PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

14 January 2016 – Week 02 report (up to week 01 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 01 2016 (ending 10 January 2016), influenza activity was at similar or higher levels across surveillance schemes, including GP ILI consultation rates, the proportion of laboratory samples positive for influenza and influenza admissions to hospitals and ICU. The Department of Health has issued an alert on the prescription of antiviral medicines by GPs.

- Community influenza surveillance
  - During week 01, influenza-like illness indicators remained stable with slight increases in rates of lower respiratory tract infection and pneumonia however they were within seasonally expected levels. Twelve new acute respiratory outbreaks have been reported in the past 7 days. Six outbreaks were in care homes where test results were not available/not tested. Five outbreaks were from hospitals (two tested positive for influenza A(H1N1)pdm09, one positive for influenza A(not subtyped), one positive for parainfluenza and one positive for hMPV). The twelfth outbreak was from a primary school where test results were not available/not tested.
- Overall weekly influenza GP consultation rates across the UK
  - In week 01, overall weekly influenza-like illness (ILI) GP consultation rate has increased and is above the threshold in England (16.1 per 100,000). ILI rates have also increased in Wales (10.5 per 100,000), Scotland (12.9 per 100,000) and Northern Ireland (30.9 per 100,000).
  - Weekly ILI rates remain within seasonally expected levels in week 01 through the GP In Hours Surveillance system.
- Influenza-confirmed hospitalisations
  - Fifty-one new admissions to ICU/HDU with confirmed influenza (twenty-seven influenza A(H1N1)pdm09, twenty-two influenza A(unknown subtype) and two influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (122 Trusts in England) in week 01, a rate of 0.14 per 100,000 which was the same rate as the previous week. Seven deaths were also reported through this scheme.
  - Fifty-six new hospitalised confirmed influenza cases (thirty-six influenza A(H1N1pdm09), two influenza A(H3N2), fourteen influenza A(not subtyped) and four influenza B) were reported through the USISS sentinel hospital network across England (23 Trusts), a rate of 0.65 compared to 0.41 per 100,000 the previous week.
  - Since week 40, twelve confirmed influenza admissions have been reported (seven influenza A(H1N1)pdm09 and five influenza A(unknown subtype) from the six Severe Respiratory Failure centres in the UK.
- All-cause mortality data
  - Up to week 50 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
  - Twenty-four samples tested positive for influenza (17 A(H1N1)pdm09, 2 A(untyped) and 5 B) through GP sentinel schemes across the UK, with an overall positivity of 15.2%.
  - One hundred and sixty-six influenza positive detections were recorded through the DataMart scheme (one hundred and seven influenza A(H1N1)pdm09, four A(H3), forty-one A(not subtyped) and fourteen influenza B). A positivity of 10.1% was seen in week 01, compared to 10.3% in week 53, with the highest positivity in 15-44 year olds (13.9%). This is above the threshold for 2015/16 season of 7.4%.
- Vaccination
  - Up to week 01 2016 in 84.9% 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: 44.2% in under 65 years in a clinical risk group, 41.8% in pregnant women, 70.5% in 65+ year olds, 34.9% in all 2 year olds, 36.9% in all 3 year olds and 29.6% in all 4 year olds.
  - Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 44.1% were vaccinated by 30 November 2015 from 97.0% of Trusts, compared to 48.2% vaccinated in the previous season by 30 November 2014. The report is available here.
  - Provisional data from the second 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 30 November 2015 was as follows: 40.9% in children school year 1 age (5-6 years) and 39.3% in children school year 2 age (6-7 years).
  - Provisional data from the second monthly collection of influenza vaccine uptake in GP patients up to 30 November 2015 has been published. The report provides uptake at national, area team and CCG level.
- International situation
  - Globally, influenza activity generally remained low in the Southern Hemisphere however there are signs of increasing activity in the Northern hemisphere.
  - Influenza activity in Europe remains low, however an increase in the positivity of samples from sentinel sources indicates an increase in influenza activity and the start of the season.

Community surveillance

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During week 01, influenza-like illness indicators remained stable with slight increases in rates of lower respiratory tract infection and pneumonia however they were within seasonally expected levels. Twelve new acute respiratory outbreaks were reported in the past 7 days.

