PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

21 April 2016 – Week 16 report (up to week 15 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

In week 15 2016 (ending 17 April 2016), influenza activity continues to decrease but remains above baseline levels across surveillance schemes. Updated guidance on antiviral prescribing in secondary care when influenza A(H1N1)pdm09 is the dominant circulating strain has been published.

- Community influenza surveillance
  - During week 15, there were continued decreases in a range of respiratory indicators across syndromic surveillance systems.
  - Eleven new acute respiratory outbreaks have been reported in the past 7 days. 2 outbreaks were from schools where one tested positive for influenza A(not subtyped). 4 outbreaks were from hospitals, where 2 tested positive for influenza A(not subtyped), 1 for influenza A(H1N1)pdm09 and 1 for influenza B. 3 outbreaks were from care homes where one tested positive for influenza A(not subtyped). The remaining outbreak was from another setting, a nursery, where no test results were available.
- Overall weekly influenza GP consultation rates across the UK
  - In week 15, overall weekly influenza-like illness (ILI) GP consultation rate has decreased further, but remains above the baseline threshold in England (15.7 per 100,000). In the devolved administrations, the ILI rates for Scotland (13.5 per 100,000), Northern Ireland (14.0 per 100,000) and Wales (4.4 per 100,000) have decreased in week 15.
  - Through the GP In Hours surveillance system, GP consulations for ILI have continued to decrease across all age groups and regions and are starting to approach seasonally expected levels.
- Influenza-confirmed hospitalisations
  - Sixty-eight new admissions to ICU/HDU with confirmed influenza (17 influenza A(H1N1)pdm09, 13 influenza A(unknown subtype) and 38 influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (128 NHS Trusts in England) in week 15, a rate of 0.16 per 100,000, compared to 0.23 per 100,000 in week 14. Three new confirmed influenza deaths were also reported through this scheme.
  - Fifty-seven new hospitalised confirmed influenza cases (13 influenza A(H1N1)pdm09, 8 influenza A(unknown subtype) and 36 influenza B) were reported through the USISS sentinel hospital network across England (20 NHS Trusts), a rate of 0.71 per 100,000 in week 15 compared to 1.65 per 100,000 the previous week.
  - Since week 40, seventy-two confirmed influenza admissions have been reported (63 influenza A(H1N1)pdm09, 6 influenza A(unknown subtype) and 3 influenza B) from the six Severe Respiratory Failure centres in the UK.
- All-cause mortality data
  - Up to week 15 2016 in England, excess mortality by date of death was seen in 15-64 year olds from week 52 to 03, 05 to 07, 09 to 10; in <5 year olds in weeks 40,51 and 05, and 5-14 year olds in week 51 with the EuroMoMo algorithm. In the devolved administrations, no significant excess was seen in week 15 2016.
- Microbiological surveillance
  - Seventeen samples tested positive for influenza (2 influenza A(H1N1)pdm09 and 15 influenza B) through GP sentinel schemes across the UK, with an overall positivity of 23.0%, compared to 35.0% in the previous week.
  - Two hundred and nine influenza positive detections were recorded through the DataMart scheme (51 A(H1N1)pdm09, 11 A(H3), 19 A(not subtyped) and 128 influenza B). A positivity of 13.6% was seen in week 15, compared to 18.4% in week 14, with the highest positivity in 15-44 year olds (17.2%). This is above the all-age threshold for 2015/16 season of 7.4%.
- Vaccination
  - Up to week 04 2016 (31 January 2016) in 98.8% GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows: 45.1% in under 65 years in a clinical risk group, 42.3% in pregnant women, 71.0% in 65+ year olds, 35.4% in all 2 year olds, 37.7% in all 3 year olds and 30.1% in all 4 year olds.
  - Provisional data from the fifth monthly collection of influenza vaccine uptake by frontline healthcare workers show 50.8% were vaccinated by 29 February 2016 from 96.6% of Trusts, compared to 54.9% vaccinated in the previous season by 28 February 2015. The report is available here.
  - Provisional data from the fourth monthly collection of influenza vaccine uptake children of school years 1 and 2 age show the proportion of children in England who received the 2015/16 live attenuated intranasal vaccine (LAIV) from 1 September 2015 to 31 January 2016 was as follows: 53.6% in children school year 1 age (5-6 years) and 52.1% in children school year 2 age (6-7 years).
  - WHO have published their recommendations for the composition of the 2016/17 northern hemisphere influenza vaccine.
- International situation
  - Globally, decreasing levels of influenza activity continued to be reported in the Northern Hemisphere but remain above baseline levels for most countries. A shift towards circulation of influenza B influenza virus has occurred.

Community surveillance

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During week 15, there were continued decreases in a range of respiratory indicators across syndromic surveillance systems. Eleven new acute respiratory outbreaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance

- During week 15, there were continued decreases in a range of respiratory indicators across all systems including GP consultations for influenza-like illness and emergency department attendances for pneumonia.

