PHE Weekly National Influenza Report

Public Health Summary of UK su England

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

1 May 2014 – Week 18 report (up to week 17 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.

Report contents:

| Summary| GP consultation rates | Community surveillance | Microbiological surveillance | Hospitalisations | All-cause mortality | |Vaccination | International | Acknowledgements | Related links |

Summary

Influenza activity is continuing to decline.

- Overall weekly influenza GP consultation rates across the UK
 - In week 17 (ending 27 April 2014), overall weekly influenza GP consultations remained low in England (0.4 per 100,000), Wales (2.9 per 100,000), Scotland (6.1 per 100,000) and Northern Ireland (10.7 per 100,000)). Please note week 17 contained a bank holiday which will likely impact on observed GP consultation rates.
 - o In week 17, syndromic surveillance indicators for influenza remain low.
 - Two new acute respiratory outbreak have been reported in the past seven days across the UK in hospitals (both influenza A(unsubtyped)).
- Virology
 - In week 17 2014, 14 influenza positive detections were recorded through the DataMart scheme (four A(H1N1)pdm09, three A(H3), six A(not subtyped) and one B, a positivity of 3.5% compared to 4.6% in week 16), with the highest positivity reported in 15-44 year olds (5.4%).
 - No samples were positive for influenza through the English GP sentinel schemes.
- Disease severity and mortality
 - 13 new admissions to ICU/HDU with confirmed influenza (seven A(H1N1)pdm09 and six A unknown subtype) and eight confirmed influenza deaths were reported through the USISS mandatory ICU surveillance scheme across the UK (132 Trusts in England) in week 17. Six new hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network across England (21 Trusts).
 - In week 16 2014, no excess all-cause mortality by week of death was seen across the UK through the EuroMOMO algorithm.
- Vaccination

In the final monthly collection up to 31 January 2014, provisional cumulative seasonal influenza vaccine uptake from 99.8% of GP practices was 73.2% in 65 years and over (73.4% in 2012/13), 52.3% in under 65 year olds at risk (51.3% in 2012/13), 39.8% in all pregnant women (40.3% in 2012/13), 42.6% in all 2 year olds and 39.6% in all 3 year olds.

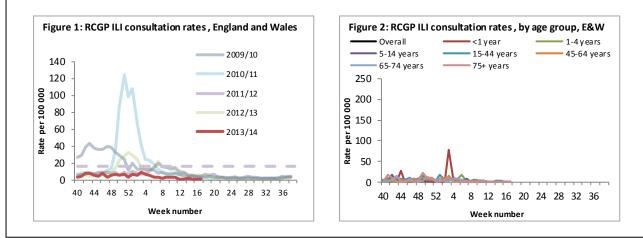
- Provisional data from the final monthly collection of influenza vaccine uptake by frontline healthcare workers show 54.8% were vaccinated by 31 January 2014 from 99.3% of Trusts, compared to 45.9% in 2012/13.
- WHO has published recommendations for the <u>composition</u> of influenza virus vaccines for use in the 2014/15 northern hemisphere influenza season.
- International situation
 - Overall influenza activity in North America continues to decrease.
 - Across Europe, overall influenza activity is declining in reporting countries.

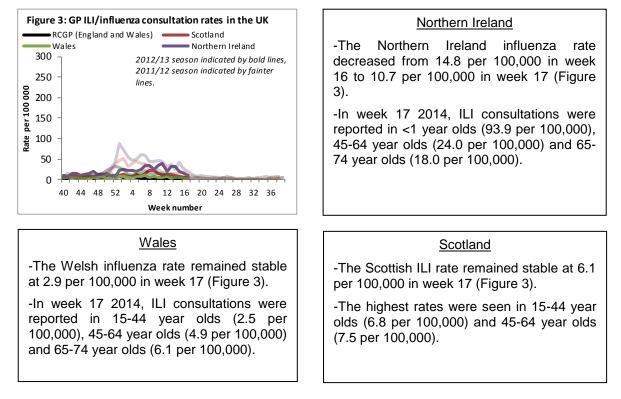
In week 17 (ending 27 April 2014), overall weekly influenza GP consultations remained low in England, Wales, Scotland and Northern Ireland.

Influenza/Influenza-Like-Illness (ILI)

RCGP (England and Wales)

-The overall ILI consultation rate from RCGP for England and Wales remained stable at 0.4 per 100,000 in week 17 (Figure 1*). ILI rates remained stable in the North at 0.6 per 100,000, Central at 0.8 per 100,000 and South region at 0.0 per 100,000. -In week 17 2014, ILI consultations were reported in 15-44 year olds (0.7 per 100,000) and 45-64 year olds (0.5 per 100,000).



