# PHE Weekly National Influenza Report

## Summary of UK surveillance of influenza and other seasonal respiratory illnesses

## 05 November 2015 – Week 45 report (up to week 44 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

**At the start of the 2015/16 influenza season, activity is at low levels in week 44 (ending 1 November 2015)**

- Community influenza surveillance
  - In week 44 all respiratory syndromic indicators were stable and within seasonally expected levels.
  - Four new acute respiratory outbreaks in care homes have been reported in the past seven days (two tested positive for rhinovirus and other results were not available).
- Overall weekly influenza GP consultation rates across the UK
  - In week 44, overall weekly influenza-like illness GP consultations were low in England, Wales and Scotland, and moderate in Northern Ireland, through the GP In Hours Surveillance system.
- Influenza-confirmed hospitalisations
  - Six new hospitalised confirmed influenza cases (three influenza A(H1N1pdm09), one influenza A/unknown and two B) were reported through the USISS sentinel hospital network across England (23 Trusts), a rate of 0.06 compared to 0.01 per 100,000 the previous week.
  - No new admissions to ICU/HDU with confirmed influenza were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (124 Trusts in England) in week 44, a rate of 0.00 compared to 0.01 per 100,000 the previous week.
  - No confirmed influenza ECMO admissions were reported in week 44.
- All-cause mortality data
  - In week 44 2015, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England overall and by age group and across the devolved administrations.
- Microbiological surveillance
  - Four samples tested positive for influenza through the English GP sentinel schemes.
  - Fourteen influenza positive detections were recorded through the DataMart scheme (six influenza A(H1N1)pdm09, four influenza A(H3), one influenza A (not subtyped) and three influenza B). A positivity of 2.0% was seen compared to 0.9% in the previous week, with the highest positivity in >5 year olds (3.2%).
- Vaccination
  - Up to week 44 2015 in 52.3% 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: 30.8% in under 65 years in a clinical risk group, 29.8% in pregnant women, 54.9% in 65+ year olds, 13.9% in all 2 year olds, 14.9% in all 3 year olds and 12.5% in all 4 year olds.
- International situation
  - Globally, influenza activity generally decreased or remained low, with only a few countries reporting elevated respiratory illness levels. Influenza activity in the northern hemisphere continued at low, inter-seasonal levels with sporadic detections.

## Community surveillance

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**In week 44, respiratory indicators remained stable in line with seasonal expectations and four new acute respiratory outbreaks were reported in the last seven days.**

- PHE Real-time Syndromic Surveillance

-In week 44, all respiratory indicators remained stable or decreased during week 44.

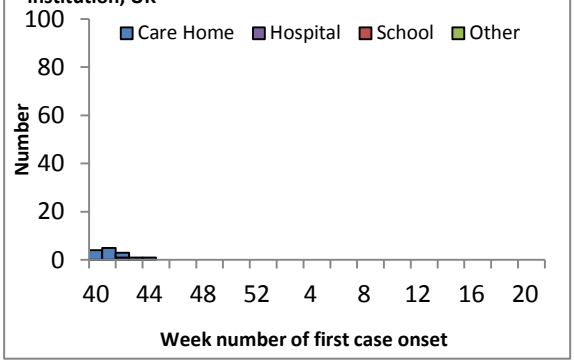
-For further information, please see the syndromic surveillance webpage.

- Acute respiratory disease outbreaks

- Four new acute respiratory outbreaks in care homes have been reported in the past 7 days, two tested positive for rhinovirus while the other results were not available.

-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respscidsc@phe.gov.uk.