- PHE Real-time Syndromic Surveillance

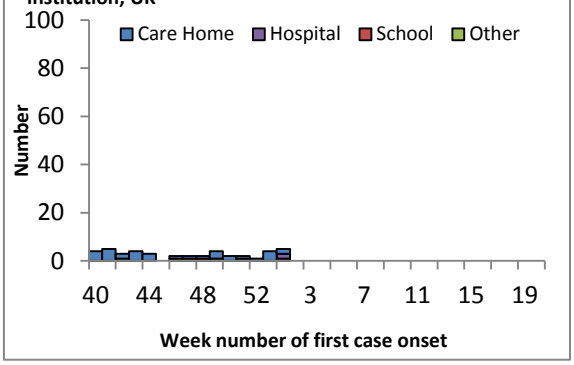
- During week 01, GP consultation rates for influenza-like illness remained stable and within expected levels. Rates of lower respiratory tract infection and pneumonia increased slightly during week 1, mainly affecting adults over 75 years of age but remain within seasonally expected levels.

- Acute respiratory disease outbreaks

- Twelve new acute respiratory outbreaks have been reported in the past 7 days. Six outbreaks were from care homes where results were not available/not tested. Five outbreaks were from hospitals (two tested positive for influenza A(H1N1)pdm09, one positive for influenza A(not subtyped), one positive for parainfluenza and one positive for hMPV). The twelfth outbreak was from a primary school where test results were not available/not tested.

-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



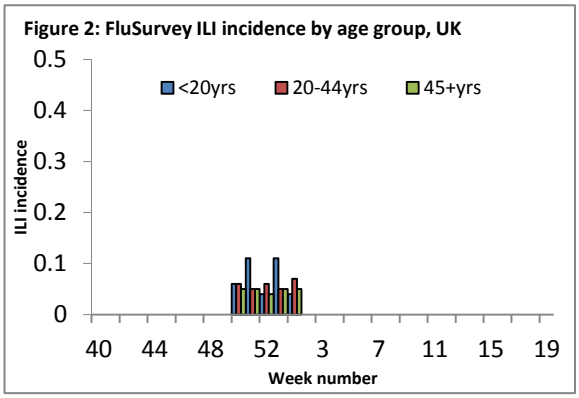
- FluSurvey

- 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 01 was 0.06 (148 / 2,467 people reported at least 1 ILI), with the 20-44 age group reporting a slightly higher rate of 0.07.

- 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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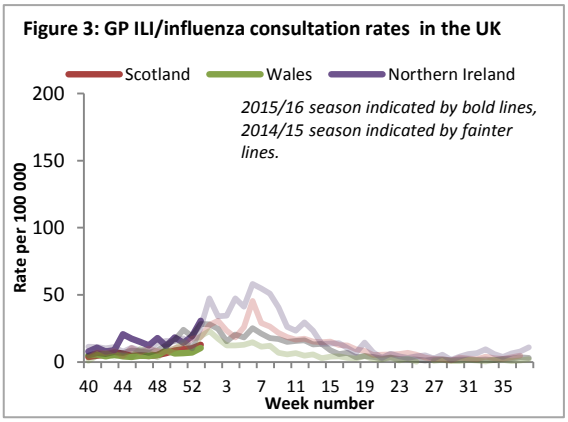
In week 01, overall weekly influenza-like illness GP consultations have increased in England, Wales, Scotland and Northern Ireland.

- Influenza/Influenza-Like-Illness (ILI)

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



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 has increased at 30.9 per 100,000 in week 01 compared to 21.5 per 100,000 in week 53 (Figure 3). This remains below the pre-epidemic threshold (49 per 100,000).

-The highest rates were seen in the 45-64 year olds (40.6 per 100,000), 15-44 year olds (38.1 per 100,000) and 65-74 year olds (30.0 per 100,000).

Wales

-The Welsh influenza rate has increased at 10.5 per 100,000 in week 01 compared to 7.1 per 100,000 in week 53 (Figure 3).

-The highest rates were seen in 45-64 year olds (19.5 per 100,000), 15-44 year olds (9.9 per 100,000) and in 5-14 year olds (8.2 per 100,00).

Scotland

-The Scottish ILI rate has increased at 12.9 per 100,000 in week 01 (Figure 3) compared to 8.6 per 100,000 in week 53. This remains below the pre-epidemic threshold (37 per 100,000).

-The highest rates were seen in 15-44 year olds (17.3 per 100,000), 45-64 year olds (14.0 per 100,000) and 65-74 year olds (12.0 per 100,000).

