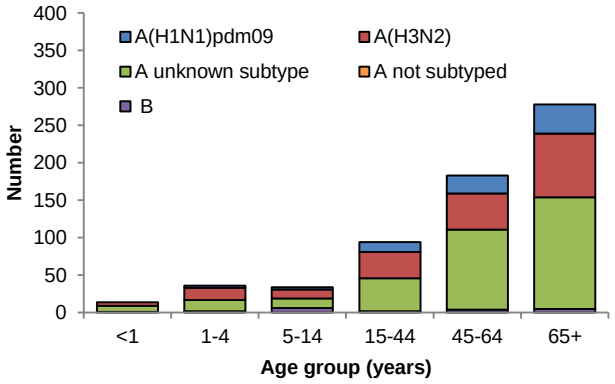


Figure 7: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2016

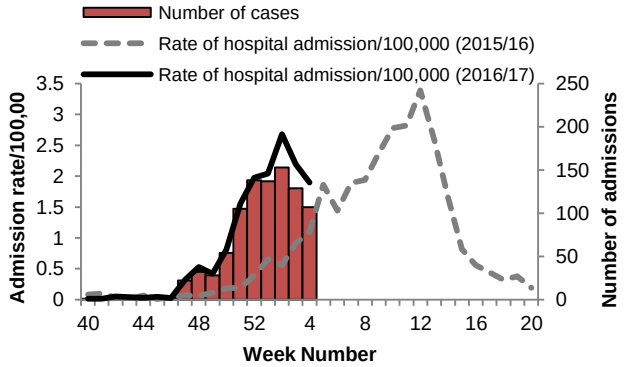


- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 04)

- In week 04, there were 107 hospitalised confirmed influenza cases (58 influenza A(H3N2), 44 influenza A(not subtyped) and five influenza B) reported through the USISS sentinel hospital network from 15 NHS Trusts across England (Figure 8), a rate of 1.90 per 100,000 compared to 2.19 per 100,000 in the previous week.

A total of 921 hospitalised confirmed influenza admissions (610 influenza A(H3N2), 283 influenza A(not subtyped), 27 influenza B and one influenza A(H1N1pdm09)) have been reported since week 40 2016.

Figure 8: Weekly hospitalised influenza case rate per 100,000 trust catchment population , England, since week 40 2016



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 04)

- In week 04, there were two 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 04 2017 in England, statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England overall, in 15-64 year olds and 65+ year olds. In the devolved administrations, no significant excess all-cause mortality was observed in week 04.

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 03 2017, an estimated 13,610 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is a slight decrease compared to the 13,715 estimated death registrations in week 02 2017.

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

-In week 04 2017 in England, excess mortality by week of death above the upper 2 z-score threshold was seen in all ages, 15-64 year olds and 65+ year olds England after correcting ONS disaggregate data for reporting delay with the standardised EuroMoMo algorithm (Table 1). No significant excess was seen in the other age groups. Subnationally, excess mortality was seen in the London, North West, South East & West, East & West 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 for all ages above the threshold was observed in Scotland or Wales in week 04 (Table 2). Data was not available for Norther

Table 1: Excess mortality by age group,England*

Age group (years)	Excess detected in week 04 2017?	Weeks with excess in 2016/17
<5	×	48
5-14	×	-
15-64	✓	51-04
65+	✓	51-04

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

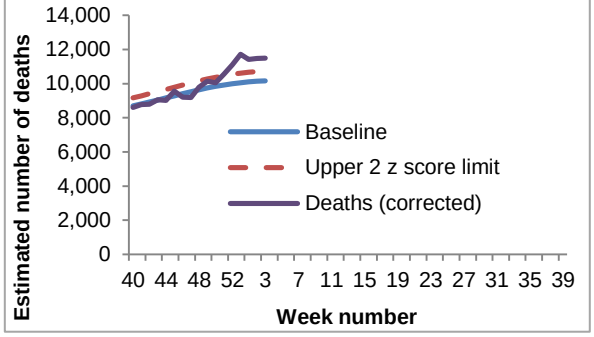
Table 2: Excess mortality by UK country, for all ages*

