PHE Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

31 October 2013 – Week 44 report (up to week 43 data)

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

Report contents:

Summary

Indicators of influenza activity are at minimal levels suggesting no community transmission at present.

- Overall weekly influenza GP consultation rates across the UK
  - In week 43 (ending 27 October 2013), overall weekly influenza GP consultations remained low in England (7.7 per 100,000), Wales (4.7 per 100,000), Scotland (8.4 per 100,000) and Northern Ireland (14.4 per 100,000)).
  - Through various syndromic indicators, there is nothing of significance to report in week 43 2013.
  - One new acute respiratory outbreak has been reported in the past seven days in a care home (not tested).
- Virology
  - In week 43 2013, seven influenza positive detections were recorded through the DataMart scheme (two A(not sub-typed), two flu A(H3), one A(H1N1)pdm09 and two B, positivity of 1.0%). No samples were positive through the UK sentinel schemes.
- Disease severity and mortality
  - Three new admissions to ICU/HDU with confirmed influenza (one A(H1N1)pdm09, one A unknown and one B) were reported through the USISS mandatory ICU surveillance scheme across the UK (134 Trusts in England) in week 43. One new hospitalised confirmed influenza case (one A(H1N1pdm09)) was reported through the USISS sentinel hospital network across England (25 Trusts).
  - In week 43 2013, no excess all-cause mortality was seen across the UK through the EuroMOMO algorithm. This data is provisional due to the time delay in death registration.
- Vaccination
  - Up to week 43 2013 in 70.0% 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: 18.1% in all 2 year olds, 16.4% in all 3 year olds, 29.7% in under 65 years in a clinical risk group, 23.2% in pregnant women and 50.4% in 65+ year olds
- International situation
  - Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low.

In week 43 (ending 27 October 2013), 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 remained stable in week 43 2013 (7.7 per 100,000) compared to week 42 (7.3 per 100,000) (Figure 1*). ILI rates remained stable in the North (from 7.5 to 7.5 per 100,000) and Central regions (from 7.7 to 5.7 per 100,000) and increased slightly in the South (from 6.8 to 9.4 per 100,000).

-In week 43 2013, the highest rates were seen in 65-74 year olds (14.9 per 100,000) and 45-64 year olds (10.9 per 100,000).

Figure 1: RCGP ILI consultation rates , England and Wales

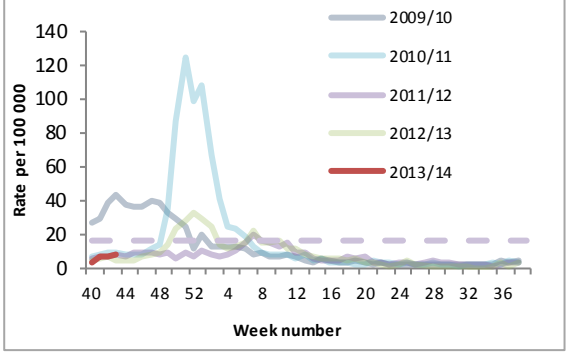


Figure 2: RCGP ILI consultation rates , by age group, E&W

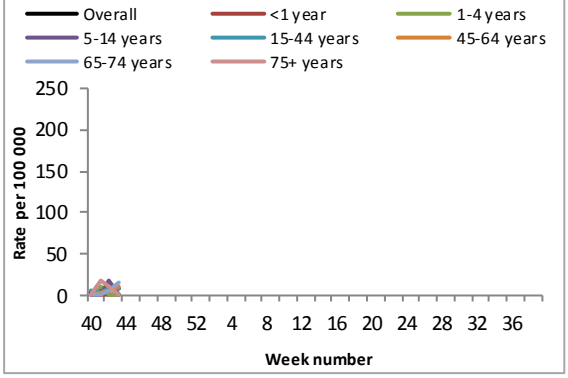
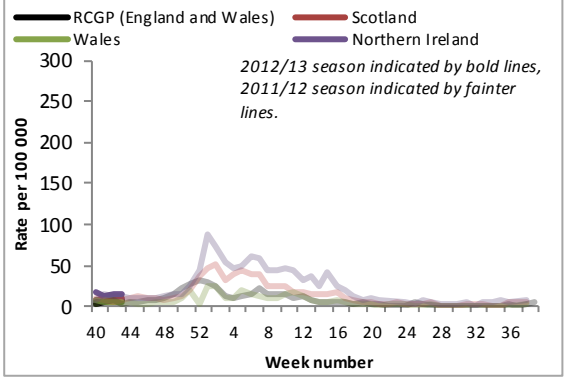