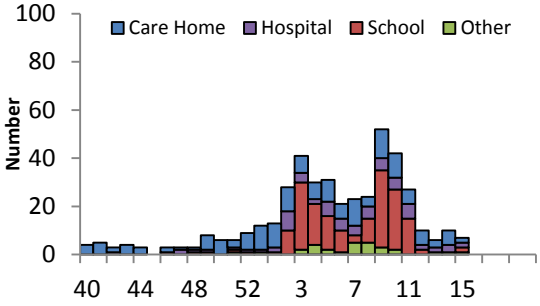
- For further information, please see the syndromic surveillance webpage.

- Acute respiratory disease outbreaks

- 11 new acute respiratory outbreaks have been reported in the past 7 days. 2 outbreaks were from schools where one tested positive for influenza A(not subtyped). 4 outbreaks were from hospitals, where 2 tested positive for influenza A(not subtyped), 1 for influenza A(H1N1)pdm09 and 1 influenza B. 3 outbreaks were from care homes where 1 tested positive for influenza A(not subtyped). The remaining outbreak was from another setting, a nursery, where no test results was available.

-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



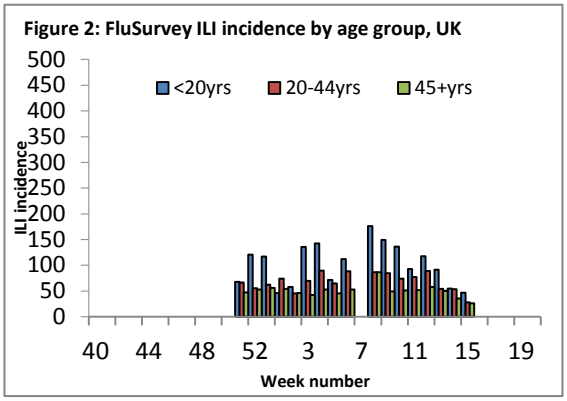
- FluSurvey

- Internet-based surveillance of influenza 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 15 was 27.8 per 1,000 (60/2,155 people reported at least 1 ILI), with the <20 year age group reporting a higher rate of 47.1 per 1,000.

- If you would like to become a participant of the FluSurvey project please do so by visiting the http://flusurvey.org.uk website for more information.

Figure 2: FluSurvey ILI incidence by age group, UK



Weekly consultation rates in national sentinel schemes

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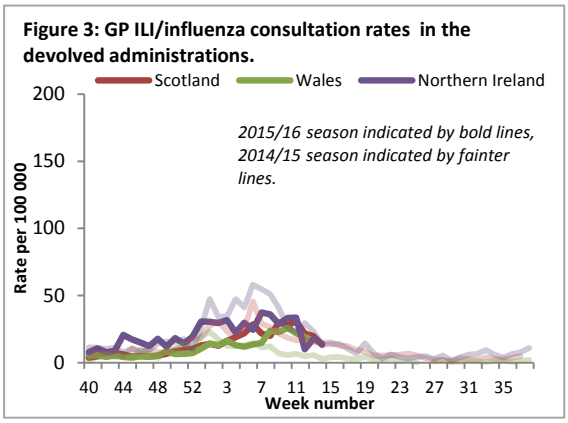
In week 15, overall weekly influenza-like illness GP consultations have decreased but remained above the baseline threshold in England. ILI rates have also decreased in all devolved administrations.

- Influenza/Influenza-Like-Illness (ILI)

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



NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 3 is an average of week 52 and week 53 data.*

Northern Ireland

-The Northern Ireland influenza consultation rate decreased at 14.0 per 100,000 in week 15 compared to 17.8 per 100,000 in week 14 (Figure 3). This remains below the baseline threshold (49.4 per 100,000).

-The highest rates were seen in the 15-44 year olds (18.3 per 100,000) and 45-64 year olds (16.0 per 100,000).

Wales

-The Welsh influenza rate has decreased at 4.4 in week 15 compared to 17.2 in week 14 (Figure 3). This is below the baseline threshold (10.3 per 100,000).

-The highest rates were seen in 15-44 year olds (6.6 per 100,000) and 45-64 year olds (6.0 per 100,000).

Scotland

-The Scottish ILI rate has decreased at 13.5 per 100,000 in week 15 (Figure 3) compared to 19.7 per 100,000 in week 14. This remains below baseline threshold (37.0 per 100,000).

-The highest rates were seen in 15-44 year olds (16.8 per 100,000) and in 65-74 year olds (14.7 per 100,000).