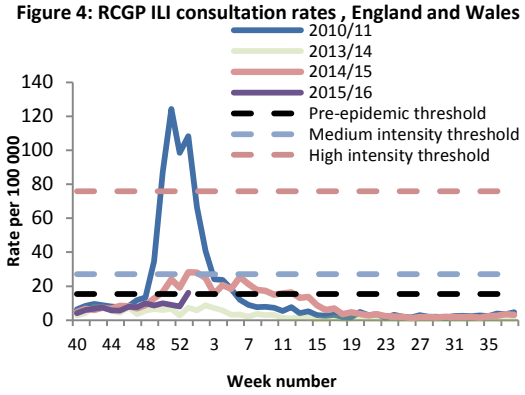
RCGP (England and Wales)

- The weekly ILI consultation rate through the RCGP surveillance system has increased at 16.1 per 100,000 in week 01 compared to 9.6 per 100,000 in week 53. This is above the pre-epidemic threshold (15.4 per 100,000) (Figure 4*). By age group, the highest rates were seen in 45-64 year olds (22.3 per 100,000) and 15-44 year olds (19.4 per 100,000).

**The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe.*

***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)

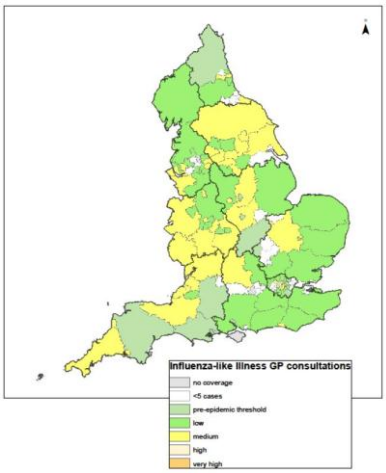
-The weekly ILI consultation rate through the GP In Hours Syndromic Surveillance system was low at 9.0 per 100,000 in week 01 (Figure 5).

Figure 5 represents a map of GP ILI consultation rates in Week 01 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 01



Influenza confirmed hospitalisations

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In week 01, fifty-one new admissions to ICU/HDU with confirmed influenza (27 influenza A(H1N1)pdm09, 22 influenza A(unknown subtype) and 2 influenza B) were reported through the USISS mandatory ICU/HDU surveillance scheme across the UK (122 Trusts in England). Fifty-six new hospitalised confirmed influenza cases (36 influenza A(H1N1pdm09, 2 influenza A(H3N2), 14 influenza A(not subtyped) and 4 influenza B were reported through the USISS sentinel hospital network across England (23 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 01)

- In week 01, fifty-one new admissions to ICU/HDU with confirmed influenza (27 influenza A(H1N1)pdm09, 22 A(unknown subtype) and 2 influenza B) were reported across the UK (122/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 6 and 7), a rate of 0.14 per 100,000, the same rate as in the previous week. Seven new confirmed influenza deaths were also reported in week 01 2016. A total of 249 admissions (108 influenza A(H1N1)pdm09, 13 influenza A(H3N2), 116 influenza A (unknown subtype) and 12 influenza B) and 19 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

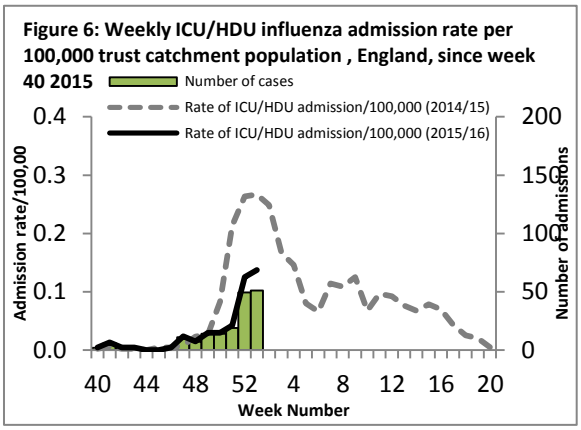
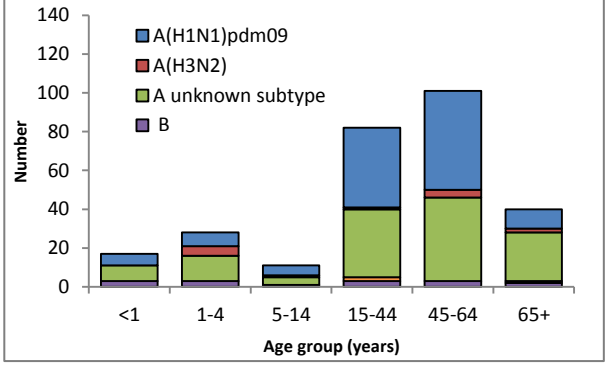