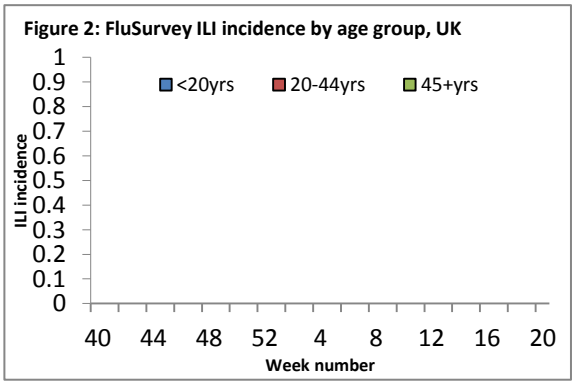
**Figure 1: Number of acute respiratory outbreaks by institution, UK**




- FluSurvey

-Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey project (http://flusurvey.org.uk) run by the London School of Hygiene and Tropical Medicine and PHE.
-Data is expected later in the season.

**Figure 2: FluSurvey ILI incidence by age group, UK**




## Weekly consultation rates in national sentinel schemes

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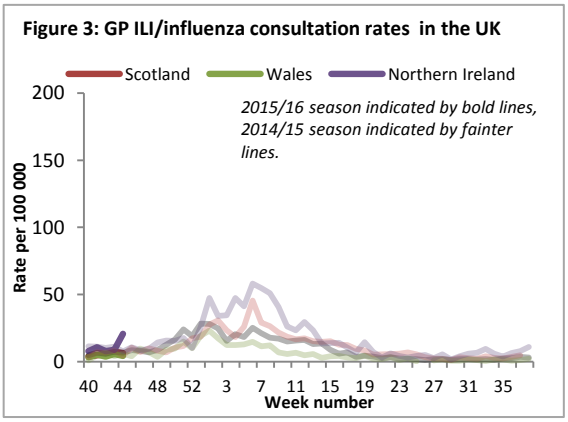
**In week 44 overall weekly influenza-like illness GP consultations were low in England, Wales and Scotland, and moderate in Northern Ireland.**

- Influenza/Influenza-Like-Illness (ILI)

**Figure 3: GP ILI/influenza consultation rates in the UK**




Northern Ireland

-The Northern Ireland influenza consultation rate was moderate at 20.8 per 100,000 in week 44 (Figure 3) and below the pre-epidemic threshold (49 per 100,000).

-The highest rates were seen in <1 year olds (52.1 per 100,000), 45-64 year olds (30.1 per 100,000) and 15-44 year olds (21.0 per 100,000).

## Wales

-The Welsh influenza rate increased slightly to 4.4 per 100,000 in week 44 (Figure 3).

-The highest rates were seen in 65-74 year olds (7.8 per 100,000) and 45-64 year olds (6.6 per 100,000).

## Scotland

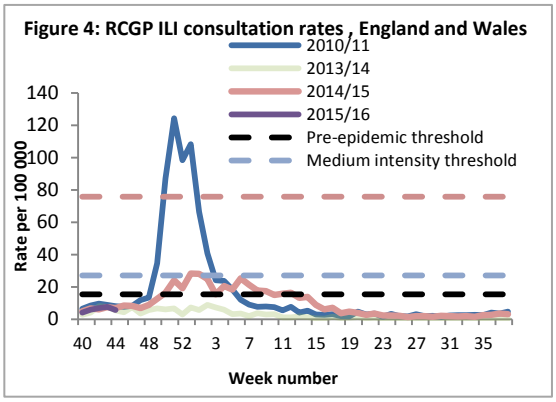
-The Scottish ILI rate was low at 6.4 per 100,000 in week 44 (Figure 3) and below the pre-epidemic threshold (37 per 100,000).

-The highest rates were seen in 45-64 year olds (9.5 per 100,000) and 75+ year olds (7.6 per 100,000).

## RCGP (England and Wales)

-The weekly ILI consultation rate through the RCGP surveillance system was low at 5.7 in week 44 and below the pre-epidemic threshold (15 per 100,000) (Figure 4*). By age group, the highest rate was seen in 65-74 year olds (10.3 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. The threshold to indicate a likelihood of influenza community circulation for as calculated through the Moving Epidemic Method is 15 per 100,000.*



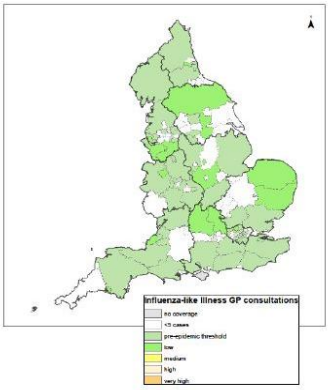

## GP In Hours Syndromic Surveillance System (England)

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

Figure 5 represents a map of GP ILI consultation rates in Week 44 across England by Local Authorities, using influenza-like illness surveillance thresholds.

