PHE Weekly National Influenza Report



Summary of UK surveillance of influenza and other seasonal respiratory illnesses

23 January 2014 - Week 4 report (up to week 03 data)

This report is published weekly on the <u>website</u>. For further information on the surveillance schemes mentioned in this report, please see the <u>website</u> and the <u>related links</u> at the end of this document.

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Summary

Increasing activity has been seen for several indicators, including influenza positivity, with continued influenza-confirmed hospitalisations suggesting influenza is now circulating in the community.

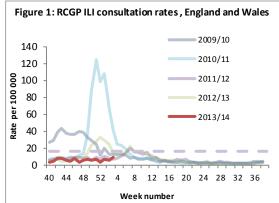
- Overall weekly influenza GP consultation rates across the UK
 - In week 3 (ending 19 January 2014), overall weekly influenza GP consultations increased slightly in England (from 5.7 to 8.7 per 100,000) particularly in the South (from 4.6 to 17.3 per 100,000), but remained low in Wales (6.8 per 100,000), Scotland (7.9 per 100,000) and Northern Ireland (23.6 per 100,000)).
 - In week 3, national attendances for bronchitis/bronchiolitis continue to decrease, particularly in young children.
 - Three new acute respiratory outbreaks have been reported in the past seven days across the UK (two in care homes and one in a hospital). Where tested, one was positive for rhinovirus.
- Virology
 - In week 3 2014, 55 influenza positive detections were recorded through the DataMart scheme (36 A(H1N1)pdm09, seven A(H3), 10 A(not subtyped) and two B, an increased positivity of 7.5% compared to 5.8% in week 2).
 - Ten samples were positive for influenza through the English GP sentinel schemes (six A(H1N1)pdm09 and four A(H3), positivity of 18.9%).
- Disease severity and mortality
 - 11 new admissions to ICU/HDU with confirmed influenza (seven A(H1N1)pdm09 and four A unknown subtype) and one confirmed influenza death were reported through the USISS mandatory ICU surveillance scheme across the UK (135 Trusts in England) in week 3. 31 new hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network across England (28 Trusts).
 - In week 3 2014, no excess all-cause mortality by week of death was seen across Scotland and Northern Ireland 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 since week 50 by week of death for England and Wales due to delays in reporting over the Christmas period (no excess all-cause mortality has been reported from week 40 to week 50 2013). By week of death registration, excess was seen in England and Wales in week 2; it is currently uncertain whether this is due to disrupted reporting over the Christmas period.
- Vaccination
 - Up to week 3 2014 in 78.5% 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: 42.4% in all 2 year olds, 39.1% in all 3 year olds, 51.0% in under 65 years in a clinical risk group, 39.2% in all pregnant women and 72.6% in 65+ year olds.
 - Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 53.1% were vaccinated by 31 December 2013 from 95.2% of Trusts, compared to 44.0% vaccinated the previous season by 30 December 2012.
- International situation
 - Overall influenza activity in North America remains high.
 - Based on reports of the growing number of countries with an increasing proportion of specimens testing positive for influenza virus and widespread geographic spread, which are indicators of influenza transmission, ECDC reports the season has now started in EU/EEA countries.

In week 3 (ending 19 January 2014), overall weekly influenza GP consultations increased slightly in England and remained low in Wales, Scotland and Northern Ireland.

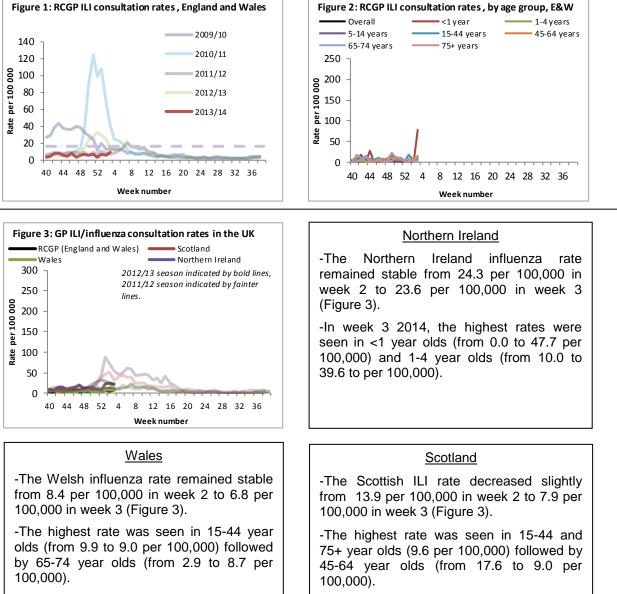
Influenza/Influenza-Like-Illness (ILI)