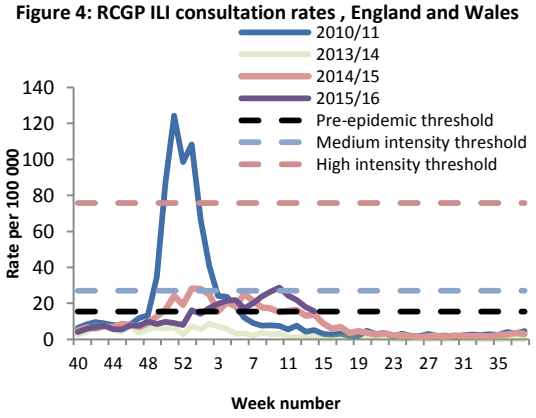
RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance is 15.7 per 100,000 in week 15 compared to 17.9 per 100,000 in week 14. This remains above the baseline threshold (15.4 per 100,000) (Figure 4*). By age group, the highest rates were seen in 45-64 year olds (19.2 per 100,000) and 15-44 year olds (18.3 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.*

***NB:** As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 4 is an average of week 52 and week 53 data.*

Figure 4: RCGP ILI consultation rates , England and Wales



GP In Hours Syndromic Surveillance System (England)

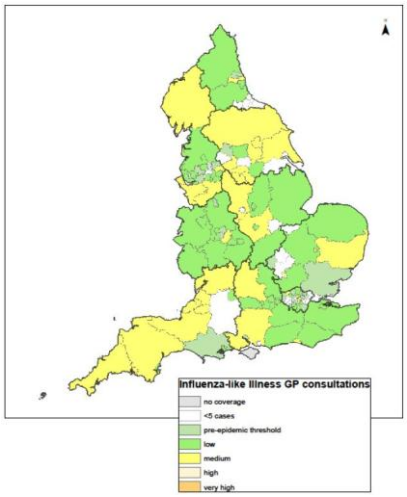
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system has decreased at 9.2 per 100,000 in week 15 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 15 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 15



Influenza confirmed hospitalisations

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In week 15, sixty-eight new admissions to ICU/HDU with confirmed influenza (17 influenza A(H1N1)pdm09, 13 influenza A(unknown subtype) and 38 influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (128 Trusts in England). Fifty-seven new hospitalised confirmed influenza cases (13 influenza A(H1N1)pdm09, 8 influenza A(unknown subtype) and 36 influenza B) were reported through the USISS sentinel hospital network across England (20 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 15)

- In week 15, sixty-eight new admissions to ICU/HDU with confirmed influenza (17 influenza A(H1N1)pdm09, 13 influenza A(unknown subtype) and 38 influenza B) were reported across the UK (128/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.16 per 100,000, compared to 0.23 in the previous week. Three new confirmed influenza deaths were also reported in week 15 2016. A total of 2,380 admissions (1,033 influenza A(H1N1)pdm09, 41 influenza A(H3N2), 1,008 influenza A (unknown subtype) and 298 influenza B) and 200 confirmed influenza deaths have been reported since week 40 2015.

Figure 6: Weekly ICU/HDU influenza admission rate per 100,000 trust catchment population , England, since week 40 2015

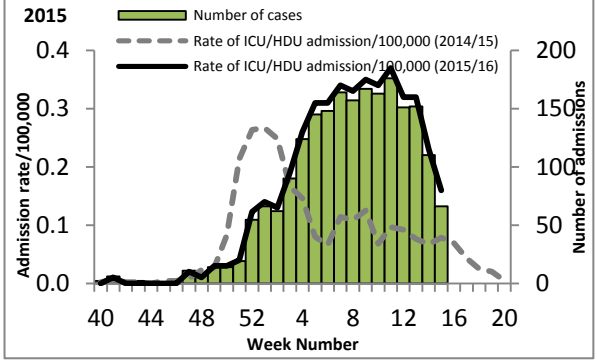
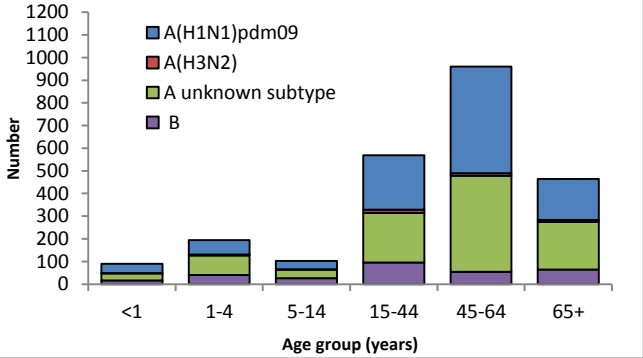


Figure 7: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2015



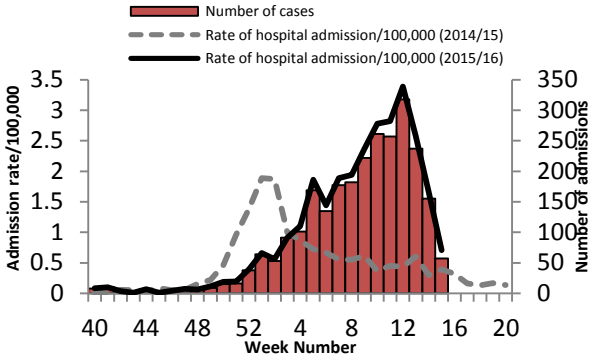
NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 6 is an average of week 52 and week 53 data.*