Figure 7: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2015



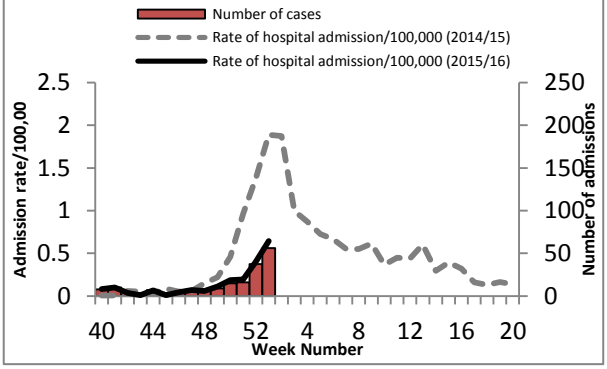
NB: *As week 53 appears in 2015 but not in previous years, the figure used for week 52 in Figure 6 is an average of week 52 and week 53 data.*

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 01)

- In week 01, fifty-six new hospitalised confirmed influenza cases (36 influenza A(H1N1pdm09), 2 influenza A(H3N2), 14 influenza A(unknown subtype) and 4 influenza B) were reported through the USISS sentinel hospital network from 23 NHS Trusts across England (Figure 8), a rate of 0.65 per 100,000 compared to 0.41 per 100,000 the previous week. A total of 217 hospitalised confirmed influenza admissions (149 influenza A(H1N1pdm09), 11 influenza A(H3N2), 38 influenza A (unknown subtype) and 19 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 01)

- In week 01, one new confirmed influenza admission to the five Severe Respiratory Failure Centres in England was reported (influenza A(unknown subtype). Since week 40, twelve confirmed influenza admissions have been reported (seven influenza A(H1N1)pdm09 and five influenza A unknown subtype) from the six Severe Respiratory Failure centres in the UK.

All-cause mortality data

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Up to week 50 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.

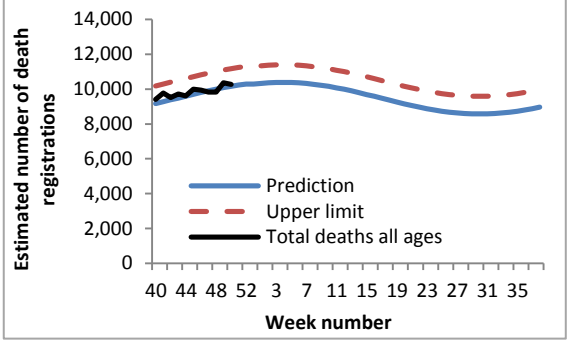
Seasonal mortality is seen each year in the UK, with a higher number of deaths in winter months compared to the summer. Additionally, peaks of mortality above this expected higher level typically occur in winter, most commonly the result of factors such as cold snaps and increased circulation of respiratory 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 50 2015, an estimated 10,269 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is a decrease compared to the 10,365 estimated death registrations in week 49, 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

-Up to week 50 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), in any age group or subnationally. This data is provisional due to the time delay in registration; numbers may vary from week to week.

- No excess mortality above the threshold through the same standardised algorithm was seen across the Devolved Administrations in week 50 (Table 2).

Table 1: Excess mortality by age group,England*

Age group (years)	Excess detected in week 50 2015?	Weeks with excess in 2015/16
<5	×	NA
5-14	×	NA
15-64	×	NA
65+	×	NA

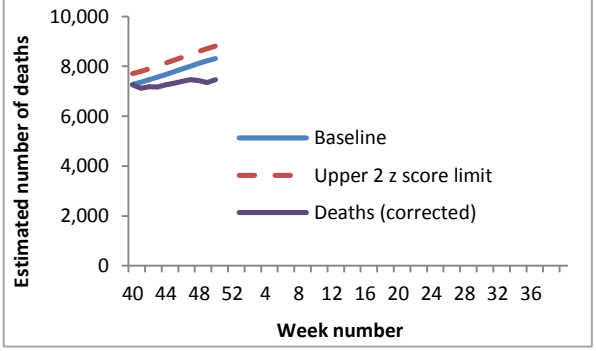
** Excess mortality is calculated as the observed minus the expected number of deaths in weeks above threshold*

Table 2: Excess mortality by UK country*

Country	Excess detected in week 50 2015?	Weeks with excess in 2015/16
England	×	NA
Wales	×	NA
Scotland	×	48
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 01 2015, twenty-four samples tested for influenza through the UK GP sentinel schemes were positive. One hundred and sixty-six influenza positive detections were recorded through the DataMart scheme (one hundred and seven influenza A(H1N1)pdm09, four A(H3), forty-one A(not subtyped) and fourteen influenza B).