RCGP (England and Wales)

-The overall ILI consultation rate from RCGP for England and Wales increased slightly from 5.7 per 100,000 in week 2 2014 to 8.7 per 100,000 in week 3 (Figure 1*). ILI rates increased in the South (from 4.6 to 17.3 per 100,000), decreased in the Central region (from 6.1 to 1.1 per 100,000) and remained stable in the North (6.7 per 100,000).



-In week 3 2014, the highest ILI consultations were reported in <1 year olds (rate of 77.4 per 100,000, NB. this is based on two episodes in a population of 2,585 persons), 1-4 year olds (16.1 per 100,000) and 45-64 year olds (1032 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.

• Other respiratory indicators

Acute bronchitis (AB)

The overall weekly consultation rate for acute bronchitis (AB) in England and Wales through the RCGP scheme decreased slightly from 76.3 per 100,000 in week 2 to 60.4 per 100,000 in week 3 (Figure 4). The highest rates were seen in <1 year olds (193.4 per 100,000) and 75+ year olds (183.1 per 100,000).

Community surveillance

Figure 4: RCGP AB consultation rates , by age group, E&W 1-4 years 5-14 vears <1 year 15-44 years 45-64 years - 65-74 years • Overall 75+ years 900 800 700 600 100 500 per 400 300 300 200 100 0 40 44 48 52 8 12 16 20 24 28 32 36 4 Week number

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In week 3 national attendances for bronchitis/bronchiolitis continue to decrease and three new acute respiratory outbreaks have been reported in the last seven days.

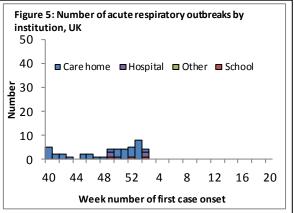
• PHE Real-time Syndromic Surveillance

-In week 3 national attendances for bronchitis/bronchiolitis continue to decrease, particularly in young children. Selected indicators of influenza-like illness activity remain stable and below seasonally expected levels.

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

Acute respiratory disease outbreaks

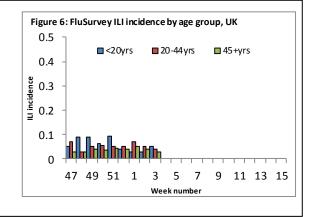
-Three new acute respiratory outbreaks were reported in the last 7 days; one was reported from a care home in the North of England and two (one from a care home and one from a hospital) in the Midlands and East of England. Among these three outbreaks, one tested positive for rhinovirus and the other two not tested. So far this season, 37 outbreaks have been reported in care homes, six in hospitals and three in schools (where tested, two influenza A(H1N1)pdm09, four influenza А (not subtyped), seven RSV, eight rhinovirus, three parainfluenza/RSV parainfluenza, one and one parainfluenza/rhinovirus).



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

FluSurvey

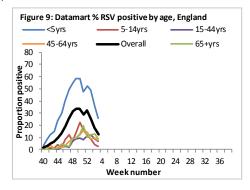
-Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey project (<u>http://flusurvey.org.uk</u>) run by the London School of Hygiene and Tropical Medicine. Please see the website for information on how to register. In week 2, the incidence of ILI reports was low and highest in <20yrs (Figure 6).

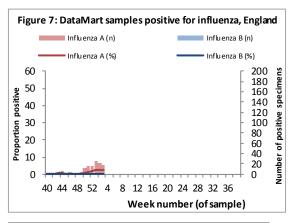


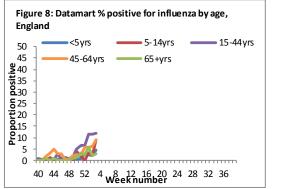
Microbiological surveillance

• Respiratory DataMart System (England)

In week 3 2014, out of the 738 respiratory specimens reported through the Respiratory Datamart System, 36 (4.9%) were positive for flu A (H1N1) pdm09, seven (0.9%) positive for influenza A(H3), 10 (1.4%) positive for flu A (not subtyped) and two samples were positive for influenza B (Figure 7), with the highest positivity in 15-44 year olds (11.8%, Figure 8). The overall positivity for RSV continued to decrease from 17.9% in week 2 to 12.1% in week 3 with the highest positivity remaining in the <5 years (decrease from 35.6% in week 2 to 26.0% in week 3, Figure 9). Positivity for rhinovirus continued to decrease 11.7% in week 2 to 9.8% in week 3). Other respiratory viruses remained at low levels (adenovirus 3.0%, parainfluenza 1.6% and hMPV 1.5%).