Threshold 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.




## Influenza confirmed hospitalisations

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**In week 44, no new admissions to ICU/HDU with confirmed influenza were reported through the national USISS mandatory ICU scheme across the UK (124 Trusts in England). Six new hospitalised confirmed influenza cases (three influenza A(H1N1pdm09), one influenza A/unknown and two B) were reported through the USISS sentinel hospital network across England (24 Trusts).**

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

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

-In week 44, no new admissions to ICU/HDU with confirmed influenza were reported across the UK (124/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.00 per 100,000 compared to 0.01 per 100,000 the previous week. No new confirmed influenza deaths were reported in week 44 2015. A total of 15 admissions (three influenza A(H1N1)pdm09, two influenza A(H3N2), seven influenza A unknown subtype and three influenza B) and no 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**

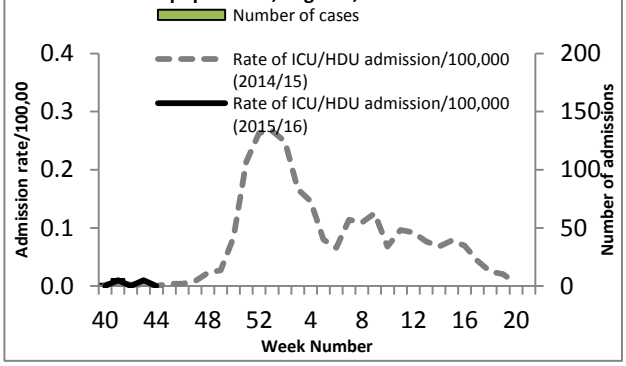
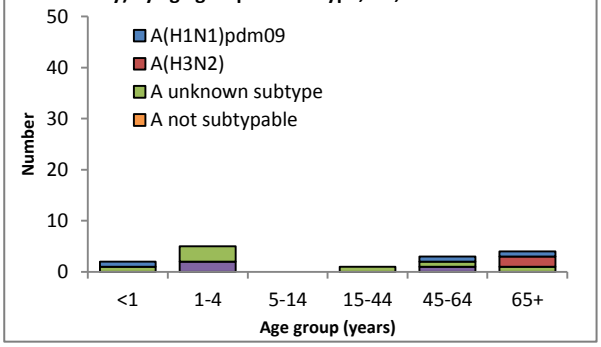


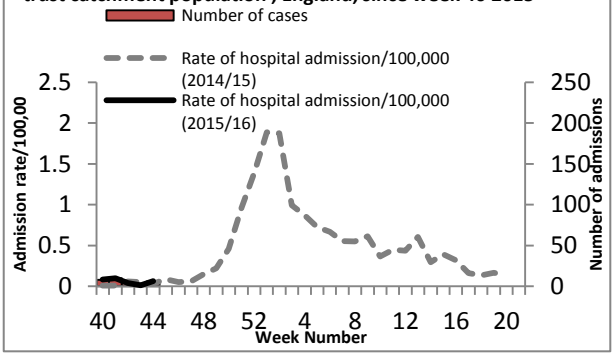

**Figure 7: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2015**




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

-In week 44, six new hospitalised confirmed influenza cases (three influenza A(H1N1pdm09), one influenza A/unknown and two B) were reported through the USISS sentinel hospital network from 24 NHS Trusts across England (Figure 8), a rate of 0.00 per 100,000 compared to 0.01 per 100,000 the previous week. A total of 29 hospitalised confirmed influenza admissions (15 A(H1N1pdm09), five A(H3N2), five A unknown subtype and four B) have been reported since week 40.