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

-In week 01, eighteen samples were positive for influenza in England (15 influenza A(H1N1)pdm09, and 3 influenza B), two samples were positive in Scotland (2 influenza A (untyped)), two samples were positive in Wales (1 influenza A(H1N1) and 1 influenza B) and two samples were positive in Northern Ireland (1 influenza A(H1N1) and 1 influenza B) (Table 3).

Table 3: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
50	14/83 (16.9%)	5/78 (6.4%)	0/5 (-)	0/3 (-)
51	20/126 (15.9%)	4/79 (5.1%)	1/11 (9.1%)	1/10 (10%)
52	22/89 (24.7%)	7/67 (10.4%)	4/6 (-)	1/4 (-)
53	14/61 (23%)	5/53 (9.4%)	2/8 (-)	1/7 (-)
01	18/119 (15.1%)	2/29 (6.9%)	2/6 (-)	2/4 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Respiratory DataMart System (England)

In week 01 2016, out of the 1651 respiratory specimens reported through the Respiratory DataMart System, 166 samples (10.1%) were positive for influenza (107 A(H1N1)pdm09, 4 A(H3), 41 A(not subtyped) and 14 B) (Figure 11). The highest positivity was in the 15-44 year olds at 13.9%. The overall positivity for RSV continued its decreasing trend, with the highest positivity in children aged under 5 years at 25.1% in week 01 (Figure 12). Positivity for parainfluenza remained stable and low at 3.6% in week 01. Positivity for rhinovirus decreased to 8.4% and positivity for hMPV decreased to 4.4%. Adenovirus remained low at 2.6% (Figure 13).

Figure 11: DataMart samples positive for influenza, England

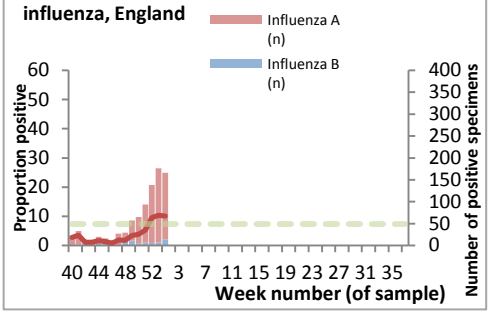


Figure 12: Datamart % RSV positive by age, England

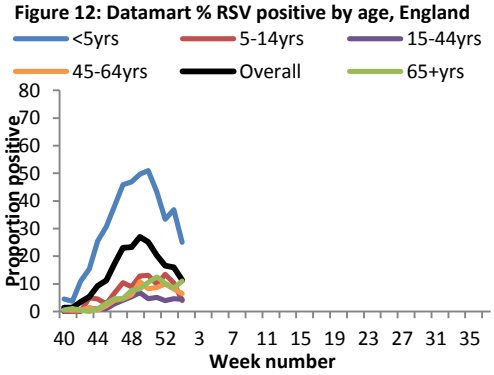
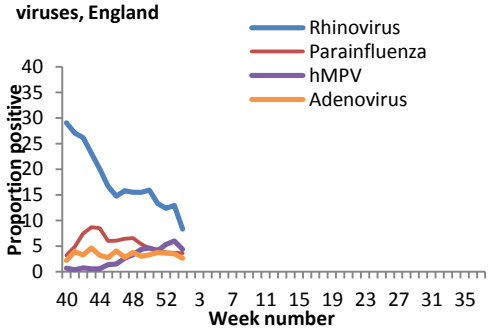


Figure 13: Datamart % positive for other respiratory viruses, England



**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

The PHE Respiratory Virus Unit has isolated and antigenically characterised 41 A(H1N1)pdm09 influenza viruses since the start of the 2015/16 winter influenza season in week 40 2015. These 41 viruses were antigenically similar to the A/California/7/2009 Northern Hemisphere 2015/16 (H1N1)pdm09 vaccine strain.