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

-In week 3, ten samples from England were positive for influenza (six A(H1N1)pdm09 and four A(H3)). One sample was positive from Scotland for influenza A(H1N1)pdm09 and four samples were positive from Northern Ireland (two A(unsubtyped), one A(H1N1)pdm09 and one A(H3) (Table 1). No samples were tested through the Welsh scheme.

Table 1: Sentinel Influenza surveillance in the UK							
Week	England	Scotland	Northern Ireland	Wales			
52	0/26 (0.0%)	2/30 (6.7%)	0/1 (-)	0/1 (-)			
01	2/58 (3.4%)	0/18 (0.0%)	1/12 (8.3%)	0/0 (-)			
02	14/96 (14.6%)	4/43 (9.3%)	4/10 (40.0%)	0/1 (-)			
03	10/53 (18.9%)	1/14 (7.1%)	4/8 (-)	0/0 (-)			
NB. Proportion positive omitted when fewer than 10 specimens tested							

Table 4. Continal influence surveillance in the UK

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• Virus characterisation

-Since week 40 2013, the PHE Respiratory Virus Unit (RVU) has isolated and antigenically characterised 32 influenza A(H3N2) viruses, all similar to the A/Texas/50/2012 H3N2 2013/14 vaccine strain, and 33 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.

Since week 40 2013, 38 and 6 influenza viruses have been tested for

Antiviral susceptibility

Osetamivir and Zanamivir susceptibility, respectively, in the UK, and no virus has been found to be resistant so far in this season.

Antimicrobial susceptibility

-In the 12 weeks up to 12 January 2014, 83% 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.

liact isolates, 12 weeks up to 12 Jan 2014, Law									
	Co-amoxiclav								
Organism	Specimens tested (N)	Specimens susceptible (%)	Specim tested	ens (N)	Specimens susceptible (%)				
S. aureus	3.032	92	191		90				

Table 2: Antimicrobial susceptibility surveillance in lower respiratory

H. influenzae 8,581 99 8,129 93 * S. pneumoniae isolates are not routinely tested for susceptibility to co-amoxiclav, how ever laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other betalactams such as co-amoxiclav.

83

2347

90*

2.217

S. pneumoniae

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Influenza confirmed hospitalisations

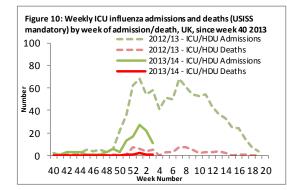
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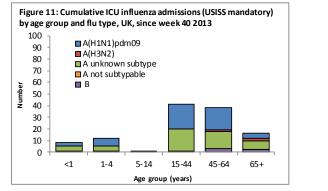
In week 3, 11 new admissions of confirmed influenza cases to ICU/HDU (seven A(H1N1)pdm09 and four A unknown subtype) and one confirmed influenza death in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (135 Trusts in England). 31 new hospitalised confirmed influenza cases have been reported through the USISS sentinel hospital network across England (28 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 <u>website</u>. 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 3)

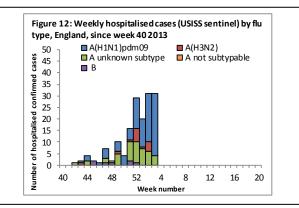
-In week 3, 11 new admissions to ICU/HDU with confirmed influenza infection (seven A(H1N1)pdm09 and four A unknown subtype) were reported across the UK (135/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 10 and 11) compared to 22 in week 2. One new confirmed influenza death was reported in week 3 2013. A total of 116 admissions (55 A(H1N1)pdm09, 50 A(unknown), eight B and three A(H3N2)) and six confirmed influenza deaths have been reported since week 40 2013.