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 15)

- In week 15, fifty-seven new hospitalised confirmed influenza cases (13 influenza A(H1N1) pdm09, 8 influenza A(unknown subtype) and 36 influenza B) were reported through the USISS sentinel hospital network from 20 NHS Trusts across England (Figure 8), a rate of 0.71 per 100,000 compared to 1.65 per 100,000 the previous week. A total of 2,620 hospitalised confirmed influenza admissions (1,518 influenza A(H1N1pdm09), 34 influenza A(H3N2), 389 influenza A (unknown subtype) and 679 influenza B) have been reported since week 40.

NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 8 is an average of week 52 and week 53 data.*

Figure 8: Weekly hospitalised influenza case rate per 100,000 trust catchment population , England, since week 40 2015



- USISS Severe Respiratory Failure Centre confirmed influenza admissions, UK (week 15)

- In week 15, there were no new confirmed influenza admissions reported to the six Severe Respiratory Failure Centres in the UK. Since week 40, seventy-two confirmed influenza admissions have been reported (63 influenza A(H1N1)pdm09, 6 influenza A(unknown subtype) and 3 influenza B) from the six Severe Respiratory Failure centres in the UK.

All-cause mortality data

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Up to week 15 2016 in England, excess mortality by date of death was seen in 15-64 year olds from week 52 to 03, 05 to 07, 09 to 10; in <5 year olds in weeks 40, 51 and 05 and in 5-14 year olds in week 51 with the EuroMoMo algorithm. In the devolved administrations, no significant excess was noted in week 15 2016.

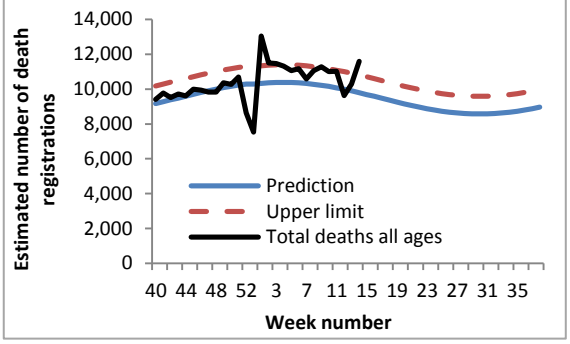
Seasonal mortality is seen each year in the UK, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory viruses, in particular influenza. Weekly mortality surveillance presented here aims to detect and report acute significant

weekly excess mortality above normal seasonal levels in a timely fashion. Excess mortality is defined as a significant number of deaths reported over that expected for a given point in the year, allowing for weekly variation in the number of deaths. The aim is not to assess general mortality trends or precisely estimate the excess attributable to different factors, although some end-of-winter estimates and more in-depth analyses (by age, geography etc.) are undertaken.

- Excess overall all-cause mortality, England and Wales

-In week 14 2016, an estimated 11,599 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is an increase compared to the 10,286 estimated death registrations in week 13 2016, and is above the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9). The drops in the number of deaths in week 53 and week 13 correspond to weeks where there were bank holidays and fewer days when deaths were registered. Therefore these decreases are likely to be artificial.

Figure 9: Observed & predicted all-cause death registrations, E&W



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

-Up to week 15 2016 in England, excess mortality by date of death above the upper 2 z-score threshold was seen in 15-64 year olds from week 52 to 03, 05 to 07 and 09 to 10; in <5 years olds in weeks 40, 51 and 05, and in 5-14 year olds in week 51 after correcting ONS disaggregate data for reporting delay with the standardised EuroMoMo algorithm (Table 1). No significant excess was seen in other age groups. This data is provisional due to the time delay in registration; numbers may vary from week to week.

- In the devolved administrations, no significant excess mortality above the threshold was seen in week 15 2016 (Table 2).

Table 1: Excess mortality by age group,England*

Age group (years)	Excess detected in week 15 2016?	Weeks with excess in 2015/16
<5	×	40,51,05
5-14	×	51
15-64	×	52-03, 05-07, 09,10
65+	×	NA

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

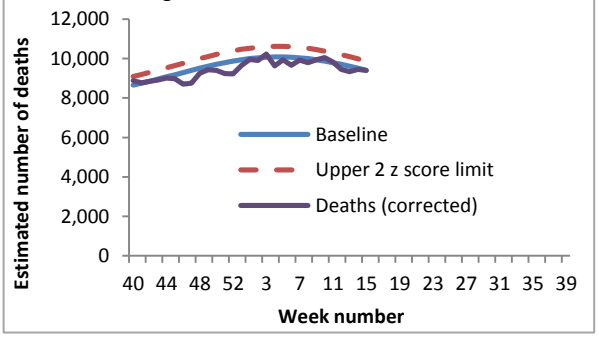
Table 2: Excess mortality by UK country*