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. Genetic characterisation of eight 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.

Three influenza B viruses have been isolated and antigenically characterised since week 40 2015. One virus was characterised as belonging to the B/Yamagata/16/88-lineage and was antigenically similar to B/Phuket/3073/2013, the influenza B/Yamagata-lineage component of 2015/16 Northern Hemisphere trivalent vaccines. 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 2015/16 Northern Hemisphere quadrivalent vaccines.

- Antiviral susceptibility

Since week 40 2014, 182 influenza A(H1N1)pdm09, one influenza A(H3N2) and one influenza B have been tested for oseltamivir susceptibility with two influenza A(H1N1)pdm09 virus and one influenza A(H3N2) found to be resistant in the UK. One of the A(H1N1)pdm09 resistant samples was obtained from a patient with underlying medical conditions undergoing oseltamivir treatment. The A(H3N2) resistant sample was from an immunocompromised patient receiving oseltamivir treatment, with an E119V amino acid change. 18 influenza A(H1N1)pdm09 and one 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 10 January 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 10 January 2016, E&W

Organism	Antibiotic	Specimens tested (N)	Specimens susceptible (%)
S. pneumoniae	Penicillin	2,482	92
	Macrolides	2,845	83
	Tetracycline	2,748	85
H. influenzae	Amoxicillin/ampicillin	10,439	71
	Co-amoxiclav	9,965	92
	Macrolides	3,577	18
	Tetracycline	10,185	98
S. aureus	Methicillin	3,678	88
	Macrolides	3,619	73
MRSA	Clindamycin	375	46
	Tetracycline	421	90
MSSA	Clindamycin	2,042	79
	Tetracycline	2,998	93

**Macrolides = erythromycin, azithromycin and clarithromycin*

Vaccination

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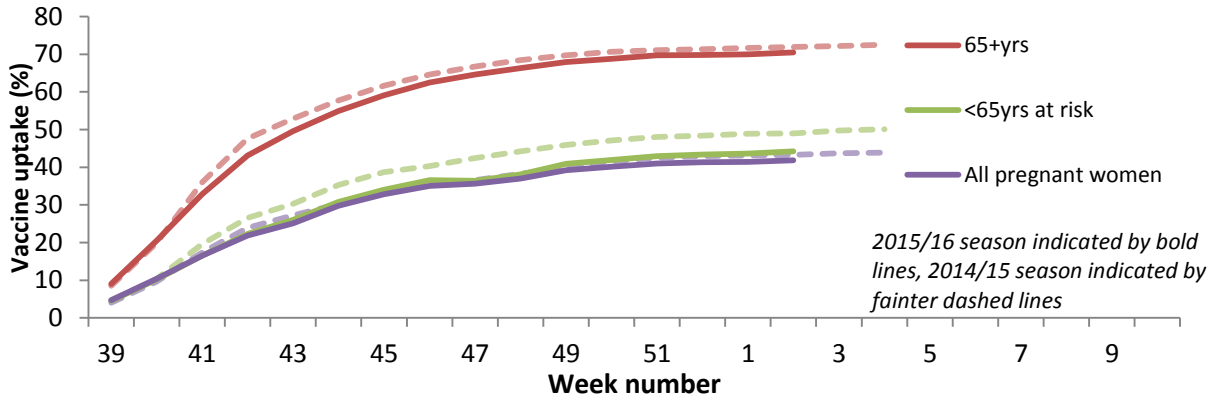
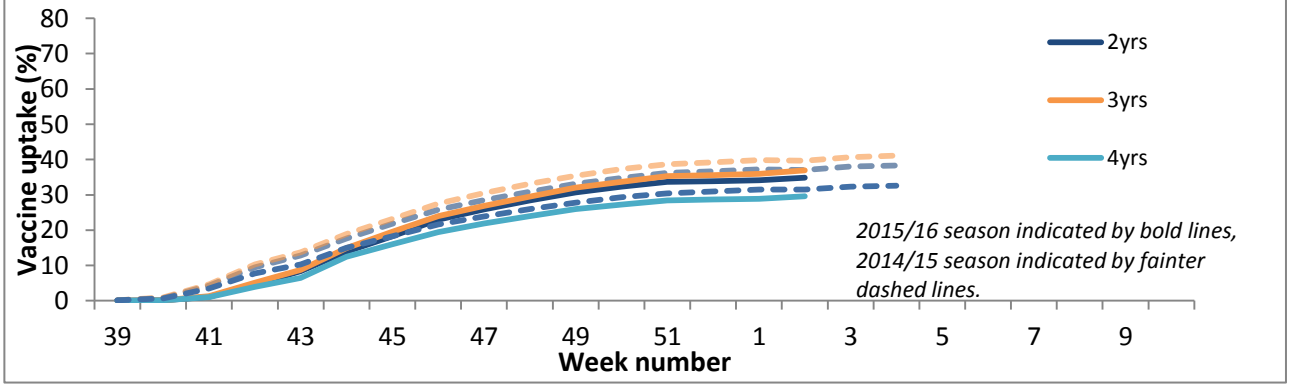
- Up to week 01 2016 in 84.9% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2015/16 influenza vaccine in targeted groups was as follows (Figure 14):
  - 44.2% in under 65 years in a clinical risk group
  - 41.8% in pregnant women
  - 70.5% 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 01 2016 in 84.9% 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)
  - 34.9% in all 2 year olds
  - 36.9% in all 3 year olds
  - 29.6% in all 4 year olds