Country	Excess detected in week 04 2017?	Weeks with excess in 2016/17
England	✓	51-04
Wales	×	52
Scotland	×	46,50,51,01
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 04 2017, 43 samples tested positive for influenza (30 influenza A(H3N2), 9 influenza A(unknown subtype) and 4 influenza B) through the UK GP sentinel schemes with an overall positivity of 32.1%. 511 positive detections were recorded through the DataMart scheme (410 influenza A(H3N2), 95 influenza A(not subtyped),1 influenza A(H1N1)pdm09 and 5 influenza B) with a positivity of 25.6% in week 04.

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

-In week 04, 43 samples tested positive for influenza (30 influenza A(H3N2), 9 influenza A(unknown subtype) and 4 influenza B) through the UK GP sentinel swabbing schemes, with an overall positivity of 32.1% compared to 37.7% in week 03 (Table 3).

Since week 40 2016, 576 samples (508 influenza A(H3N2), 34 influenza A(unknown subtype), 3 influenza A(H1N1)pdm09 and 31 influenza B) have tested positive for influenza through this scheme.

Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
52	40/96 (41.7%)	22/69 (31.9%)	3/8 (-)	4/14 (28.6%)
01	51/135 (37.8%)	19/56 (33.9%)	8/13 (61.5%)	5/12 (41.7%)
02	50/123 (40.7%)	31/103 (30.1%)	3/13 (23.1%)	9/15 (60%)
03	50/123 (40.7%)	31/85 (36.5%)	3/12 (25%)	3/11 (27.3%)
04	20/69 (29%)	14/51 (27.5%)	6/11 (54.5%)	3/3 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 04 2017, out of the 2,000 respiratory specimens reported through the Respiratory DataMart System, 511 samples (25.6%) were positive for influenza (410 influenza A(H3N2), 95 influenza A(not subtyped), 1 influenza A(H1N1)pdm09 and 5 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 (32.5%). The overall positivity for RSV decreased at 3.6% in week 04. The highest positivity was noted in the <5 year olds at 9.4% in week 04 (Figure 11). Positivity for rhinovirus increased slightly from 9.9% in week 03 to 10.5% in week 04. Positivities for parainfluenza and adenovirus remained at similarly low levels at 1.9% and 2.7% respectively in week 04. Positivity for human metapneumovirus (hMPV) remained similar to the previous week at 3.1% in week 04.