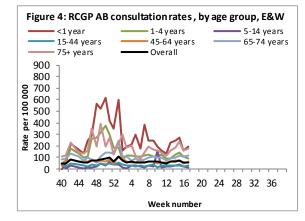


*The Moving Epidemic Method has been adopted by the European Centre for Disease Prevention and Control to calculate thresholds for GP ILI consultations for the start of influenza activity in a standardised approach across Europe. The threshold calculated for RCGP ILI consultation rates for 2013/14 is 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 increased from 55.4 per 100,000 in week 16 to 60.4 per 100,000 in week 17 (Figure 4). The highest rates were seen in <1 year olds (195.6 per 100,000) and 75+ year olds (174.3 per 100,000).



Community surveillance

Back to top

In week 17 influenza syndromic indicators remained low and two new acute respiratory outbreaks have been reported in the last seven days.

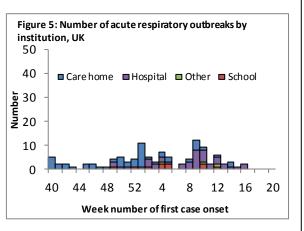
• PHE Real-time Syndromic Surveillance

-In week 17 syndromic surveillance indicators for influenza remain low. -For further information, please see the syndromic surveillance <u>webpage</u>.

• Acute respiratory disease outbreaks

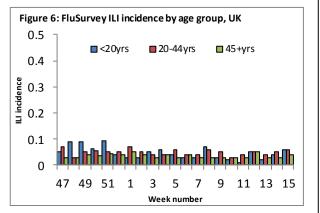
-Two new acute respiratory outbreaks were reported in the last seven days from Midlands and East of England in hospitals (both tested positive for influenza A(notsubtyped). So far this season, 52 outbreaks have been reported in care homes, 43 in hospitals, 10 in schools and three in other settings (where tested, 26 influenza A(H1N1)pdm09, 21 influenza A (not subtyped), five influenza A(H3), nine RSV, nine rhinovirus, three parainfluenza, and seven mixed infections of various pathogens).

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



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. -FluSurvey have finished reporting for the 2013/14 influenza season. In week 15, the last week of reporting, the incidence of ILI reports was low across age groups (Figure 6).



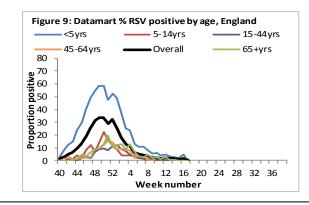
Microbiological surveillance

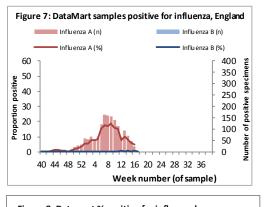
Back to top

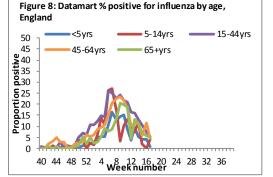
In week 17 2014, 14 influenza positive detections were recorded through the DataMart scheme (four A(H1N1)pdm09, three A(H3), six A(not subtyped) and one B), with the highest positivity reported in 15-44 year olds. No samples were positive for influenza through the English sentinel schemes.

Respiratory DataMart System (England)

In week 17 2014, out of the 398 respiratory specimens reported through the Respiratory Datamart System, four (1.0%) were positive for flu A(H1N1)pdm09, three (0.8%) were positive for influenza A(H3), six (1.5%) were positive for flu A(not subtyped) and one sample was positive for influenza B (Figure 7). with the highest influenza positivity in 15-44 year olds (5.4%, Figure 8). The overall positivity for RSV remained low (0.2%) in week 17 (Figure 9). Positivity for other respiratory viruses remained stable (rhinovirus 14.0%, adenovirus 5.6%, parainfluenza 8.0% and hMPV 5.2%).







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

-In week 17, one sample from Wales was positive for influenza A(H1N1)pdm09. No samples from England, Scotland and Northern Ireland scheme were positive for influenza (Table 1).

Table 1: Sentinel influenza surveillance in the UK					
Week	England	Scotland	Northern Ireland	Wales	
14	6/40 (15%)	4/33 (12.1%)	2/5 (-)	1/6 (-)	
15	1/23 (4.3%)	2/21 (9.5%)	0/7 (-)	2/4 (-)	
16	2/9 (-)	2/14 (14.3%)	1/5 (-)	2/3 (-)	
17	0/6 (-)	0/7 (-)	0/0 (-)	1/1 (-)	
NB. Proportion positive omitted when fewer than 10 specimens tested					

Virus characterisation

Since week 40 2013, the PHE Respiratory Virus Unit (RVU) has isolated and antigenically characterised 59 influenza A(H3N2) viruses, all similar to the A/Texas/50/2012 H3N2 2013/14 vaccine strain, and 193 influenza A(H1N1)pdm09 viruses similar to the A/California/07/2009 vaccine strain for 2013/14. Of the few influenza B viruses isolated and characterised, 4 belong to the B-Yamagata lineage as does the 2013/14 influenza B vaccine strain. whilst 6 belong to the B-Victoria lineage.