**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, England (week 43)

-In week 44, no new confirmed influenza admissions to the five Severe Respiratory Failure Centres in England were reported in week 44.

## All-cause mortality data

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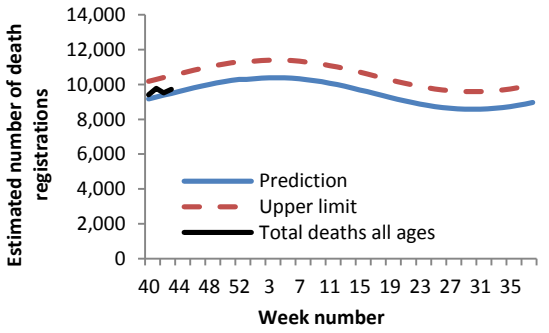
**In week 44 2015, no statistically significant excess all-cause mortality by week of death was seen through the EuroMOMO algorithm in England overall and by age group and across the devolved administrations.**

Seasonal mortality is seen each year in the UK, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory viruses, in particular influenza. Weekly mortality surveillance presented here aims to detect and report acute significant weekly excess mortality above normal seasonal levels in a timely fashion. Excess mortality is defined as a significant number of deaths reported over that expected for a given point in the year, allowing for weekly variation in the number of deaths. The aim is not to assess general mortality trends or precisely estimate the excess attributable to different factors, although some end-of-winter estimates and more in-depth analyses (by age, geography etc.) are undertaken.

- Excess overall all-cause mortality, England and Wales

-In week 43 2015, an estimated 9,711 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is an increase compared to the 9,511 estimated death registrations in week 42 and is below the 95% upper limit of expected death registrations for the time of year as calculated by PHE (Figure 9).

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




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

-In week 44 2015, no excess mortality by date of death above the upper 2 z-score threshold was seen in England after correcting ONS disaggregate data for reporting delay with the standardised EuroMOMO algorithm (Figure 10, Table 1). This data is provisional due to the time delay in registration; numbers may vary from week to week.
-No excess mortality above the threshold was seen across the Devolved Administrations in week 44 (Table 2).

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

| Age group (years) | Excess detected in week 44 2015? | Weeks with excess in 2015/16 |
|---|---|---|
| *<5* | × | NA |
| *5-14* | × | NA |
| *15-64* | × | NA |
| *65+* | × | NA |

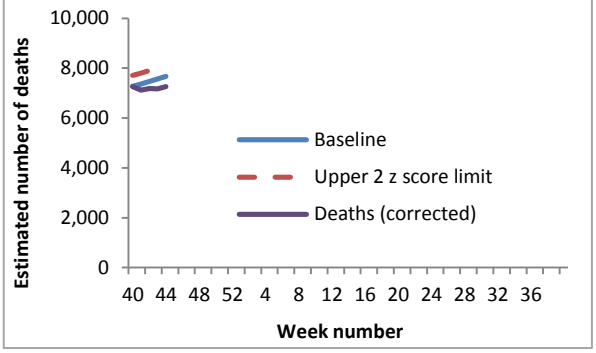
** Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold*

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

| Country | Excess detected in week 44 2015? | Weeks with excess in 2015/16 |
|---|---|---|
| *England* | × | NA |
| *Wales* | × | NA |
| *Scotland* | × | NA |
| *Northern Ireland* | × | NA |

** 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 65+ year olds by week of death, EuroMOMO, England**




## Microbiological surveillance

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**In week 44 2015, four samples tested for influenza through the English GP sentinel schemes were positive. Fourteen influenza positive detections were recorded through the DataMart scheme (six influenza A(H1N1)pdm09, four influenza A(H3), one influenza A (not subtyped) and three influenza B).**

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

-In week 44, three samples were positive in Scotland, one in Northern Ireland and none in England or Wales (Table 3).