Country	Excess detected in week 15 2016?	Weeks with excess in 2015/16
England	×	40,51,52-03, 05-07, 09,10
Wales	×	53,04,05,10,11
Scotland	×	48,02,04-05,07,09
Northern Ireland	×	42-43,50,52-53,01-03,07,09,11

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



Microbiological surveillance

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In week 15 2016, seventeen samples tested for influenza through the UK GP sentinel schemes were positive. Two hundred and nine influenza positive detections were recorded through the DataMart scheme (51 A(H1N1)pdm09, 11 A(H3), 19 A(not subtyped) and 128 influenza B).

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

-In week 15, seventeen samples tested positive for influenza through the UK GP sentinel swabbing schemes. Of the 17 samples, 2 tested positive for influenza A(H1N1)pdm09 and 15 tested positive for influenza B (Table 3).

Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
11	81/132 (61.4%)	30/102 (29.4%)	6/9 (-)	11/17 (64.7%)
12	87/159 (54.7%)	27/83 (32.5%)	8/14 (57.1%)	2/4 (-)
13	33/75 (44%)	15/62 (24.2%)	1/3 (-)	7/11 (63.6%)
14	26/73 (35.6%)	10/39 (25.6%)	4/6 (-)	2/2 (-)
15	10/49 (20.4%)	6/23 (26.1%)	0/1 (-)	1/1 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 15 2016, out of the 1,540 respiratory specimens reported through the Respiratory DataMart System, 209 samples (13.6%) were positive for influenza (51 A(H1N1)pdm09, 11 A(H3), 19 A(not subtyped) and 128 B) (Figure 11). The highest positivity was in the 15-44 year olds at 17.2%. The overall positivity for RSV remained at low levels, 0.9% in week 15 (Figure 12). Positivity for parainfluenza remained low at 3.2% in week 14. Positivity for rhinovirus increased slightly at 8.0% and positivity for hMPV remained low at 2.0%. Adenovirus positivity increased slightly to 3.9% (Figure 13).

Figure 11: DataMart samples positive for influenza, England

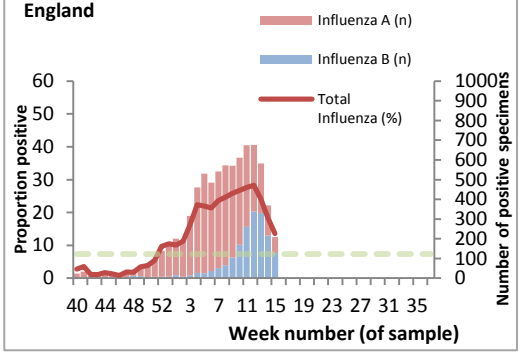


Figure 12: Datamart % RSV positive by age, England

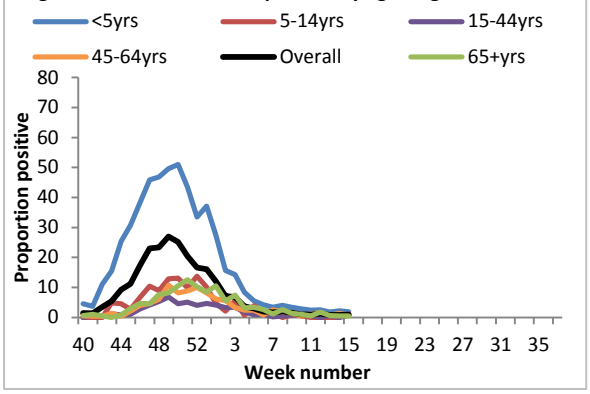
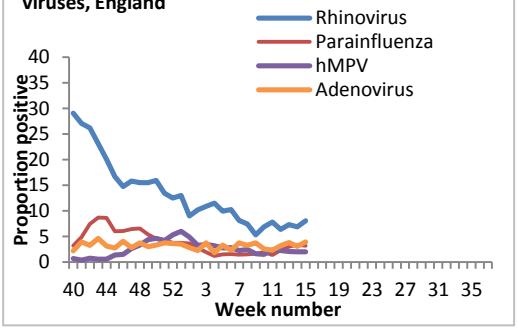