Figure 10: DataMart samples positive for influenza, England

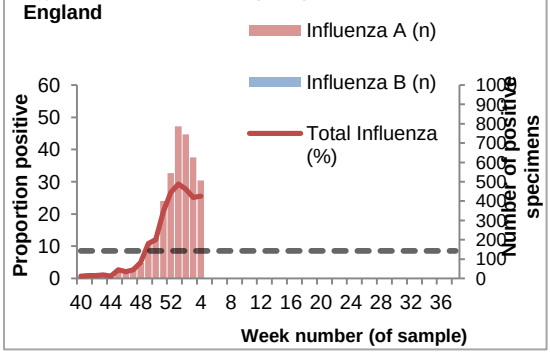


Figure 11: Datamart % RSV positive by age, England

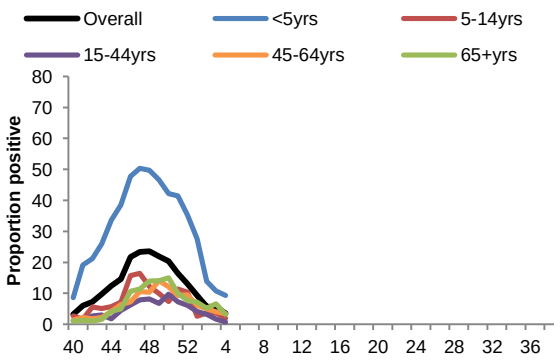
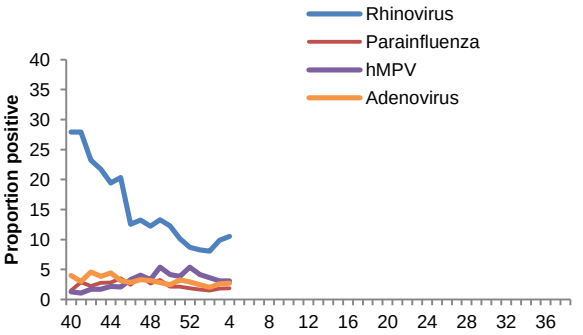


Figure 12: Datamart % positive for other respiratory viruses, England



**The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold to indicate a likelihood of influenza community circulation for Datamart % positive as calculated through the Moving Epidemic Method is 8.6% in 2016/17.*

- Virus characterisation

PHE characterises the properties of influenza viruses through one or more tests, including genome sequencing (genetic analysis) and haemagglutination inhibition (HI) assays (antigenic analysis). These data are used to compare how similar the currently circulating influenza viruses are to the strains included in seasonal influenza vaccines, and to monitor for changes in circulating influenza viruses. The interpretation of genetic and antigenic data sources is complex due to a number of factors, for example, not all viruses can be cultivated in sufficient quantity for antigenic characterisation, so that viruses with sequence information may not be able to be antigenically characterised as well. 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 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 162 A(H3N2) influenza viruses since week 40 showed that they all belong to genetic subclade 3C.2a , with 87 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 12 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 12 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. Three influenza B viruses have been analysed genetically since week 40/2015 and have been characterised as belonging to the B/Yamagata/16/88-lineage. Eight influenza B viruses have been isolated and antigenically characterised since week 40 2016. Six 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. Two 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, 106 influenza A(H3N2) have been tested for oseltamivir susceptibility; 102 are fully susceptible. 87 of the 106 were also tested for zanamivir susceptibility with 84 being fully susceptible. Three 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 three R292K cases and the E119V case have been identified in patients with underlying medical conditions with some exposure to oseltamivir. Only one influenza A(H1N1)pdm09 virus and 5 influenza B (Yamagata) virus have been tested and all were fully susceptible to neuraminidase inhibitors.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 29 January 2017, the proportion of all lower respiratory tract isolates of *Streptococcus pneumoniae*, *Haemophilus influenza, 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 29 January 2017, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
S. pneumoniae	Penicillin	3,883	91
	Macrolides	4,373	82
	Tetracycline	4,222	84
H. influenzae	Amoxicillin/ampicillin	16,118	68
	Co-amoxiclav	16,756	87
	Macrolides	5,994	13
	Tetracycline	16,349	98
S. aureus	Methicillin	6,416	90
	Macrolides	6,892	68
MRSA	Clindamycin	373	40
	Tetracycline	578	82
MSSA	Clindamycin	3,411	77
	Tetracycline	5,352	93