• USISS sentinel weekly hospitalised confirmed influenza cases, England (week 3)

-In week 3, 31 new hospitalised confirmed influenza case were reported through the USISS sentinel hospital network from 28 NHS Trusts across England (Figure 12) compared to 31 in week 2. A total of 160 hospitalised confirmed influenza admissions (94 A(H1N1)pdm09, 45 A unknown, 14 A(H3N2) and seven B) have been reported since week 40 2013.



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All-cause mortality data

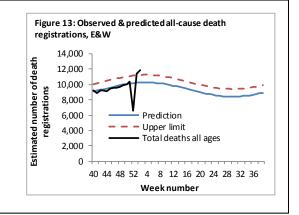
In week 3 2014, no excess all-cause mortality by week of death was seen across in Scotland and Northern Ireland through the EuroMOMO algorithm and none has been reported since week 40 2013. Please note there has been no update since week 50 by week of death for England and Wales due to delays in reporting over the Christmas period (no excess all-cause mortality has been reported from week 40 to week 50 2013). By week of death registration, excess was seen in England and Wales in week 2; it is currently uncertain whether this is due to disrupted reporting over the Christmas period.

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

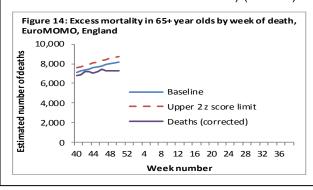
-In week 2 2013, an estimated 11,847 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is more than the 11,448 estimated death registrations in week 1 and is above 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 13). The sharp drops in number of deaths correspond to weeks when there were bank holidays and fewer days when deaths were registered and so are likely to be artificial.



 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 (with no excess seen up to week 3 2014 in Scotland and Northern Ireland) (Table 4).



65+ × NA * Excess mortality is calculated as the observed minus the

Excess detected

in week 50 2013?

×

×

×

Age group

(years)

<5

5-14

15-64

expected number of deaths in weeks above threshold

Table 3: Excess mortality by age group, England*

Weeks with excess in

2013/14

NA

NA

NA

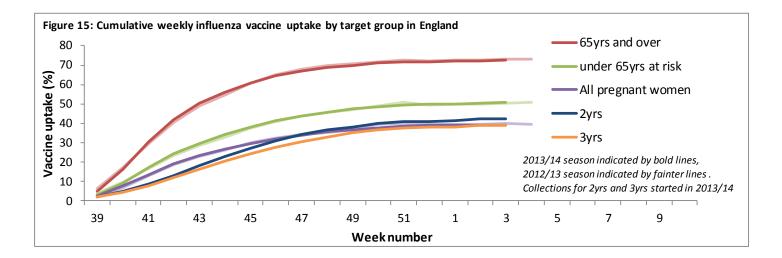
Table 4: Excess mortality by UK country*

		•					
Country	Excess detected in week 3 2014?	Weeks with excess in 2013/14					
England	NA	NA					
Wales	NA	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 3 + 4							

Vaccination

- Up to week 3 2014 in 78.5% 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):
 - o 42.4% in all 2 year olds
 - o 39.1% in all 3 year olds
 - o 51.0% in under 65 years in a clinical risk group
 - o 39.2% in all pregnant women
 - o 72.6% in 65+ year olds

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- In the third monthly collection up to 31 December 2013, provisional cumulative seasonal influenza vaccine uptake from 98.5% of GP practices was 72.0% in 65 years and over, 50.2% in under 65 year olds at risk, 38.9% in all pregnant women, 41.2% in all 2 year olds and 38.1% in all 3 year olds. The report provides uptake to Area Team level, CCG level and in key targeted groups.
- Provisional data from the third monthly collection of influenza vaccine uptake by frontline healthcare workers show 53.1% were vaccinated by 31 December 2013 from 95.2% of Trusts, compared to 44.0% vaccinated the previous season by 31 December 2012. The <u>report</u> provides uptake to Trust level.

International Situation

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Overall influenza activity in North America remains high. Based on reports of the growing number of countries with an increasing proportion of specimens testing positive for influenza virus and widespread geographic spread, which are indicators of influenza transmission, ECDC reports the season has now started in EU/EEA countries.