Figure 13: Datamart % positive for other respiratory viruses, England



**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 7.4% in 2015/16.*

- Virus characterisation

Since the start of the 2015/16 winter influenza season in week 40 2015, the PHE Respiratory Virus Unit has characterised a total of 1011 A(H1N1)pdm09 influenza viruses; 248 genetically and 67 both antigenically and genetically. The A(H1N1)pdm09 viruses genetically characterised to date all belong in the genetic subgroup 6B, which was the predominant genetic subgroup in the 2014/15 season. Some heterogeneity has been seen in the A(H1N1)pdm09 viruses genetically characterised to date this season, with some genetic subgroups evident. Of 830 viruses analysed by HI assays to date, the majority were antigenically similar to the A/California/7/2009 Northern Hemisphere 2015/16 (H1N1)pdm09 vaccine strain. Antigenic characterisation data suggests that some antigenic drift variants appear to be circulating, but the majority of viruses antigenically characterised to date are similar to the (H1N1)pdm09 vaccine strain.
Genetic characterisation of 21 A(H3N2) influenza viruses since week 38 showed that they belong to genetic group 3C.2a, and are genetically similar to the majority of A(H3N2) viruses circulating in the 2014/15 season. Four A(H3N2) influenza viruses have been isolated and antigenically characterised since week 38 2015. These four viruses were antigenically similar to the A/Switzerland/9715293/2013 H3N2 Northern Hemisphere 2015/16 vaccine strain.
Of 41 influenza B viruses analysed genetically since week 40/2015, 9 viruses have been characterised as belonging to the B/Yamagata/16/88-lineage and 32 viruses as belonging to the B/Victoria/2/87 lineage. Fifty-seven influenza B viruses have been isolated and antigenically characterised since week 40 2015. 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 2015/16 Northern Hemisphere trivalent and quadrivalent vaccines. Fifty-one 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 2015/16 Northern Hemisphere quadrivalent vaccines.

- Antiviral susceptibility

Since week 40 2015, 1843 influenza A(H1N1)pdm09, seven influenza A(H3N2) and 59 influenza B have been tested for oseltamivir susceptibility with ten influenza A(H1N1)pdm09 virus and one influenza A(H3N2) found to be resistant in the UK. Eight of the 10 A(H1N1) resistant samples have information on antiviral use, while the remaining two are still under investigation. Six of the 8 A(H1N1)pdm09 resistant samples were obtained from patients undergoing oseltamivir treatment and two cases had no exposure to oseltamivir. All A(H1N1)pdm09 resistance is due to the H275Y amino acid substitution. The A(H3N2) resistant sample was from an immunocompromised patient receiving oseltamivir treatment, with an E119V amino acid change. 361 influenza A(H1N1)pdm09 and 46 influenza B have also been tested for zanamivir susceptibility in the UK and all found to be sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 17 April 2016, 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 17 April 2016, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
S. pneumoniae	Penicillin	3,051	92
	Macrolides	3,339	83
	Tetracycline	3,192	84
H. influenzae	Amoxicillin/ampicillin	14,008	71
	Co-amoxiclav	13,500	93
	Macrolides	4,482	24
	Tetracycline	13,792	99
S. aureus	Methicillin	4,194	88
	Macrolides	4,147	72
MRSA	Clindamycin	429	48
	Tetracycline	495	85
MSSA	Clindamycin	2,365	78
	Tetracycline	3,392	94