Macrolides = erythromycin, azithromycin and clarithromycin

Vaccination

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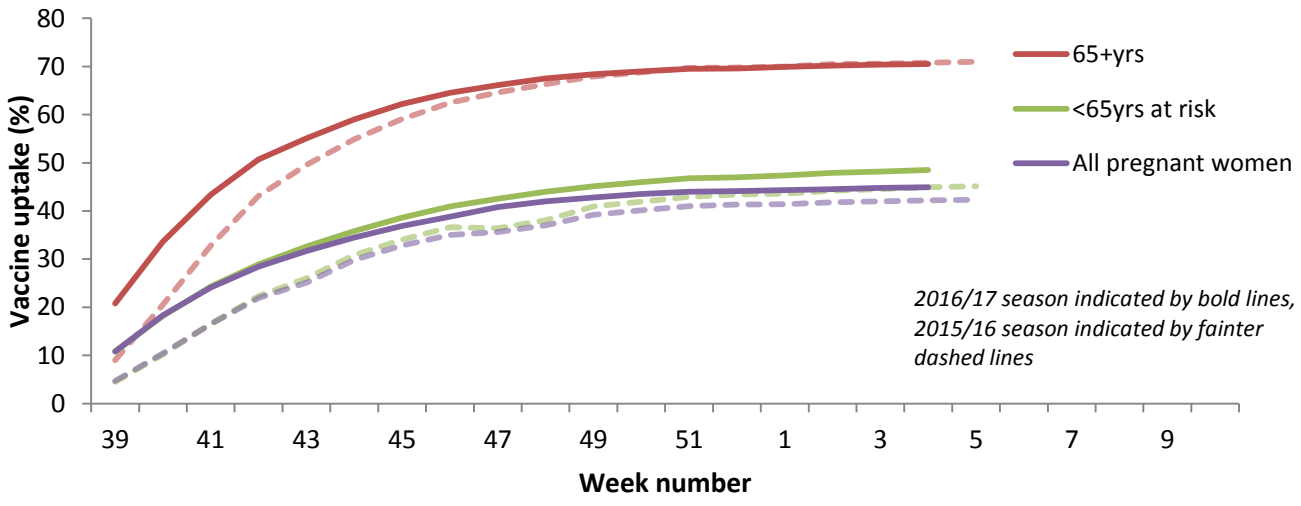
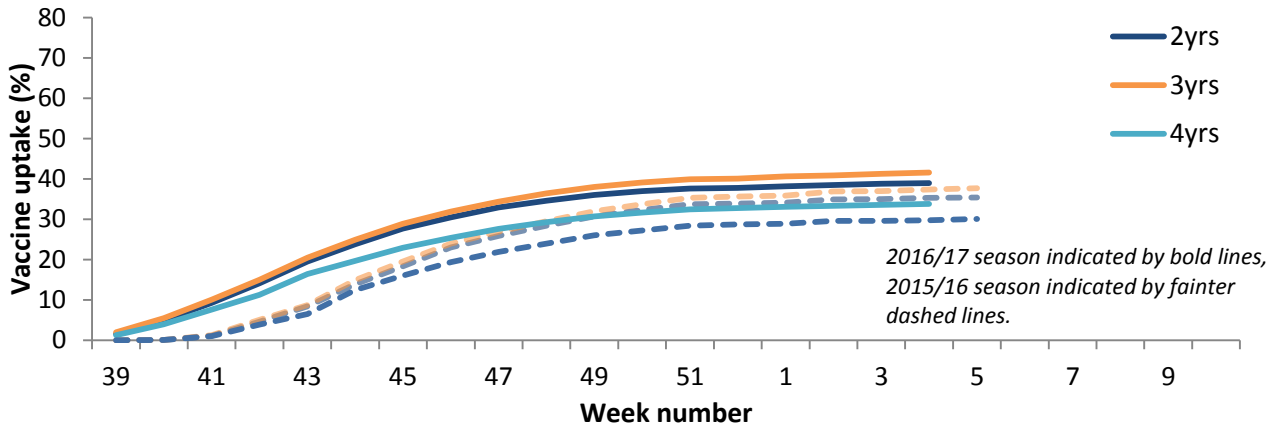
- Up to week 04 2017 in 85.0% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2016/17 influenza vaccine in targeted groups was as follows, with vaccination activity starting earlier than last season (Figure 13):
  - 48.5% in under 65 years 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 third monthly collection of influenza vaccine uptake in GP patients up to 31 December 2016 show that in 95.4% of all GP practices in England responding to the main GP survey, the proportion of people in England who received the 2016/17 influenza vaccine was as follows:
    - 46.9% in under 65 years in a clinical risk group
    - 44.1% in pregnant women
    - 69.6% in 65+ year olds
- Provisional data from the third monthly collection of influenza vaccine uptake in GP patients up to 31 December 2016 show that in 96.2% 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:
    - 37.8% in all 2 year olds
    - 40.1% in all 3 year olds
    - 33.1% in all 4 year olds
- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 61.8% were vaccinated by 31 December 2016 from 97.7% of Trusts, compared to 47.6% vaccinated in the previous season by 31 December 2015. The report provides uptake at Trust level.
- Provisional data from the third 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 December 2016 in targeted groups was as follows:
    - 56.6% in children of school Year 1 age (5-6 years)
    - 54.4% in children of school Year 2 age (6-7 years)
    - 52.4% 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 remained widespread especially in Europe and East Asia passing their seasonal threshold early in comparison with previous years. Worldwide, influenza A(H3N2) virus was predominant.