Antiviral susceptibility Since week 40 2013, 931 and 184 influenza viruses have been tested for Osetamivir and Zanamivir susceptibility, respectively, in the UK, 21 (2.4%) of 863 flu A(H1N1)pdm09 and one (1.7%) of 58 flu A(H3) viruses have been found to be resistant to Oseltamivir. No viruses were found to be resistant to Zanamivir.

• Antimicrobial susceptibility

-In the 12 weeks up to 20 April 2014, 85% 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.

tract isolates, 23 weeks up to 20 April 2014, E&W							
	Tetracyclines		Co-amoxiclav				
Organism	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N				
S. aureus	3,221	92	233	86			
S. pneumoniae	2,605	85	2771*	92*			
H. influenzae 10,779 99 10,280 94 * S. pneumoniae isolates are not routinely tested for susceptibility to co-amoxiclav, how ever laboratory results for benzyl-penicillinare extrapolated to determine sensitivity to other beta-lactams such as co-amoxiclav.							

Table 2: Antimicrobial susceptibility surveillance in lower respiratory

Influenza confirmed hospitalisations

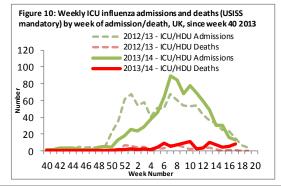
Back to top

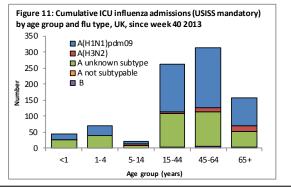
In week 17, 13 new admissions of confirmed influenza cases to ICU/HDU (seven A(H1N1)pdm09 and six A unknown subtype) and eight confirmed influenza deaths in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (132 Trusts in England). Six new hospitalised confirmed influenza cases have been reported through the USISS sentinel hospital network across England (21 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 17)

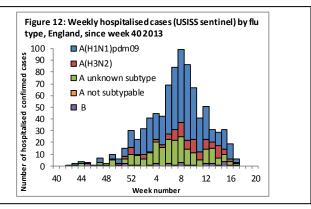
-In week 17, 13 new admissions to ICU/HDU with confirmed influenza infection (seven A(H1N1)pdm09 and six A unknown subtype) were reported across the UK (132/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 10 and 11) compared to 16 in week 16. Eight new confirmed influenza deaths were reported in week 17 2014. A total of 868 admissions (481 A(H1N1)pdm09, 335 A(unknown), 38 A(H3N2) and 14 B) and 92 confirmed influenza deaths have been reported since week 40 2013.





• USISS sentinel weekly hospitalised confirmed influenza cases, England (week 17)

-In week 17, six new hospitalised confirmed influenza case were reported through the USISS sentinel hospital network from 21 NHS Trusts across England (Figure 12) compared to 19 in week 16. A total of 877 hospitalised confirmed influenza admissions (526 A(H1N1)pdm09, 217 A unknown, 104 A(H3N2) and 30 B) have been reported since week 40 2013.



All-cause mortality data

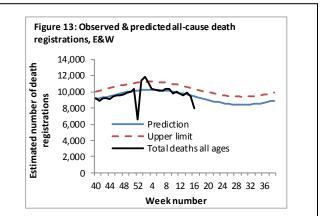
Back to top

In week 16 2014, no excess all-cause mortality by week of death was seen in England through the EuroMOMO algorithm and none has been reported since week 40 2013.

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 16 2014, an estimated 8,000 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is less than the 9,504 estimated death registrations in week 15 and remains below the 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, including week 16, correspond to weeks when there were bank holidays and fewer days when deaths were registered and so is likely to be artificial.



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

-In week 16 2014, 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), in other age groups 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 Wales, Scotland or Northern Ireland in week 16 (Table 4).

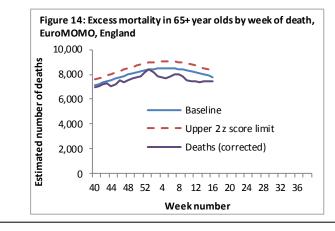


Table 3: Excess mortality by age group, England*					
Age group	Excess detected	Weeks with excess in			
(years)	in week 16 2014?	2013/14			
<5	×	NA			
5-14	×	NA			
15-64	×	NA			
65+	×	NA			
* Excess mortality is calculated as the observed minus the					

expected number of deaths in weeks above threshold

Table 4: Excess mortality by UK country*

Country	Excess detected in week 16 2014?	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