**Macrolides = erythromycin, azithromycin and clarithromycin*

Vaccination

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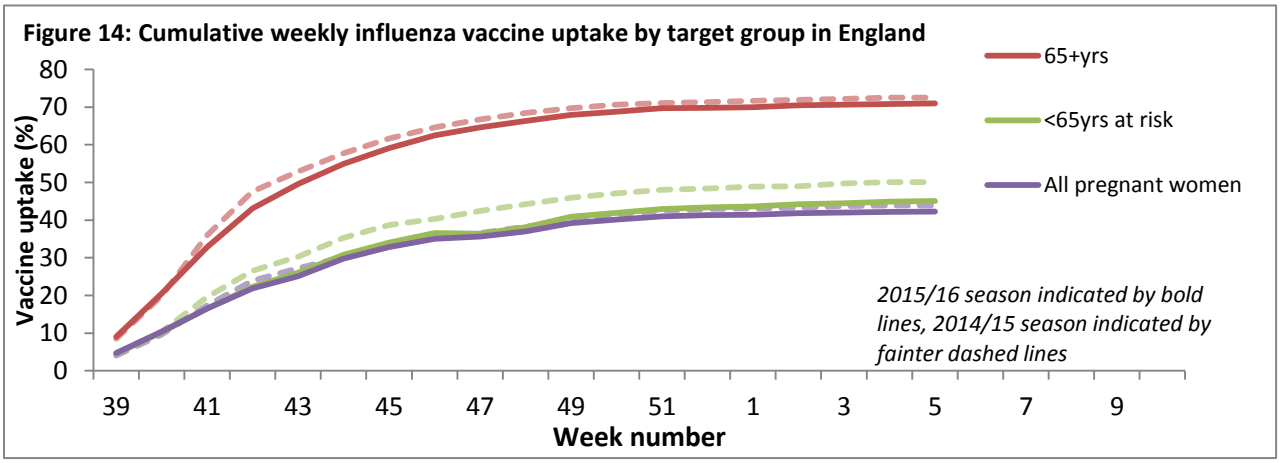
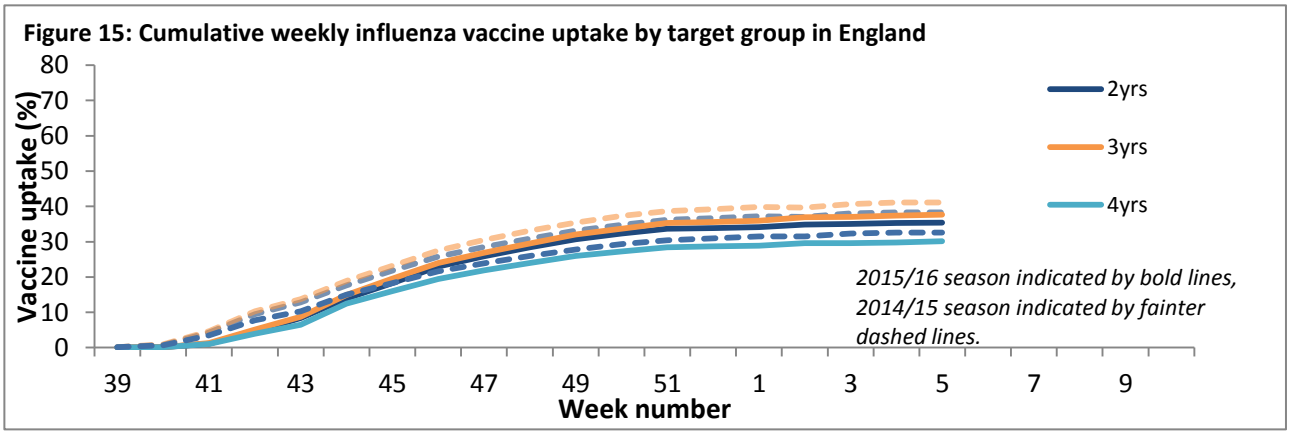
- Up to week 04 2016 in 98.8% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 14):
  - 45.1% in under 65 years in a clinical risk group
  - 42.3% in pregnant women
  - 71.0% in 65+ year olds

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



- In 2015/16, 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 and 2 age. Up to week 04 2016 in 98.8% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 15)
  - 35.4% in all 2 year olds
  - 37.7% in all 3 year olds
  - 30.1% in all 4 year olds

Figure 15: 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 50.8% were vaccinated by 29 February 2016 from 96.6% of Trusts, compared to 54.9% vaccinated in the previous season by 28 February 2015. The report provides uptake at national, area team and CCG level.
- Provisional data from the fourth monthly collection of influenza vaccine uptake children of school years 1 and 2 age show the proportion of children in England who received the 2015/16 live attenuated intranasal vaccine (LAIV) from 1 September 2015 to 31 January 2016 was as follows: 53.6% in children school year 1 age (5-6 years) and 52.1% in children school year 2 age (6-7 years).
- Provisional data from the fourth monthly collection of influenza vaccine uptake in GP patients up to 31 January 2016 has been published. The report provides uptake at national, area team and CCG level.

International Situation

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Globally, influenza activity continued to be reported in the Northern Hemisphere with signs of peaking but remain above baseline levels for most countries. A shift towards circulation of type B influenza virus has occurred.

- Europe updated on 15 April 2016 (Joint ECDC-WHO Influenza weekly update)

In week 14/2016, influenza activity continued to decrease in the European Region with most countries reporting decreasing trends. A shift towards circulation of influenza B has occurred.

For week 14/2016, 34% of the specimens from sentinel sources tested positive for influenza viruses: the lowest level since week 01/2016. Of 24 countries in which 10 or more sentinel specimens were tested, 13 had positivity rates higher than 30%. Of the positive specimens, 28% (versus 33% for week 13/2016) contained type A viruses, with A(H1N1)pdm09 accounting for 88% of those subtyped. Type B viruses made up 72% of the positive specimens from sentinel sources: most were not ascribed to a lineage but, of those that were, 98% were B/Victoria lineage.

For week 14/2016, the number of severe acute respiratory infection (SARI) cases were declining or stable. Cases occurred mainly in people under the age of 65, and the great majority of those testing positive for influenza virus were infected by A(H1N1)pdm09.

- United States of America Updated on 15 April 2016 (Centre for Disease Control report)

During week 14, influenza activity decreased, but remained elevated in the United States. The most frequently identified type reported to be influenza A with influenza A (H1N1)pdm09 viruses predominating.

Nationwide during week 14, the proportion of outpatient visits for influenza-like illness (ILI) was 2.1%, which is at the national baseline of 2.1%.

The percentage of respiratory specimens testing positive for influenza in clinical laboratories decreased.