Figure 3: GP ILI/influenza consultation rates in the UK



Northern Ireland

-The Northern Ireland influenza rate remained stable from 15.6 per 100,000 in week 42 to 14.4 per 100,000 in week 43 (Figure 3).

-In week 43 2013, the highest rates were seen in 75+ year olds (from 15.3 to 39.1 per 100,000) and 65-74 year olds (from 12.2 to 25.1 to per 100,000).

Wales

-The Welsh influenza rate remained stable from 4.5 per 100,000 in week 42 to 4.7 per 100,000 in week 43 (Figure 3).

-The highest rate was seen in 75+ year olds (from 3.0 to 11.1 per 100,000) followed by 5-14 year olds (from 0.0 to 6.3 per 100,000).

Scotland

-The Scottish ILI rate remained stable from 7.6 per 100,000 in week 42 to 8.4 per 100,000 in week 43 (Figure 3).

-The highest rate was seen in 45-64 year olds (from 7.4 to 10.4 per 100,000) followed by 15-44 year olds (from 8.7 to 9.7 per 100,000).

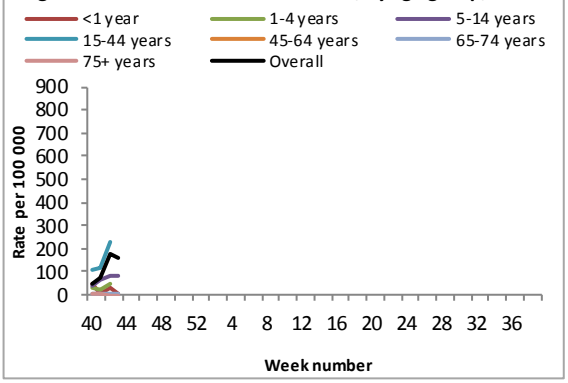
*The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold calculated for RCGP ILI consultation rates for 2013/14 is 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 from 80.3 per 100,000 in week 42 to 67.1 per 100,000 in week 43 (Figure 4). The highest rates were seen in 85+ year olds (225.4 per 100,000), <1 year olds (181.8 per 100,000) and 1-4 year olds (163.7 per 100,000).

Figure 4: RCGP AB consultation rates , by age group, E&W



Community surveillance

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Through various syndromic indicators, there is nothing of significance to report in week 43 2013 and one new acute respiratory outbreak has been reported.

- PHE Real-time Syndromic Surveillance

-Through various syndromic surveillance systems (NHS Direct, emergency departments, GP in-hours and GP out-of-hours schemes), there is nothing of significance to report in week 43 2013.
-PLEASE NOTE that due to the on-going transition of urgent care services across England, including the introduction of NHS 111, the volume of NHS Direct calls is gradually declining, particularly in those areas where NHS 111 is fully operational. Results should therefore be interpreted with caution.
-For further information, please see the syndromic surveillance webpage.

- Acute respiratory disease outbreaks

-One new acute respiratory outbreak was reported in the last seven days in England in a care home (Midlands and East of England PHE region). So far this season, nine outbreaks have been reported in care homes (where tested, one influenza A not sub-typed, two rhinovirus, one RSV and one parainfluenza).
-Outbreaks should be recorded on HPZone and reported to the local Health Protection Teams and Respcidsc@phe.gov.uk.

Microbiological surveillance

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In week 43 2013, seven influenza positive detections were recorded through the DataMart scheme (two A(not sub-typed), two flu A(H3), one A(H1N1)pdm09 and two B) and no samples were positive through the UK sentinel schemes.