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

| Week | England | Scotland | Northern Ireland | Wales |
|---|---|---|---|---|
| 40 | 1/7 (-) | 1/43 (2.3%) | 0/1 (-) | 0/0 (-) |
| 41 | 0/8 (-) | 2/68 (2.9%) | 0/2 (-) | 0/0 (-) |
| 42 | 0/24 (0%) | 1/74 (1.4%) | 0/0 (-) | 0/0 (-) |
| 43 | 1/48 (2.1%) | 0/60 (0%) | 1/1 (-) | 0/0 (-) |
| 44 | 0/18 (0%) | 3/48 (6.3%) | 1/5 (-) | 0/0 (-) |

**NB. Proportion positive omitted when fewer than 10 specimens tested**

- Respiratory DataMart System (England)

In week 44 2015, out of the 673 respiratory specimens reported through the Respiratory DataMart System, 14 samples (2.1%) were positive for influenza (6 A(H1N1)pdm, 4 influenza A(H3), 1 influenza A (not subtyped) and 3 B, Figure 9*). The highest positivity was in the 0-4 years, 3.2%. The overall positivity for RSV increased from 4.5% in week 43 to 8.7% in week 44, which was mainly observed in children under 5 years, and increased from 11.9% in week 43 to 24.0% in week 44 (Figure 10). Positivity for parainfluenza increased slightly to 8.7% in week 44. Positivity for rhinovirus decreased to 15.9%. Adenovirus remained stable at 3.7%. hMPV remained low at 0.7%, (Figure 11).

**Figure 11: DataMart samples positive for influenza, England**

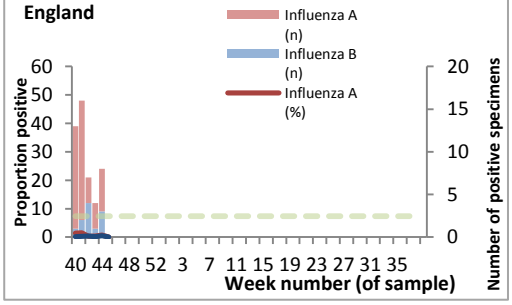



**Figure 12: Datamart % RSV positive by age, England**

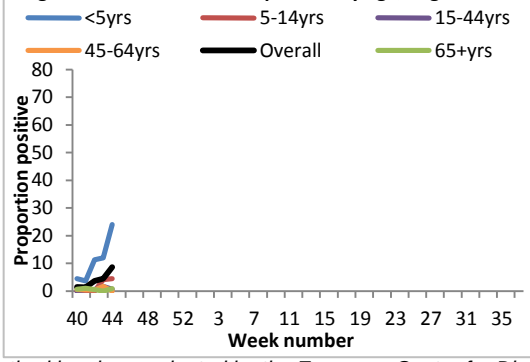
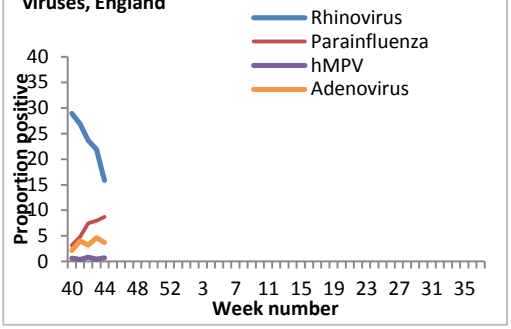



**Figure 13: Datamart % positive for other respiratory viruses, England**




**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

The PHE Respiratory Virus Unit has isolated and antigenically characterised two A(H3N2) influenza viruses from week 38, prior to the start of the 2015/16 winter influenza season in week 40 2015. The two viruses were antigenically similar to the A/Switzerland/9715293/2013 H3N2 Northern Hemisphere 2015/16 vaccine strain. Genetic characterisation of six 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.

Eighteen A(H1N1)pdm09 influenza viruses have been isolated and antigenically characterised since the start of the 2015/16 winter influenza season in week 40 2015. These 18 viruses were antigenically similar to the A/California/7/2009 Northern Hemisphere 2015/16 (H1N1)pdm09 vaccine strain.