- Europe updated on 27 January 2017 (Joint ECDC-WHO Influenza weekly update)

In week 03/2017, influenza activity was as t variable levels across the region and was similar to the previous week. Of the 42 countries or regions reporting any geographic spread of influenza, the great majority (n=29) reported widespread activity similar to the previous week.

In week 03/2017, 1 681 of 3 428 (49%) sentinel specimens tested positive for influenza viruses. Of these, 97% were type A and 3% were type B. The great majority (>98%) of subtyped influenza A viruses were A(H3N2). The lineage of 27 influenza B viruses was determined of which 16 fell in B/Yamagata and 11 in B/Victoria lineages. Of 32 countries across the region that each tested at least 10 sentinel specimens, 26 reported proportions of influenza virus detections above 30% (median 55%, range 32% to 89%).

For week 03/2017, of the 15 countries that conduct sentinel surveillance on severe acute respiratory infection (SARI), 11 reported data and 8 of the 9 countries that conduct surveillance on hospitalized laboratory-confirmed influenza cases reported data.

Of 911 SARI cases reported (a drop from 1, 424 for the previous week), 244 were tested for influenza virus and 95 (39%) were positive: 79 A(H3N2), 1 A(H1N1)pdm09 and 15 influenza type B viruses were detected. Since week 40/2016, 19,656 SARI cases have been reported from 15 countries with 5,508 tested for influenza virus, of which 1,917 (35%) were positive: 1,658 (86%) were type A and 259 (14%) type B viruses. Of the influenza A viruses, 1 566 (94.5%) were A(H3N2), 1 (0.1%) was A(H1N1)pdm09 and 91 (5.5%) were unsubtyped.

For week 03/2017, 8 356 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, 96% were type A (with 99% of the subtyped viruses being A(H3N2)), and 4% type B.

Many participating countries, across the European region, have witnessed substantial increases in all-cause excess mortality among the elderly in the past 4 to 5 weeks, notably some in Southern Europe including France, Greece, Italy, Portugal and Spain. Most likely, this is mainly due to the circulation of influenza A(H3N2) virus.

- United States of America updated on 27 January 2017 (Centre for Disease Control report)

During week 03, influenza activity increased in the United States.

The most frequently identified influenza virus subtype reported by public health laboratories during week 03 was influenza A (H3). The percentage of respiratory specimens testing positive for influenza in clinical laboratories increased.

A cumulative rate for the season of 15.4 laboratory-confirmed influenza-associated hospitalizations per 100,000 population was reported.

Nationwide during week 03, the proportion of outpatient visits for influenza-like illness (ILI) was 3.4%, which is above the national baseline of 2.2%.

- Canada updated on 27 January 2017 (Public Health Agency report)

For week 03, activity from several indicators including laboratory detections, outbreaks and hospitalizations declined from the previous week indicating that nationally the influenza season may have reached its peak in week 02.

A total of 2,667 positive influenza detections were reported in week 03, a decrease from the previous week.