During week 14, 7.5% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was above the epidemic threshold of 7.1% for week 14. Ten influenza-associated paediatric deaths were reported in week 14.

- Canada Updated on 15 April 2016 (Public Health Agency report)

Influenza activity peaked nationally in in the second week of March; however, lower but sustained activity is being reported throughout the country.

In week 14, the percentage of tests positive for influenza continued to decrease from the previous week [from 28% in week 13 to 23% in week 14]. The number of positive influenza B tests accounted for an increasing proportion of all positive influenza tests reported. Both influenza B and influenza A detections decreased in week 14. This week, influenza B accounted for 41% of all positive tests.

Hospitalizations, ICU admissions and deaths among the pediatric population, while declining, remain above expected levels based on the past several influenza seasons.

The national ILI consultation rate decreased from the previous week from 45.2 per 1,000 patient visits in week 13, to 26.8 per 1,000 patient visits in week 14. The highest ILI consultation rate was found in the 0-4 years age group (55.9 per 1,000) and the lowest was found in the ≥65 years age group (5.5 per 1,000).

- Global influenza update Updated on 18 April 2016 (WHO website)

In the Northern Hemisphere influenza activity was decreasing, while still elevated in some areas, due in part to an increase of influenza B activity. In the Southern Hemisphere influenza activity was reported to be slightly increasing.

In North America, decreasing but sustained influenza activity was reported with influenza A(H1N1)pdm09 virus predominating.

In Europe in general a decreasing trend of influenza activity was observed. In Northern Europe, overall influenza activity decreased but remained at moderate levels. A shift towards circulation of influenza B virus was detected in parts of Europe.

Northern Temperate Asia continued to report ongoing and elevated levels of influenza activity with increasing proportions of influenza B virus.

In Central America and the Caribbean, low influenza activity was reported in most countries except in Jamaica where elevated severe acute respiratory infection (SARI) activity associated with influenza A(H1N1)pdm09 virus infection was reported.

In tropical South America, low but increasing circulation of influenza A(H1N1)pdm09 virus was reported. In Brazil, influenza activity was above expected levels for this time of year with influenza A(H1N1)pdm09 virus predominating. Colombia reported high circulation of respiratory syncytial virus (RSV).

In Temperate South America, influenza activity slightly increased but remained at low level. An increase in influenza-like illness (ILI) and SARI rates were reported in Argentina, Chile and Paraguay.

In Oceania and South Africa influenza virus activity remained low.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 101,187 specimens between 21 March 2016 and 03 April 2016. 24,302 were positive for influenza viruses, of which 13,251 (54.5%) were typed as influenza A and 11,051 (45.5%) as influenza B. Of the sub-typed influenza A viruses, 4,895 (85.8%) were influenza A(H1N1)pdm09 and 811 (14.2%) were influenza A(H3N2). Of the characterized B viruses, 473 (19.6%) belonged to the B-Yamagata lineage and 1,936 (80.4%) to the B-Victoria lineage.

- Avian Influenza latest update on 04 April 2016 (WHO website)

Influenza A(H5) viruses
Five new human A(H5) virus infections were notified to WHO between 25 February and 4 April 2016: four human cases of A(H5N1) virus infection were reported from Egypt and one human case of A(H5N6) virus infection was reported from China.

Since 2003, a total of 850 laboratory-confirmed cases of human infection with avian influenza A(H5N1) virus, including 449 deaths, have been reported to WHO from 16 countries. In addition, a total of 11 laboratory-confirmed cases of human infection with avian influenza A(H5N6)virus, including 6 deaths, have been detected in China since 2013. Although other influenza A(H5) viruses have the potential to cause disease in humans, no human cases have been reported so far. According to reports received by the World Organisation for Animal Health (OIE), various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9), continue to be detected in birds in West Africa, Europe and Asia. Overall, the public health risk assessment for avian influenza A(H5) viruses remains unchanged since the assessment of 17 July 2015.

Influenza A(H7N9)
Since 25 February 2016, China reported 29 new laboratory-confirmed human cases of avian influenza A(H7N9) virus infection to WHO. Additionally, one laboratory-confirmed case of avian influenza A(H7N9) virus infection was also reported to WHO from Hong Kong Special Administrative Region (SAR).

A total of 752 laboratory-confirmed cases of human infection with avian influenza A(H7N9) viruses, including at least 295 deaths have been reported to WHO.

- Middle East respiratory syndrome coronavirus (MERS-CoV) latest update on 14 April 2016

Between 18 and 31 March 2016, the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 16 additional cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection, including 6 deaths.

Between 15 and 16 March 2016, the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 4 additional cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection, including 1 death.

Up to 20 April 2016, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in the UK. On-going surveillance has identified 728 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,714 laboratory-confirmed cases of infection with MERS-CoV, including at least 618 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)
- 2015/16 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)