Summary

Indicators of influenza activity remain at low levels of intensity with evidence of sporadic detections of influenza. RSV activity appears to be declining. Due to bank holidays in week 1 (ending 5 January 2014), GP surgeries were only open for four days (three days in Scotland) – data should therefore be interpreted with caution.

- **Overall weekly influenza GP consultation rates across the UK**
  - In week 1 (ending 5 January 2014), overall weekly influenza GP consultations remained low in England (7.3 per 100,000), Wales (7.0 per 100,000), Scotland (9.9 per 100,000) and Northern Ireland (22.8 per 100,000).
  - In week 1, national attendances for bronchitis/bronchiolitis continue to decrease, particularly in young children.
  - Five new acute respiratory outbreaks have been reported in the past seven days across the UK in care homes (two rhinovirus, one RSV and two not tested).

- **Virology**
  - In week 1 2014, 37 influenza positive detections were recorded through the DataMart scheme (20 A(H1N1)pdm09, five A(H3), eight A(not subtyped) and four B), positivity of 4.2% compared to 3.2% in week 52.
  - Two samples were positive through the English sentinel schemes (one A(H1N1)pdm09 and one A(H3)).

- **Disease severity and mortality**
  - 23 new admissions to ICU/HDU with confirmed influenza (15 A(H1N1)pdm09, seven A unknown subtype and one A(H3N2)) and one confirmed influenza death were reported through the USISS mandatory ICU surveillance scheme across the UK (134 Trusts in England) in week 1. 15 new hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network across England (27 Trusts).
  - In week 50 2013, no excess all-cause mortality was seen across the UK through the EuroMOMO algorithm and none has been reported since week 40 2013. This data is provisional due to the time delay in death registration. Please note there has been no update in recent weeks due to delays in reporting over the Christmas period.

- **Vaccination**
  - Up to week 1 2014 in 78.9% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2013/14 influenza vaccine in targeted groups was as follows: 41.5% in all 2 year olds, 38.2% in all 3 year olds, 50.0% in under 65 years in a clinical risk group, 38.9% in all pregnant women and 71.9% in 65+ year olds.
  - Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 48.6% were vaccinated by 30 November 2013 from 95.9% of Trusts, compared to 40.8% vaccinated the previous season by 30 November 2012.

- **International situation**
  - Overall influenza activity in North America continues to increase.
  - European countries continue to report low levels of influenza activity.
In week 1 (ending 5 January 2014), overall weekly influenza GP consultations remained low in England, Wales, Scotland and Northern Ireland.

- Influenza/Influenza-Like-Illness (ILI)

**RCGP (England and Wales)**

- The overall ILI consultation rate from RCGP for England and Wales increased in week 1 2014 (7.3 per 100,000) compared to week 52 (2.8 per 100,000) (Figure 1*). ILI rates increased in the Central (from 2.4 to 10.6 per 100,000), South region (from 3.1 to 6.1 per 100,000) and remained stable in the North region (3.0 per 100,000 to 5.0 per 100,000).

**Northern Ireland**

- In week 1 2014, ILI consultations were reported in 15-44 year olds (rate of 17.1 per 100,000), 65-74 year olds (7.9 per 100,000) and 45-64 year olds (7.1 per 100,000).

**Scotland**

- The Scottish ILI rate remained stable from 10.3 per 100,000 in week 52 to 9.9 per 100,000 in week 1 (Figure 3)*.

**Wales**

- The Welsh influenza rate increased from 2.8 per 100,000 in week 52 to 7.0 per 100,000 in week 1 (Figure 3).
- The highest rate was seen in 75+ year olds (from 4.0 to 10.9 per 100,000) followed by 15-44 year olds (from 2.8 to 8.8 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 calculated for RCGP ILI consultation rates for 2013/14 is 15.6 per 100,000.