- Respiratory DataMart System (England)

-In week 43 2013, out of the 713 respiratory specimens reported through the Respiratory Datamart System, two (0.3%) were positive for influenza A(not sub-typed), two (0.3%) were positive for flu A (H3) one (0.1%) positive for flu A(H1N1)pdm09 and two positive for influenza B (0.3%) (Figure 5). Positivity remained high for rhinovirus (20.8%); positivity increased slightly for parainfluenza (from 7.0% to 9.2%) and RSV (from 5.1% to 6.3%) and other respiratory viruses remained at low levels: (adenovirus 2.8% and hMPV 0.8%) (Figures 6 and 7).

Figure 5: DataMart samples positive for influenza, England

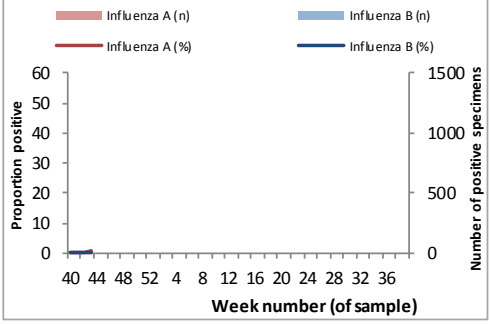


Figure 6: Datamart % RSV positive by age, England

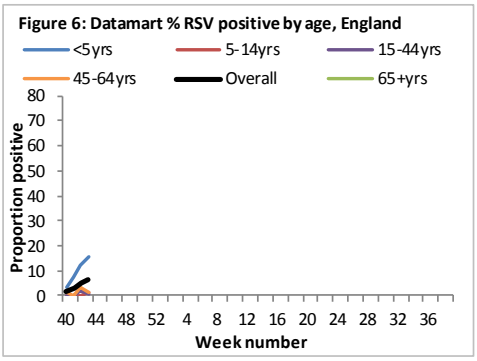
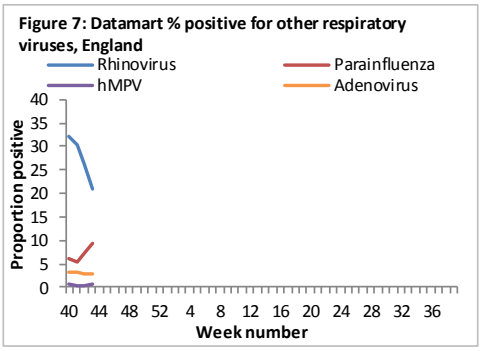


Figure 7: Datamart % positive for other respiratory viruses, England



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

-No samples from England, Northern Ireland and Scotland GP-based sentinel schemes were positive for influenza in week 43 (Table 1). No samples were tested through the Welsh scheme.

Table 1: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
40	0/16 (0%)	0/39 (0%)	0/3 (-)	0/0 (-)
41	0/23 (0%)	1/44 (2.3%)	0/1 (-)	0/0 (-)
42	0/28 (0%)	0/21 (0%)	0/0 (-)	0/0 (-)
43	0/17 (0%)	0/31 (0%)	0/1 (-)	0/0 (-)

NB. Proportion positive omitted when fewer than 10 specimens tested

- Virus characterisation

-In week 43 2013, no influenza viruses were isolated or antigenically characterised by PHE Respiratory Virus Unit (RVU).

- Antiviral susceptibility

-In week 43 2013, no influenza viruses were tested for antiviral susceptibility by PHE RVU.

- Antimicrobial susceptibility

-In the 12 weeks up to 20 October 2013, 81% 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.

Table 2: Antimicrobial susceptibility surveillance in lower respiratory tract isolates, 12 weeks up to 20 Oct 2013, E&W

Organism	Tetracyclines		Co-amoxiclav	
	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
S. aureus	3,021	93	184	90
S. pneumoniae	1,560	81	1632*	91*
H. influenzae	7,147	99	6,671	92

* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other beta-lactams such as co-amoxiclav.