• <u>Europe</u> 17 January 2013 (European Centre for Disease Prevention and Control report)

For week 2/2014, epidemiological data were reported by 30 countries. Bulgaria, Greece, Portugal and Spain reported medium intensity, while all other countries experienced low-intensity influenza activity, which is the lowest category of reporting. Geographic patterns of influenza activity were reported as widespread by Portugal, Spain and the UK (England). Twenty-one countries and the UK (Scotland) reported local or sporadic occurrence of cases. In the remaining countries, no activity was seen. Increasing trends were reported by 15 countries and the UK (England and Scotland) while all other countries had stable trends. Among the 16 countries reporting influenza virus-positive sentinel specimens, an increase in influenza-like illness rates was observed in Greece, Hungary, the Netherlands, Italy, Portugal, Slovenia, Spain and the UK (Scotland). In particular, Greece, Portugal and Spain reported a substantial increase in influenza-like illness rates over the last two weeks, which is two weeks earlier than in the previous season. Germany reported influenza virus-positive sentinel ARI rates, but was still below the threshold.

For week 2/2014, 25 countries tested 842 sentinel specimens, of which 217 (26%; range 0-56%) from 16 countries were positive for influenza virus. Bulgaria, Greece, Spain and the UK (Scotland) reported influenza A(H1)pdm09 virus as the dominant type (Table 1). In total, 215 were type A influenza viruses and two were type B. Of the 167 influenza A viruses subtyped, 103 (62%) were A(H1)pdm09 and 64 (38%) were A(H3) (Tables 1–2, Figures 1–2). The proportion of specimens testing positive for influenza virus has steadily increased since week 47/2014, but, for week 2/2014, remained at the same level as in the previous week, possibly due to the New Year holidays. Since week 40/2013, of the 669 sentinel specimens positive for influenza A viruses subtyped, 283 (53%) were A(H1)pdm09 and 249 (47%) were A(H3). The proportion of A(H1)pdm09 viruses among all subtyped influenza A viruses has increased over the few last weeks, indicating a dominance of A(H1)pdm09 viruses at this point in the season. However, this is still lower than the situation observed in North America where more than 90% of influenza A viruses are A(H1N1)pdm09.

Since week 40/2013, six countries have reported 383 hospitalised laboratory-confirmed influenza cases. In total, 126 (42%) of 299 hospitalised cases with reported age were over 60 years old. Fourteen cases died, 11 in Spain and three in France. In six of these cases, influenza A(H1)pdm09 virus was detected, in four A(H3) virus and in four only influenza A virus was determined. Ten of 13 fatal cases with known age were 60 years old and above. For week 2/2014, 97 hospitalised laboratory-confirmed influenza cases were reported by four countries (Ireland, Romania, Spain and Sweden). Of these, 54 were related to A(H1)pdm09, seven to A(H3) and 36 to non-subtyped influenza A viruses. Of the 383 hospitalised laboratory-confirmed influenza cases reported since week 40/2013, 369 (96%) were related to influenza type A and 14 (4%) to type B. Of 245 subtyped influenza A viruses, 191 (78%) were A(H1)pdm09 and 54 (22%) were A(H3) viruses.

• United States of America 17 January 2013 (Centre for Disease Control report)

During week 2 (January 5-11, 2014), influenza activity remained high in the United States.

Nationwide during week 2, 3.6% 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%. All 10 regions reported ILI above region-specific baseline levels. Fourteen states experienced high ILI activity; 12 states experienced moderate ILI activity; eight states and New York City experienced low ILI activity; 16 states experienced minimal ILI activity, and the District of Columbia had insufficient data.

During week 2, 7.5% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was above the epidemic threshold of 7.2% for week 2. Ten influenza-associated pediatric deaths were reported to CDC during week 2. Seven deaths were associated with a 2009 H1N1 virus and occurred during weeks 52, 1, and 2 (weeks ending December 28, 2013, January 4, and January 11, 2014). Two deaths were associated with an influenza A virus for which no subtyping was performed and occurred during weeks 51 and 2 (weeks ending December 21, 2013 and January 11, 2014) and one death was associated with an influenza virus for which the type was not determined and occurred during week 52 (week ending December 28, 2013).A total of 20 influenza-associated pediatric deaths for the 2013-2014 season have been reported.

Of 10,841 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 2, 2,721 (25.1%) were positive for influenza. By type, 2,662 (97.8%) were influenza A (1,750 (65.0%) A(H1N1)pdm09, 55 subtyping not performed and 877 (2.2%) A(H3)) and 59 (2.2%) were influenza B.