*Please note that the Scottish GP consultation rates for ILI were adjusted to account for the reduced number of working days in week 52 and week 1. The data for these weeks must be interpreted with caution.
Other respiratory indicators

**Acute bronchitis (AB)**
The overall weekly consultation rate for acute bronchitis (AB) in England and Wales through the RCGP scheme increased from 62.5 per 100,000 in week 52 to 106.3 per 100,000 in week 1 (Figure 4). The highest rates were seen in <1 year olds (600.5 per 100,000) and 65-74 year olds (242.1 per 100,000).

**Community surveillance**
In week 1 national attendances for bronchitis/bronchiolitis continue to decrease and five new acute respiratory outbreaks have been reported in the last seven days.

- **PHE Real-time Syndromic Surveillance**
  - In week 1 national attendances for bronchitis/bronchiolitis continue to decrease, particularly in young children.
  - For further information, please see the syndromic surveillance [webpage](http://flusurvey.org.uk).

- **Acute respiratory disease outbreaks**
  - Five new acute respiratory outbreaks were reported in the last 7 days in care homes, one in the North of England, three in the Midlands and East of England, and one in the South of England. Among these five outbreaks, one tested positive for RSV, two for rhinovirus and others not tested. So far this season, 28 outbreaks have been reported in care homes, three in hospitals and one in a school (where tested, one influenza A(H1N1)pdm09, one influenza A not sub-typed, eight RSV, five rhinovirus, and three parainfluenza).
  - Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respсидsc@phe.gov.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. Please see the website for information on how to register.
  - In week 1, the incidence of ILI reports was highest in 20-44yrs (Figure 6).
Microbiological surveillance

In week 1 2014, 37 influenza positive detections were recorded through the DataMart scheme (20 A(H1N1)pdm09, five A(H3), eight A(not subtyped) and four B). Two samples were positive through the English sentinel schemes (one A(H1N1)pdm09 and one A(H3)).

- Respiratory DataSystem (England)

In week 01 2014, out of the 874 respiratory specimens reported through the Respiratory Datamart System, 20 (2.3%) positive for flu A (H1N1) pdm09, 5 (0.6%) positive for influenza A(H3), 8 (0.9%) positive for flu A (not subtyped) and 4 samples were positive for influenza B (Figure 7). The overall positivity for RSV decreased from 31.6% in week 52 2013 to 23.4% in week 01 2014 with the highest positivity reported in the <5 years where there was also a decrease from 51.6% in week 52 2013 to 49.8% in week 01 2014 (Figure 8). Positivity for rhinovirus increased slightly from 12.7% in week 52 2013 to 14.0% in week 01 2014. Positivity for hMPV increased slightly from 2.9% in week 52 2013 to 4.1% in week 01 2014. Other respiratory viruses remained at low levels: adenovirus 2.4% and parainfluenza 2.1% in week 01 2014 (Figure 9).

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

- Two samples from England were positive (one influenza H1N1(2009) and one influenza A(H3)). No samples were positive from Scottish and Northern Ireland scheme in week 1 (Table 1). No samples were tested through the Welsh scheme.

- Virus characterisation

- Since week 40 2013, the PHE Respiratory Virus Unit (RVU) has isolated and antigenically characterised 18 influenza A(H3N2) viruses, all similar to the A/Texas/50/2012 H3N2 2013/14 vaccine strain, and 12 influenza A(H1N1)pdm09 viruses similar to the A/California/07/2009 vaccine strain for 2013/14. One influenza B isolate, belonging to the B-Yamagata lineage has been characterised.