Influenza confirmed hospitalisations

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In week 43, three new admissions of confirmed influenza cases to ICU/HDU (one influenza A(H1N1)pdm09, one A unknown and one B) and no confirmed influenza deaths in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (134 Trusts in England). One new hospitalised confirmed influenza case has been reported through the USISS sentinel hospital network across England (one A(H1N1)pdm09) (25 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 43)

-In week 43, three new admissions to ICU/HDU with confirmed influenza infection (one influenza A(H1N1)pdm09, one A unknown, and one B) were reported across the UK (134/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 12 and 13). No new confirmed influenza deaths were reported in week 43 2013. A total of eight admissions (two A(H1N1)pdm09, three A(unknown) and three B) and no confirmed influenza deaths have been reported since week 40 2013.

Figure 8: Weekly ICU influenza admissions and deaths (USISS mandatory) by week of admission/death, UK, since week 40 2013

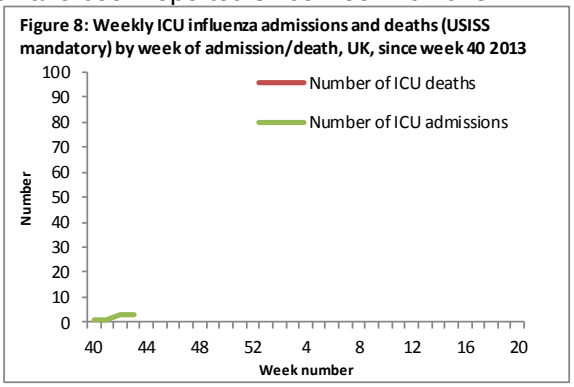
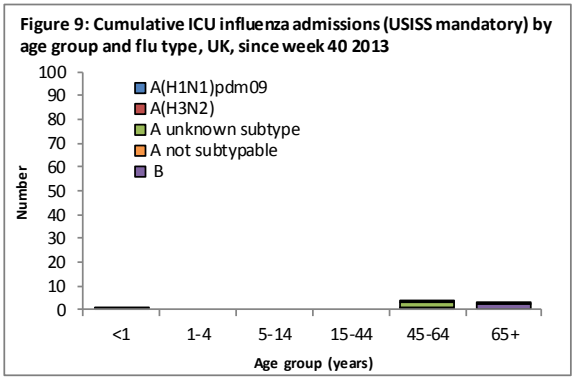


Figure 9: Cumulative ICU influenza admissions (USISS mandatory) by age group and flu type, UK, since week 40 2013



- USISS sentinel weekly hospitalised confirmed influenza cases, England (week 43)

-In week 43, one new hospitalised confirmed influenza case (one A(H1N1)pdm09) was reported from the USISS sentinel hospital network from 25 NHS Trusts across England (Figure 14). A total of two hospitalised confirmed influenza admissions (one A(H1N1)pdm09 and one A unknown) have been reported since week 40 2013.

All-cause mortality data

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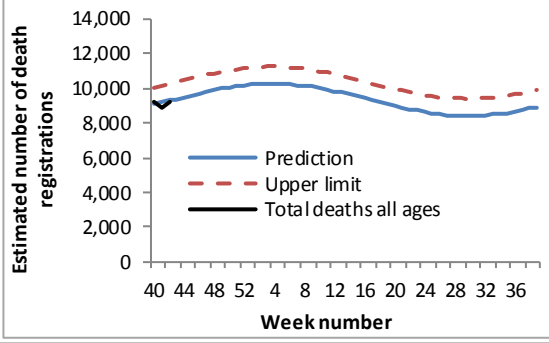
In week 43, no excess in all-cause mortality was seen across the UK overall, by age group or by region.

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 42 2013, an estimated 9,237 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly more than the 9,939 estimated death registrations in week 41 but is below the 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 15).

Figure 10: Observed & predicted all-cause death registrations, E&W



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

-In week 43 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 16, 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).