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



- Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 44.1% were vaccinated by 30 November 2015 from 97.0% of Trusts, compared to 48.2% vaccinated in the previous season by 30 November 2014. The report provides uptake at national, area team and CCG level.
- Provisional data from the second 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 30 November 2015 was as follows: 40.9% in children school year 1 age (5-6 years) and 39.3% in children school year 2 age (6-7 years).
- Provisional data from the second monthly collection of influenza vaccine uptake in GP patients up to 30 November 2015 has been published. The report provides uptake at national, area team and CCG level.

International Situation

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Globally, influenza activity has increased in the Northern hemisphere but remains low in the Southern hemisphere.

- Europe updated on 08 January 2016 (Joint ECDC-WHO Influenza weekly update)

In week 53/2015, influenza activity remained low in most countries in the WHO European Region, with the majority reporting sporadic detections of influenza A(H1N1)pdm09, A(H3N2) and B viruses.

The proportion of influenza-virus positive specimens from sentinel sources has increased from 18% in week 52/2015 to 30% in week 53/2015. This is the third consecutive week where the proportion of influenza virus-positive sentinel surveillance specimens has been above10%.

Overall, 4% of specimens from non-sentinel sources have tested positive for influenza virus since week 40/2015, with a proportion of 15% for week 53/2015.

Since week 40/2015, five countries have reported 284 hospitalized laboratory-confirmed cases (Table 2). Among those admitted to ICUs, influenza type A viruses were detected in 95% of cases, with A(H1N1)pdm09 being the dominant subtype.

The increase in virus detections among sentinel and non-sentinel patients with respiratory disease since week 49/2015 is due largely to A(H1N1)pdm09 viruses, representing 80% of subtyped type A viruses. Most influenza B viruses were without lineage determination. A(H1N1)pdm09 is more likely to cause severe disease in younger, otherwise healthy, adults.

- United States of America Updated on 08 January 2016 (Centre for Disease Control report)

During week 52, influenza activity increased slightly in the United States. The most frequently identified type reported to be influenza A with influenza A (H1N1)pdm09 viruses predominating.

Nationwide during week 52, the proportion of outpatient visits for influenza-like illness (ILI) was 2.8%, which is above the national baseline of 2.1%. Seven of 10 regions reported ILI at or above region-specific baseline levels.

The percent positive for laboratory confirmed influenza detections was low at 1.8%.

During week 52, 6.1% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 7.3% for week 52.Two influenza-associated paediatric deaths were reported in week 52. A total of six influenza associated paediatric deaths have been reported during the 2015-2016 season.

- Canada Updated on 08 January 2016 (Public Health Agency report)

In week 52, seasonal influenza activity has increased slightly in Canada.

The percent positive for laboratory confirmed influenza detections increased from 3.3% in week 51 to 4.3% in week 52. Among subtyped influenza detections, influenza A(H1N1)) was the most common influenza A virus detected across Canada in weeks 51 and 52. To date, 84% of influenza detections have been influenza A and the majority of those subtyped have been A(H3) (63%).

The national influenza-like-illness (ILI) consultation rate has increased from 30.2 per 1,000 visits in week 51 to 50.3 per 1,000 visits in week 52. In week 52, the highest ILI consultation rate was found in the 0-4 years of age and the lowest was found in the 20-64 years of age group.