- Antimicrobial susceptibility

- In the 12 weeks up to 29 December 2013, 82% or greater of all lower respiratory tract isolates of Staphylococcus aureus, Streptococcus pneumoniae and Haemophilus influenzae reported as tested were susceptible to the antibiotics tetracycline and co-amoxiclav (Table 2). There have been no significant changes in susceptibility in recent years.
In week 1, 23 new admissions of confirmed influenza cases to ICU/HDU (15 A(H1N1)pdm09, seven A unknown subtype and one A(H3N2)) and one confirmed influenza death in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (134 Trusts in England). 15 new hospitalised confirmed influenza cases have been reported through the USISS sentinel hospital network across England (27 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 has been 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 1)
- In week 1, 23 new admissions to ICU/HDU with confirmed influenza infection (15 A(H1N1)pdm09, seven A unknown subtype and one A(H3N2)) were reported across the UK (134/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 10 and 11) compared to 17 in week 52. One new confirmed influenza death was reported in week 1 2013. A total of 80 admissions (34 A(H1N1)pdm09, 35 A(unknown), eight B and three A(H3N2)) and three confirmed influenza deaths have been reported since week 40 2013.

- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 1)
- In week 1, 15 new hospitalised confirmed influenza case were reported through the USISS sentinel hospital network from 27 NHS Trusts across England (Figure 12) compared to 27 in week 52. A total of 87 hospitalised confirmed influenza admissions (39 A(H1N1)pdm09, 33 A unknown, nine A(H3N2) and six B) have been reported since week 40 2013.

- All-cause mortality data
- In week 50, no excess in all-cause mortality was seen across the UK overall, by age group or by region.

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 2013, an estimated 10,003 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly more than the 9,908 estimated death registrations in week 49 but remains below the 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 13).

- Excess all-cause mortality by age group and PHE region, England, Wales, Scotland and Northern Ireland
  - In week 50 2013, no excess mortality by date of death above the upper 2 z-score threshold was seen in 65+ year olds in England after correcting ONS disaggregate data for reporting delay with the standardised EuroMOMO algorithm (Figure 14, Table 3). This data is provisional due to the time delay in registration and so numbers may vary from week to week.
  - No excess mortality above the threshold through the same standardised algorithm was seen subnationally or in the devolved administrations (Table 4).

Vaccination

- Up to week 1 2014 in 78.9% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2013/14 influenza vaccine in targeted groups was as follows (Figure 15):
  - 41.5% in all 2 year olds
  - 38.2% in all 3 year olds
  - 50.0% in under 65 years in a clinical risk group
  - 38.9% in all pregnant women
  - 71.9% in 65+ year olds
In the second monthly collection up to 30 November 2013, provisional cumulative seasonal influenza vaccine uptake from 95.6% of GP practices was 68.8% in 65 years and over, 45.8% in under 65 year olds at risk, 35.8% in all pregnant women, 36.5% in all 2 year olds and 33.6% in all 3 year olds. The report provides uptake to Area Team level, CCG level and in key targeted groups.

Provisional data from the second monthly collection of influenza vaccine uptake by frontline healthcare workers show 48.6% were vaccinated by 30 November 2013 from 95.9% of Trusts, compared to 40.8% vaccinated the previous season by 30 November 2012. The report provides uptake to Trust level.

International Situation

Overall influenza activity in North America continues to increase. European countries continue to report low levels of influenza activity.

- **Europe** 3 January 2013 (European Centre for Disease Prevention and Control report)

For week 52/2013, clinical data (ILI or ARI) were reported by 11 countries. All of them reported low-intensity influenza activity, the lowest category of reporting. Geographic patterns of influenza activity were reported as local by Iceland and as sporadic by three countries and the UK (Scotland). All other countries reported no activity. An increasing trend was reported by the UK (Scotland), all other countries reported stable or decreasing trends. In Scotland, ARI incidence rates have increased continuously since week 49, accompanied by influenza virus detections.

For week 52/2013, seven countries tested a total of 46 sentinel specimens, six (13%) of which (from four of the countries) were positive for influenza virus. Since week 40/2013, of 191 sentinel specimens positive for influenza virus, 170 (89%) were type A and 21 (11%) were type B. Of 132 subtyped influenza A viruses, 73 (55%) were A(H3) and 59 (45%) were A(H1)pdm09. Since week 40/2013, 35 A(H1)pdm09, 20 A(H3) viruses and two B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir; none showed genetic or phenotypic (IC50) evidence for reduced inhibition.