One influenza B virus has been isolated and antigenically characterised since week 40 2015. This virus was characterised as belonging to the B/Victoria/2/87 lineage and was 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 2014, 11 and 6 influenza viruses (A(H1N1)pdm09) have been tested for oseltamivir and zanamivir susceptibility, respectively, in the UK, and all were found to be sensitive.

- Antimicrobial susceptibility

-Table 4 shows in the 12 weeks up to 1 November 2015, 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 1 November 2015, E&W**

| Organism | Antibiotic | Specimens tested (N) | Specimens susceptible (%) |
|---|---|---|---|
| *S. pneumoniae* | Penicillin | 2,001 | 90 |
| | Macrolides | 2,308 | 80 |
| | Tetracycline | 2,229 | 82 |
| *H. influenzae* | Amoxicillin/ampicillin | 8,742 | 73 |
| | Co-amoxiclav | 8,363 | 93 |
| | Macrolides | 2,837 | 18 |
| | Tetracycline | 8,556 | 98 |
| *S. aureus* | Methicillin | 3,713 | 88 |
| | Macrolides | 3,641 | 71 |
| MRSA | Clindamycin | 369 | 49 |
| | Tetracycline | 431 | 90 |
| MSSA | Clindamycin | 2,003 | 77 |
| | Tetracycline | 3,012 | 93 |

**Macrolides = erythromycin, azithromycin and clarithromycin*

## Vaccination

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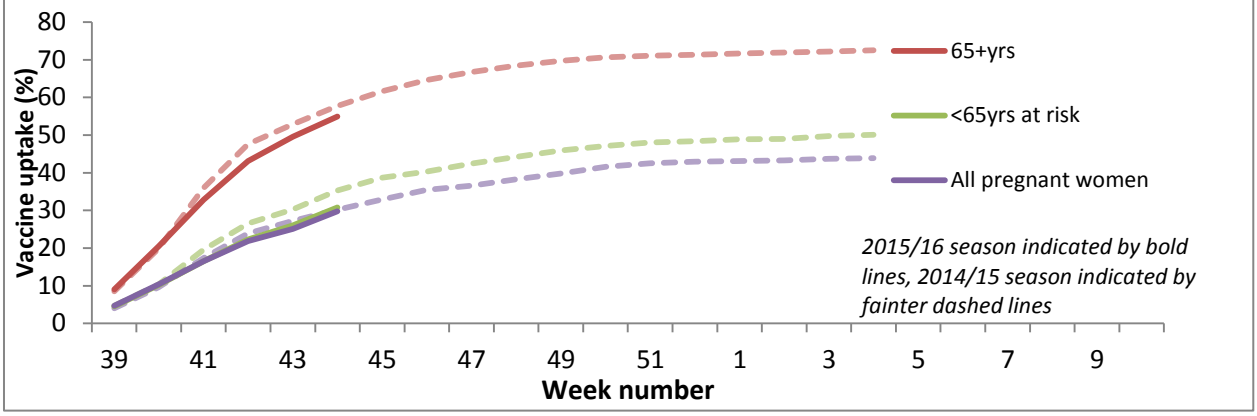
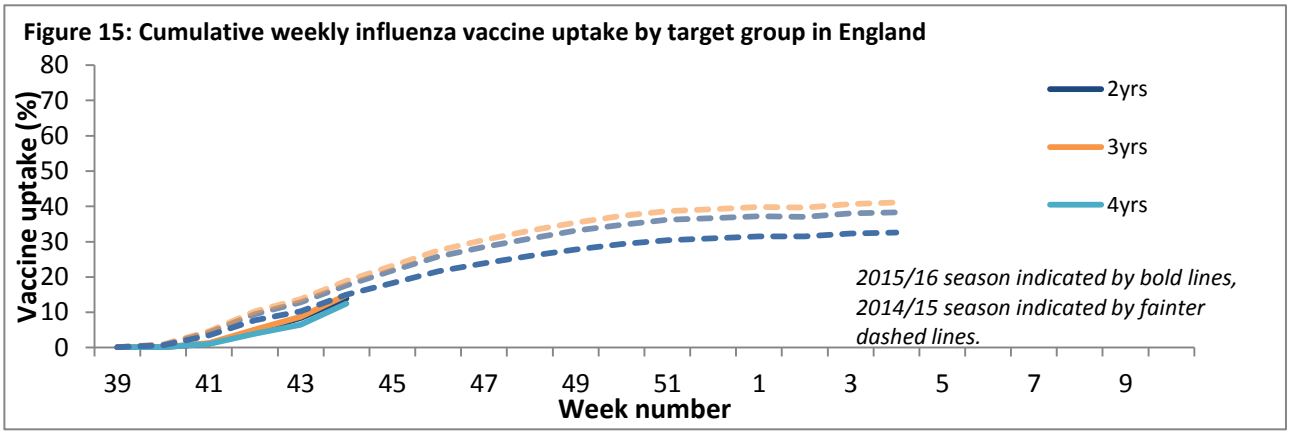
- Up to week 44 2015 in 52.3% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 14)
  - 30.8% in under 65 years in a clinical risk group
  - 29.8% in pregnant women
  - 54.9% 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 44 2015 in 52.3% 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)
  - 13.9% in all 2 year olds
  - 14.9% in all 3 year olds
  - 12.5% in all 4 year olds