• <u>Canada</u> 17 January 2013 (Public Health Agency report)

Influenza activity in Canada continued to increase in week 02 with most indicators following a similar trend to the 2012-13 season but lagging by 2-3 weeks. However, over 90% of laboratory detections this season have been A(H1N1)pdm09 compared to 10% in 2012-13. In week 02, three regions in Alberta and one in Quebec reported widespread activity, and 13 regions reported localized activity. The national influenza-like-illness (ILI) consultation rate increased slightly from 48.8/1,000 in week 01 to 50.3 in week 02, which is above the expected range for week 02 but in keeping with the trend at this time of year. In week 02, 47 new laboratory-confirmed influenza-associated paediatric (<16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network, compared to 43 in week 01. All 47 hospitalizations in week 02 were cases with influenza A; 23% of these were A(H1N1)pdm09 and the remainder were A(unsubtyped) (Figure 8a). All but seven of the cases were <5 years of age. Three ICU admissions were reported in week 02, one child under 6 months of age, one child 6-23 months of age, and one 5-9 years of age; all with influenza A. No deaths were reported.

• <u>Global influenza update</u> 13 January 2014 (WHO website)

In North America influenza activity has sharply increased over recent weeks. The predominant subtype of influenza viruses detected was A(H1N1)pdm09. In China influenza activity has been increasing with influenza (H1N1)pdm09, A(H3N2) and influenza B circulating. 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 9 January 2014), during weeks 50 to 52 (8 December 2013 to 28 December 2013), National Influenza Centres (NICs) and other national influenza laboratories from 99 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 88 471 specimens. 17 640 were positive for influenza viruses, of which 15 233 (86.4%) were typed as influenza A

and 2406 (13.6%) as influenza B. Of the sub-typed influenza A viruses, 6889 (67.2%) were influenza A(H1N1)pdm09, and 3365 (32.8%) were influenza A(H3N2). Of the characterized B viruses, 352 (81.1%) belong to the B-Yamagata lineage and 82 (18.9%) to the B-Victoria lineage.

• Avian Influenza 22 January 2013 (WHO website)

Influenza A(H7N9)

In the past seven days, 35 hospitalised cases of human infection with influenza A(H7N9) in China have been reported by <u>WHO</u>, including three deaths, compared to 18 the previous week. The source of infection is still under investigation. So far, there is no evidence of sustained human-to-human transmission. WHO does not advise special screening at points of entry with regard to this event, nor does it currently recommend any travel or trade restrictions.

Influenza A(H5N1)

From 2003 through to 20 December 2013, 648 human cases of H5N1 avian influenza have been officially reported to <u>WHO</u> from 15 countries, of which 384 (59%) died.

• Novel coronavirus 22 January 2013

Up to 22 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 <u>178 cases</u>, 75 of which have died (case fatality ratio=42%), with the last case reported on the 9 January. Further information on management and guidance of possible cases is available <u>online</u>.

Acknowledgements

This report was prepared by the Influenza section, Respiratory Diseases Department, Centre for Infectious Disease Surveillance and Control, Public Health England. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the PHE Real-time Syndromic Surveillance team, the PHE Respiratory Virus Unit, the PHE Modelling and Statistics unit, the PHE Dept. of Healthcare Associated Infection & Antimicrobial Resistance, PHE regional microbiology laboratories, NHS Direct, Office for National Statistics, the Department of Health, Health Protection Scotland, National Public Health Service (Wales), the Public Health Agency Northern Ireland, the Northern Ireland Statistics and Research Agency, QSurveillance[®] and EMIS and EMIS practices contributing to the QSurveillance[®] database.

Related links

Weekly consultation rates in national sentinel schemes

- Sentinel schemes operating across the UK
- <u>RCGP scheme</u>
- Northern Ireland surveillance (<u>Public Health Agency</u>)
- Scotland surveillance (Health Protection Scotland)
- Wales surveillance (<u>Public Health Wales</u>)
- Real time syndromic surveillance
- <u>MEM threshold paper</u>

Community surveillance

- Outbreak reporting
- <u>FluSurvey</u>
- <u>MOSA</u>

Disease severity and mortality data

- USISS system
- <u>EuroMOMO</u> 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)

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