In week 52/2013, six countries reported 314 respiratory syncytial virus (RSV) detections (Figure 3), a lot less than in previous weeks. This decrease very likely results from fewer countries reporting during the Christmas/New Year holiday period.

Since week 40/2013, five countries have reported 59 hospitalised laboratory-confirmed influenza cases. France reported four hospitalised cases in week 52/2013. Two fatal cases have been reported, one by France for week 49/2013 and one by Spain for week 50/2013. Of the 59 hospitalised laboratory-confirmed influenza cases reported since week 40/2013, 47 (80%) were related to infection with influenza virus type A and 12 (20%) to infection with influenza virus type B. Sixteen (80%) of the 20 subtyped influenza A viruses were characterized as A(H1)pdm09 (Table 6).

- **United States of America** 3 January 2013 (Centre for Disease Control report)

During week 52 (December 22-28, 2013), influenza activity continued to increase in the United States.

Nationwide during week 52, 4.3% of patient visits reported through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) were due to influenza-like illness (ILI). This percentage is above the national baseline of 2.0%. *(ILI is defined as fever (temperature of 100°F [37.8°C] or greater) and cough and/or sore throat.)* The increase in the percentage of patient visits for ILI in previous weeks may be influenced in part by a reduction in routine healthcare visits during the holidays, as has occurred in previous seasons. All 10
regions reported ILI at or above region-specific baseline levels. Twenty states experienced high ILI activity; eight states and New York City experienced moderate ILI activity; six states experienced low ILI activity; 16 states experienced minimal ILI activity, and the District of Columbia had insufficient data.

During week 52, 6.5% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 7.0% for week 52. Two influenza-associated pediatric deaths were reported to CDC during week 52. One death was associated with a 2009 H1N1 virus and occurred during week 51 (week ending December 21, 2013) and one was associated with an influenza A virus for which no subtyping was performed and occurred during week 50 (week ending December 14, 2013). A total of six influenza-associated pediatric deaths for the 2013-2014 season have been reported.

Of 6,419 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 52, 1,711 (26.7%) were positive for influenza. By type, 1,667 (97.4%) were influenza A (915 (54.9%) A(H1N1)pdm09, 745 subtyping not performed and 7 (0.4%) A(H3)) and 44 (2.6%) were influenza B.

- **Canada** 3 January 2013 (Public Health Agency report)

Influenza activity in Canada continued to increase sharply in weeks 51 and 52 with increases in laboratory detections of influenza, ILI consultations, hospitalizations with influenza and prescriptions for influenza antivirals. In weeks 51 and 52, the same two regions in Alberta reported widespread activity. In week 51, three regions in Ontario reported localized activity and in week 52 six regions (in SK(1), ON(4), and NT(1)) reported localized activity. However, no data was received for 20 regions in each of weeks 51 and 52. The national influenza-like-illness (ILI) consultation rate jumped to 60.0/1,000 in week 50, returning to 37.0/1,000 in week 51 and increasing to 42.6/1,000 in week 52. The number of new laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations reported by the Immunization Monitoring Program Active (IMPACT) network continued to increase from 14 in week 50 to 37 in week 51 and 50 in week 52. Among these 87 cases, 85 (97.7%) had influenza A, and of these 38 (44.7%) were A(H1N1)pdm09, one (1.2%) A(H3N2) and 46 (54.1%) A(unsuptyped). Thirteen cases (14.9%) were children under 6 months of age, 29 (33.3%) were 6-23 months of age, 26 (29.9%) were 2-4 years of age, 13 (14.9%) were 5-9 years of age and 6 (6.9%) were 10-16 years of age. Thirteen ICU admissions were reported in weeks 51 and 52, eight children 6-23 months of age, one 2-4 years of age, one 5-9 years of age, and three 10-16 years of age; all with influenza A. To date this season, a total of 140 influenza-associated paediatric hospitalizations have been reported by the IMPACT network, the large majority of which have been influenza A. Sixty (42.9%) of cases have been children under 2 years of age, and a total of 103 (73.6%) have been under 5 years of age. Eighteen ICU admissions have been reported: two cases with influenza B and 16 with influenza A (seven A(H1N1)pdm09, one A(H3N2), eight A(unsupptyped)). The age-distribution is as follows: eight children 6-23 months of age, three 2-4 years of age, two 5-9 years of age, and five 10-16 years of age. Among the 15 ICU cases with available data, 11 were reported to have comorbidities or concurrent infection. No deaths have been reported.