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

66 confirmed influenza outbreaks were reported in week 03, with the majority occurring in long-term care facilities and due to influenza A.

A total of 417 hospitalizations were reported by participating provinces and territories, up from 467 hospitalizations reported in the previous week.

- Global influenza update updated on 23 January 2017 (WHO website)

Influenza activity in the temperate zone of the northern hemisphere continued to increase, with many countries especially in East Asia and Europe having passed their seasonal threshold early in comparison with previous years. Worldwide, influenza A(H3N2) virus was predominant. The majority of influenza viruses characterized so far was similar antigenically to the reference viruses contained in vaccines for use in the 2016-2017 northern hemisphere influenza season. All tested viruses collected recently for antiviral sensitivity were susceptible to the neuraminidase inhibitor antiviral medications.In North America, influenza activity continued to increase with influenza A(H3N2) virus predominating. Influenza-like illness (ILI) levels just surpassed the seasonal thresholds in the United States. In the United States, respiratory syncytial virus (RSV) activity increased.

In Europe, influenza activity was high, with influenza A (H3N2) virus being the most prominent subtype. Persons aged over 65 years were most frequently associated with severe disease from influenza infection.

In North America, influenza activity continued to increase with influenza A(H3N2) virus predominating. In the United States of America, influenza-like illness (ILI) levels were above the seasonal thresholds and respiratory syncytial virus (RSV) activity continued to be reported.

In East Asia, high influenza activity continued to be reported with influenza A(H3N2) viruses predominant. In Western Asia, influenza activity slightly increased. In Southern Asia influenza activity remained low in most of the countries. Detection of influenza A (H3N2) virus continued to be reported by the Islamic Republic of Iran and Sri Lanka. In South East Asia, influenza activity remained low, with influenza A(H3N2) virus and influenza B predominating in the region.

In Northern Africa, influenza detections continued to be reported in Morocco and Tunisia with influenza A(H3N2) virus dominating. In West Africa, influenza continued to be detected in Ghana with B viruses dominating.

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 viruses activity remained low.

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 165,297 specimens between 26 December 2016 and 08 January 2017. 40,259 were positive for influenza viruses, of which 38,809 (96.4%) were typed as influenza A and 1,450 (3.6%) as influenza B. Of the sub-typed influenza A viruses, 422 (2.6%) were influenza A(H1N1)pdm09 and 15,893 (97.4%) were influenza A(H3N2). Of the characterized B viruses, 116 (49.8%) belonged to the B-Yamagata lineage and 117 (50.2%) to the B-Victoria lineage.

- Avian Influenza latest update on 16 January 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 11 January 2017, the Department of Health, China, Hong Kong Special Administrative Region (SAR) notified WHO of a laboratory-confirmed human infection with avian influenza A(H7N9) virus and on 12 January 2017, the Health Bureau, China, Macao SAR notified WHO of an additional laboratory-confirmed case of human infection with avian influenza A(H7N9) virus.
On 5 January 2017, the Department of Health, Hong Kong Special Administrative Region (SAR) notified WHO of a case of laboratory-confirmed human infection with avian influenza A(H7N9) virus and on 9 January 2017, the National Health and Family Planning Commission of China (NHFPC) notified WHO of 106 additional laboratory-confirmed cases of human infection with avian influenza A(H7N9) virus.
A total of 918 laboratory-confirmed human infections with avian influenza A (H7N9) virus, including 359 deaths 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 26 January 2017

Between 02 and 07 January 2017 the National IHR Focal Point of Saudi Arabia reported nine (9) additional cases of Middle East Respiratory Syndrome (MERS) including two (2) fatal cases. Two (2) deaths among previously reported MERS cases (cases no. 7 and 8 in the Disease Outbreak News (DON) published on 17 January 2017) were also reported.

Up to 01 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 933 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,879 laboratory-confirmed cases of infection with MERS-CoV, including at least 666 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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Related links

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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)