To date this season, 38 laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations have been reported by the Immunization Monitoring Program Active (IMPACT) network. Since the start of the 2015-16 season, 148 laboratory-confirmed influenza-associated hospitalizations were reported from participating provinces and territories (87% due to influenza A and 13% due to influenza B). The majority (49%) of patients were ≥65 years of age.

- Global influenza update Updated on 28 December 2015 (WHO website)

Globally, influenza activity generally remained low in both hemispheres.

In a few countries in Central and Northern Asia, as well as in Eastern and Northern Europe, there were slight increases in influenza detections in recent weeks.

In Eastern Asia, the rest of Europe, North Africa and North America, influenza activity continued at low, inter-seasonal levels.

In southern and western Asia, Iran (Islamic Republic of)and Pakistan reported elevated influenza activity, predominantly influenza A(H1N1)pdm09.Oman reported increased influenza activity, predominantly due to influenza A(H1N1)pdm09 and influenza B viruses, while Bahrain reported a decline in influenza activity. Qatar also reported a decline in influenza activity but remained at elevated levels.

Few influenza virus detections were reported by countries in tropical Africa.

In tropical countries of the Americas, Central America and the Caribbean, respiratory virus activity remained at low levels, with the exception of Costa Rica(A(H3N2)), Cuba (A(H3N2)) and Nicaragua (A(H1N1)pdm09).

In tropical Asia, countries in South East Asia reported low influenza activity overall except Thailand where activity mainly due to B viruses continued to be reported.

In the temperate countries of the Southern Hemisphere, respiratory virus activity was generally low in recent weeks with low levels of influenza virus detections reported.

Based on FluNet reporting, the WHO GISRS laboratories tested more than 40,491 specimens between 30 November 2015 and 13 December 2015. 2,590 were positive for influenza viruses, of which 2,158 (83.3%) were typed as influenza A and 432 (16.7%) as influenza B. Of the sub-typed influenza A viruses, 1,375 (82.7%) were influenza A(H1N1)pdm09 and 287 (17.3%) were influenza A(H3N2). Of the characterized B viruses, 100 (75.8%) belonged to the B-Yamagata lineage and 32 (24.2%) to the B-Victoria lineage.

- Avian Influenza latest update on 11 January 2016 (WHO website)

Influenza A(H5N6)
On 8 January 2016, the National Health and Family Planning Commission (NHFPC) of China notified WHO of 2 additional laboratory-confirmed cases of human infection with avian influenza (H5N6) virus. A total of eight A(H5N6) have been reported so far around the world, with the first human infection reported in May 2014 in China's southwest province of Sichuan.

Influenza A(H7N9)
On 11 December 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 14 December 2015, 844 laboratory-confirmed human cases of avian influenza A(H5N1) virus infection have been officially reported to WHO from 16 countries. Of these cases, 449 have died. Influenza A(H5) viruses of various subtypes, such as influenza A(H5N1), A(H5N2), A(H5N6), A(H5N8) and A(H5N9) have been detected in birds in Africa, Asia, and Europe according to reports received by OIE. Although influenza A(H5) viruses have the potential to cause disease in humans, so far no human cases of infection with these viruses 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.

In recent weeks, highly pathogenic avian influenza A(H5) viruses of several subtypes have been detected in domestic birds in France. Based on preliminary data, at least one of these viruses has different origins than the influenza A(H5) viruses that have infected the human cases reported in the past. WHO is in contact with the animal health authorities to better understand these viruses and to more accurately assess the public health risk.

- Middle East respiratory syndrome coronavirus (MERS-CoV) latest update on 07 January 2016

On 3 January 2016, the National IHR Focal Point of Oman notified WHO of 1 additional case of Middle East Respiratory Syndrome-Coronavirus (MERS-CoV) infection.

Between 29 November and 17 December 2015, the National IHR Focal Point for the Kingdom of Saudi Arabia notified WHO of 4 additional cases of MERS-CoV infection, including two deaths.

On 23 December 2015, the Ministry of Health and Welfare in Korea declared that transmission of MERS-CoV in South Korea by WHO standards.

Up to 13 January 2016, 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 532 suspect cases in the UK that have been investigated for MERS-CoV and tested negative.

Globally, since September 2012, WHO has been notified of 1,626 laboratory-confirmed cases of infection with MERS-CoV, including at least 586 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)