- **Global influenza update** 20 December 2013 (WHO website)

In North America the influenza season has started. The predominant subtype of influenza viruses detected was influenza A(H1N1)pdm09. For the rest of the northern hemisphere as well as in the southern hemisphere influenza activity remained low.

In countries of tropical areas variable influenza activity was reported.

Based on FluNet reporting (as of 19 December 2013, 07:15 UTC), during weeks 48 to 49 (24 November 2013 to 7 December 2013), National Influenza Centres (NICs) and other national influenza laboratories from 89 countries, areas or territories reported influenza surveillance data. The WHO GISRS laboratories tested more than 42,360 specimens. 3,304 were positive for influenza viruses, of which 2,816 (85.3%) were typed as seasonal influenza A and 487 (14.7%) as influenza B. Of the sub-typed seasonal influenza A viruses, 1,166 (66.4%) were influenza A(H1N1)pdm09 and 591 (33.6%) were influenza A(H3N2). Of the characterized B viruses, 39 (70.9%) belonged to the B-Yamagata lineage and 16 (29.1%) to the B-Victoria lineage.

- **Avian Influenza** 8 January 2013 (WHO website)

**Influenza A(H7N9)**

Up to 8 January 2013, 146 cases of human infection with influenza A(H7N9) from China have been reported by WHO, including 45 deaths (case fatality ratio=31%). Three new laboratory-confirmed cases of human
infection have been reported in the past week, all currently in a critical condition. The first patient is a 62 year old man from Guangdong Province. He became ill on 11 December 2013 and was admitted to hospital on 16 December 2013. He has a history of exposure to live poultry. The second patient is 38 year old man from Guangdong Province. He became ill on 9 December 2013 and was admitted to hospital on 18 December 2013. The third patient is an 86 year-old man from Jiangsu, China who travelled to Taiwan, Province of China, with a tourist group from 17-24 December. He felt uncomfortable on 19 December, and was admitted to a hospital on 24 December after being diagnosed with bilateral pneumonia and acute respiratory distress syndrome. The patient is currently intubated and supported by extracorporeal membrane oxygenation. The other tour members have returned, except for the two daughters of the patient who remained and showed no symptoms. For further updates please see the WHO website and for advice on clinical management please see information available online.

**Influenza A(H5N1)**

From 2003 through to 10 December 2013, 648 human cases of H5N1 avian influenza have been officially reported to WHO from 15 countries, of which 384 (59%) died.

- **Novel coronavirus 3 January 2013**

Up to 3 January 2013, 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 108 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 159 confirmed cases have been reported internationally. This results in a current global total of 177 cases, 74 of which have died (case fatality ratio=42%). Further information on management and guidance of possible cases is available online.

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**Related links**

- **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 paper

- **Community surveillance**
  - Outbreak reporting
  - FluSurvey
  - MOSA

- **Disease severity and mortality data**
  - USISS system
  - EuroMOMO mortality project

- **Vaccination**
  - 2012/13 seasonal influenza vaccine programme (Department of Health Book)
  - Childhood flu programme Q&A for healthcare professionals (Public Health England)
  - 2013/14 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)