**Figure 15: Cumulative weekly influenza vaccine uptake by target group in England**




## International Situation

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**Globally, influenza activity generally decreased or remained low, with only a few countries reporting elevated respiratory illness levels. Influenza activity in the northern hemisphere continued at low, inter-seasonal levels with sporadic detections.**

- Europe updated on 30 October 2015 (Joint ECDC-WHO Influenza weekly update)

For week 43, influenza activity is at low levels in the 42 countries which reported.

For week 43/2015, two out of 406 (<1%) specimens from sentinel sources from 24 countries tested positive for influenza type A viruses. In week 43/2015, 14 of 5128 (< 1%) specimens at non-sentinel sources tested positive for influenza virus. Eleven type A viruses, of which four were A(H1N1)pdm09, and three type B viruses not ascribed to a lineage, were detected. Viruses were detected in four countries (Latvia, Norway, the Russian Federation and the United Kingdom (Scotland)).

- United States of America Updated on 30 October 2015 (Centre for Disease Control report)

During week 42, influenza activity was low in the United States, with the most frequently identified type reported to be influenza A with influenza A(H3) viruses predominating.

Nationwide, 1.3% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI) in week 42. This percentage is below the national baseline of 2.1%.

During week 42, 5.8% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.1% for week 42.

One influenza-associated pediatric death (associated with influenza B virus) that occurred during the 2014-15 season was reported to CDC during week 42. No influenza-associated paediatric deaths have been reported for the 2015-2016 season.

- Canada Updated on 23 October 2015 (Public Health Agency report)

Overall, there is low influenza activity in Canada. In week 42, influenza activity and detections decreased from the previous week. So far this season, influenza A(H3N2) has been the most common subtype affecting Canadians.

The number of positive influenza detections decreased from the previous week. In week 42, the percent positive for influenza detections remained low at 0.85%; The percent positive for this week is lower than the percent positive reported the same week last season (1.96%).

The national influenza-like-illness (ILI) consultation rate increased from 22.3 consultations per 1,000 patient visits in week 41 to 31.4 per 1,000 visits in week 42. In week 42, the highest ILI consultation rate was found in the 0-4 age group and the lowest was found in the ≥65 years of age group.

In weeks 41, no new outbreaks of influenza were reported.

- Global influenza update Updated on 19 October 2015 (WHO website)

Globally, influenza activity generally decreased or remained low in both hemispheres, with only a few countries reporting elevated respiratory illness levels.

In the Northern hemisphere, influenza activity continued at low, inter-seasonal levels with sporadic detections. Increased respiratory syncytial virus (RSV) activity was reported in the United States of America (USA).

Few influenza detections were reported by countries in Africa. In countries with reported influenza in both Eastern and Western Africa, influenza type A viruses predominated.