Figure 11: Excess mortality in 65+ year olds by week of death, EuroMOMO, England

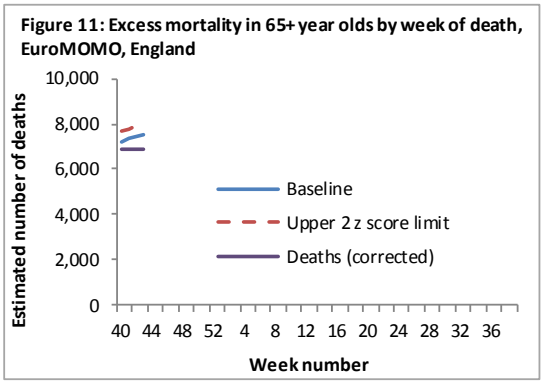


Table 3: Excess mortality by age group,England*

Age group (years)	Excess detected in week 43 2013?	Weeks with excess in 2013/14
<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 4: Excess mortality by UK country*

Country	Excess detected in week 43 2013?	Weeks with excess in 2013/14
England	×	NA
Wales	×	NA
Scotland	×	NA
Northern Ireland	×	NA

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

NB. Separate total and age-specific models are run for England which may lead to discrepancies between Tables 3 + 4

Vaccination

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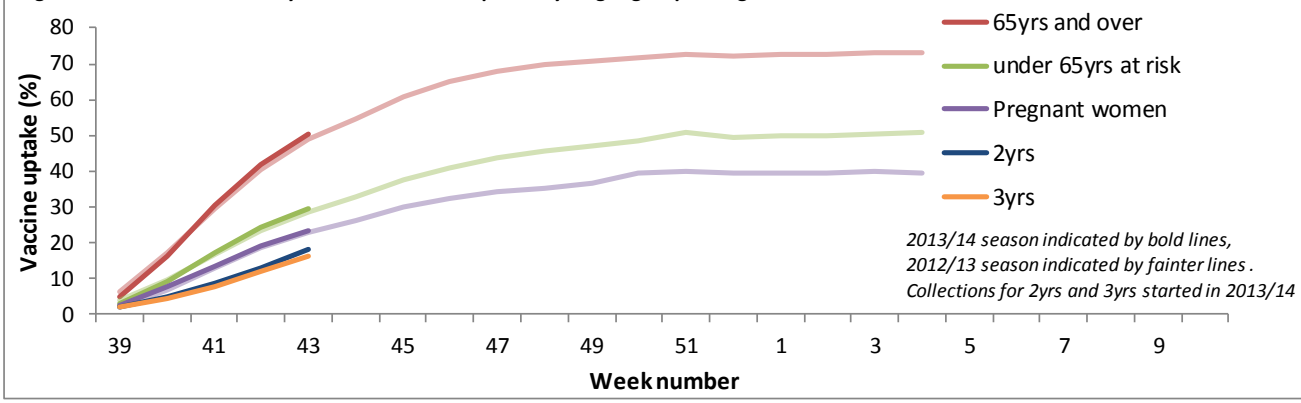
- Up to week 43 2013 in 70.0% of GP practices reporting weekly to Immform, the provisional proportion of people in England who had received the 2013/14 influenza vaccine in targeted groups was as follows (Figure 12):
    - 18.1% in all 2 year olds
    - 16.4% in all 3 year olds
    - 29.7% in under 65 years in a clinical risk group
    - 23.2% in pregnant women
    - 50.4% in 65+ year olds

Figure 12: Cumulative weekly influenza vaccine uptake by target group in England



International Situation

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Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low.

- Europe 25 October 2013 (European Centre for Disease Prevention and Control report)

For week 42 2013, clinical data were reported by 27 countries, all of which experienced low-intensity influenza activity, the lowest category of reporting. Geographic patterns of influenza activity were reported as sporadic by Denmark, France and Norway. All other countries reported no activity. Increasing trends were reported by Sweden and the UK (Northern Ireland) while all other countries reported stable or decreasing trends.

For week 42 2013, 19 countries tested 327 sentinel specimens of which two (0.6%) from Denmark were positive for A(H1)pdm09 influenza virus. In addition, nine specimens collected in week 42 from non-sentinel sources (e.g. specimens collected for diagnostic purposes in hospitals) were found to be positive for influenza virus. Of these, eight were type A and one type B. Of five subtyped influenza A viruses, four were A(H3) and one was A(H1)pdm09.