In tropical countries of the Americas, Central America and the Caribbean, influenza activity remained at low levels, with the exception of Cuba, where high numbers of severe acute respiratory infections (SARI) were still reported, associated with influenza A(H1N1)pdm09 virus and RSV. In Columbia, acute respiratory activity (ARI) has started to decrease in recent weeks but RSV activity remains high compared to previous years.

In tropical Asia, countries in Southern and South East Asia reported low influenza activity overall except in India and Lao People's Democratic Republic where increased activity mainly due to A(H1N1)pdm09 virus in India and A(H3N2) virus in Lao PDR continued to be reported. Influenza activity declined in southern China.

In temperate South America, respiratory virus activity continued to decrease in recent weeks after RSV activity peaked in early July and influenza virus activity peaked at the end of August. In Chile, after a later than usual increase and peak in influenza activity in August and early September, ILI activity decreased in recent weeks with decreased influenza A and RSV detections.

In South Africa, the influenza season ended by mid-September with only sporadic detections of influenza B viruses in recent weeks. ILI and RSV activity also remain low.

In Australia and New Zealand, influenza activity continued to decrease after peaks in mid-August. Recent influenza virus detections were predominantly influenza B viruses. In New Zealand, ILI activity was just above the seasonal threshold.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 49,103 specimens between 21 September and 4 October 2015. 2,240 were positive for influenza viruses, of which 1,495 (66.7%) were typed as influenza A and 745 (33.3%) as influenza B. Of the sub-typed influenza A viruses, 350 (29.8%) were influenza A(H1N1)pdm09 and 824 (70.2%) were influenza A(H3N2). Of the characterized B viruses, 138 (66.7%) belonged to the B-Yamagata lineage and 69 (33.3%) to the B-Victoria lineage.

- Avian Influenza latest update on 19 October 2015 (WHO website)

**Influenza A(H7N9)** latest update on 19 October 2015
On 14 October 2015 the National Health and Family Planning Commission (NHFPC) of China notified WHO of 2 additional laboratory-confirmed cases of human infection with avian influenza A (H7N9) virus.

For further updates and WHO travel and clinical management advice, please see the WHO website.

**Influenza A(H5N1)**

From 2003 through 15 October 2015, 844 laboratory-confirmed human cases of H5N1 avian influenza have been officially reported to WHO from 16 countries, of which 449 (53.2%) have died. Since the last WHO Influenza update on 4 September 2015, no new laboratory-confirmed human cases of avian influenza A(H5N1) virus infection were reported to WHO. Various influenza A(H5) subtypes, such as influenza A(H5N1), A(H5N2), A(H5N3), A(H5N6) and A(H5N8),continue to be detected in birds in West Africa, and Asia, according to recent reports received by OIE. Although these influenza A(H5) viruses might have the potential to cause disease in humans, so far no human cases of infection have been reported, with exception of the human infections with influenza A(H5N1) viruses and the four human infections with influenza A(H5N6) virus detected in China since 2014.Overall, the public health risk assessment for avian influenza A(H5) viruses remains unchanged since the assessment of 17 July 2015.

- Middle East respiratory syndrome coronavirus (MERS-CoV) latest update on 29 October 2015

Between 17 and 24 October 2015, the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 12 additional cases of MERS-CoV infection, including one death.

On 12 October 2015, the National IHR Focal Point for the Republic of Korea provided follow-up information on a previously reported case of Middle East respiratory syndrome coronavirus (MERS-CoV) infection. The patient, who was diagnosed from hospital on 3 October following two consecutive negative PCR tests for MERS-CoV, was readmitted to hospital with fever on 11 October and tested positive again for MERS-CoV on 12 October. A total of 186 MERS-CoV cases, including 36 deaths, have been associated with the outbreak in the Republic of Korea.

Up to 19 October 2015, a total of four cases of Middle East respiratory syndrome coronavirus, MERS-CoV, (two imported and two linked cases) have been confirmed in England. On-going surveillance has identified 471 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, WHO has been notified of 1,611 laboratory-confirmed cases of infection with MERS-CoV, including at least 575 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)
- 2014/15 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)