Since week 40 2013, five hospitalised laboratory-confirmed influenza cases have been reported by Ireland and the United Kingdom; four of them were admitted to ICU. Three patients were infected with influenza B virus, in two patients influenza A virus was diagnosed.

- United States of America 25 October 2013 (Centre for Disease Control report)

During week 42 2013, influenza activity remained low in the United States. Nationwide, 1.2% 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 below the national baseline of 2.0%. On a regional level, the percentage of outpatient visits for ILI ranged from 0.4% to 2.6% during week 42. All 10 regions reported a proportion of outpatient visits for ILI below their region-specific baseline levels. Two states experienced low ILI activity (Texas and Mississippi). Forty-eight states and New York City experienced minimal ILI activity. Data were insufficient to calculate an ILI activity level from the District of Columbia.

During week 42, 5.8% of all deaths reported through the 122-Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.2% for week 42. Two influenza-associated pediatric deaths that occurred during the 2012-2013 season were reported to CDC during week 42; both were associated with an influenza B virus. These deaths bring the total number of reported pediatric deaths

for that season to 167. No influenza-associated pediatric deaths for the 2013-2014 season have been reported to CDC.

Of 3,513 specimens tested and reported by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories during week 42, 135 (3.8%) were positive for influenza. By type, 112 (83.0%) were influenza A (fifteen (13.4%) A(H1N1)pdm09, 93 subtyping not performed and 4 (3.6%) A(H3)) and 23 (17.0%) were influenza B.

- Canada 25 October 2013 (Public Health Agency report)

Influenza activity in Canada remained at inter-seasonal levels in week 42. Five regions (in AB(3), ON and QC) reported sporadic activity. No new influenza outbreaks were reported in week 42. The national influenza-like-illness (ILI) consultation rate increased slightly from 22.4/1,000 in week 41 to 24.2/1,000 in week 42.

- Global influenza update 24 October 2013 (WHO website)

Although in many European countries influenza-like illness activity started to increase, influenza detections in the northern hemisphere temperate zones remained low. In the regions of tropical Asia influenza activity was variable from country to country. In Hong Kong Special Administrative Region,China, influenza detections decreased, while in the south of China an increase in influenza detections was seen. In South East Asia, influenza dections decreased in Thailand, but increased in Viet Nam. In this area, co-circulation of influenza A(H3N2) and influenza B virus was reported.

In the Caribbean region of Central America and tropical South America countries, reported cases of influenza A infection remained at low levels among most Caribbean islands and Central American countries. Respiratory syncytial virus (RSV) continued to predominate, but the RSV activity largely remained within expected seasonal levels.

Influenza activity peaked in the temperate countries of South America and in South Africa in late June. Temperate South American countries reported co-circulation of influenza B and A (H3N2) in most countries, and while RSV activity continued to predominate, it showed an overall decreasing trend.

In Australia and New Zealand, numbers of influenza viruses detected and rates of influenza-like illness decreased. Co-circulation of influenza A(H1N1)pdm09, A(H3N2) and B viruses was reported in both countries

- Avian Influenza 24 October 2013 (WHO website)

Influenza A(H7N9)

Up to 24 October 2013, 137 cases of human infection with influenza A(H7N9) from China have been reported by WHO, including 45 deaths (case fatality ratio=33%). The most recent case is a 67 year old farmer who had contact with live poultry. He became ill on 16 October and was admitted to hospital on 18 October. He is currently in a critical condition. So far there is no evidence of sustainable human-to-human transmission. 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 7 October 2013, 641 human cases of H5N1 avian influenza have been officially reported to WHO from 15 countries, of which 380 (59%) died.

- Novel coronavirus 29 October 2013

Up to 29 October 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 88 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 141 confirmed cases have been reported internationally. This results in a current global total of 145 cases, 62 of which have died (case fatality ratio=43%). Further information on management and guidance of possible cases is available online.

Acknowledgements

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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

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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 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 Green Book)
- Childhood flu programme Q&A for healthcare professionals (Public Health England)
- 2013/14 Northern Hemisphere seasonal influenza vaccine recommendations (WHO)