Back to top

- In the final monthly collection up to 31 January 2014, provisional cumulative seasonal influenza vaccine uptake from 99.8% of GP practices was 73.2% in 65 years and over (73.4% in 2012/13), 52.3% in under 65 year olds at risk (51.3% in 2012/13), 39.8% in all pregnant women (40.3% in 2012/13), 42.6% in all 2 year olds and 39.6% in all 3 year olds. The <u>report</u> provides uptake to Area Team level, CCG level and in key targeted groups.
- Provisional data from the final monthly collection of influenza vaccine uptake by frontline healthcare workers show 54.8% were vaccinated by 31 January 2014 from 99.3% of Trusts, compared to 45.9% in 2012/13. The <u>report</u> provides uptake to Trust level.
- WHO has recommended the composition of influenza virus vaccines for use in the 2014/15 northern hemisphere influenza season. The same viruses are recommended as for the 2013-2014 northern hemisphere influenza season and 2014 southern hemisphere season (an A/California/7/2009 (H1N1)pdm09-like virus; an A/Texas/50/2012 (H3N2)-like virus; a B/Massachusetts/2/2012-like virus (Yamagata lineage) and for quadrivalent vaccines containing two influenza B viruses, to additionally include a B/Brisbane/60/2008-like virus (Victoria lineage). For further information, please see the <u>full report</u>.

Overall influenza activity in North America continues to decrease. Across Europe, overall influenza activity is declining in reporting countries.

• Europe 25 April 2014 (European Centre for Disease Prevention and Control report)

For week 16/2014, clinical data were reported by 27 countries and all reported low intensity of influenza activity. Geographic patterns of influenza activity varied across Europe: regional activity was reported by the Netherlands, local or sporadic activity was reported by 19 countries while seven countries (Bulgaria, Cyprus, Italy, Luxembourg, Malta, Portugal and Romania) reported no activity. Increasing trends were reported by Poland and stable or decreasing trends were reported by 25 countries.

For week 16/2014, 161 sentinel specimens were tested across 18 countries and 32 (20%) were positive for influenza virus (Tables 1–2, Figures 1–2), a percentage similar to the previous week but with three times fewer samples tested (Figure 1). Of the positive specimens, 27 (84%) were type A and five (16%) were type B. Of 20 type A viruses subtyped, 11 were A(H3) and nine were A(H1)pdm09. Since week 40/2013, of 6 997 sentinel specimens testing positive for influenza virus, 6 828 (98%) were type A and 169 (2%) were type B. Of the 6 322 subtyped influenza viruses, 3 400 (54%) were A(H1)pdm09 and 2 922 (46%) were A(H3). Countries have reported variable patterns of A(H1)pdm09 and A(H3) as the dominant subtype.

Since week 40/2013, 1 000 A(H1N1)pdm09, 299 A(H3N2) and 43 type B viruses have been tested for susceptibility to the neuraminidase inhibitors oseltamivir and zanamivir by genetic and/or phenotypic methods. Fifteen A(H1N1)pdm09 viruses, detected in clinical specimens, carried the NA-H275Y amino acid substitution associated with highly-reduced inhibition by oseltamivir. However, in 11 of the 15 cases, mixtures of wild type viruses (NA-275H) and those carrying the NA-H275Y substitution were detected. The median proportion of NA-H275Y viruses was 35% (range 18–80%). A single virus isolate showed highly-reduced inhibition by zanamivir in phenotypic assays. One A(H3N2) virus carrying the NA-E119V amino acid substitution showed reduced inhibition by oseltamivir in phenotypic testing and normal inhibition by zanamivir.

For week 16/2014, 13 countries reported 194 respiratory syncytial virus detections, just above the baseline level for detections.

For week 16/2014, 23 hospitalised, laboratory-confirmed influenza cases were reported by four countries (Ireland, Romania, Spain and the UK). All 23 patients were infected by influenza A viruses and nine were admitted to intensive care units (ICU).

Since week 40/2013, eight countries have reported 4 658 hospitalised, laboratory-confirmed influenza cases: 4 603 (99%) were related to influenza virus type A infection and 55 (1%) to type B virus infection (Table 5). Of 3 155 subtyped influenza A viruses, 2 334 (74%) were A(H1)pdm09 and 821 (26%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICUs (1 357 of 1 587 subtyped, 86%) than in patients in regular wards (977 of 1 568 subtyped, 62%).

Of the 3 793 hospitalised cases with reported age, 1 409 (37%) were 40–64 years old and 1 403 (37%) were over 64 years of age, proportions that have been seen throughout the season.

Five countries reported a total of 394 fatal cases (Table 6), 391 (99%) were associated with influenza virus type A infection and three (1%) with type B infection. Of 285 influenza A viruses subtyped from fatal cases, 230 (81%) were A(H1)pdm09 and 55 (19%) were A(H3). Patient age was reported for 390 of the fatal cases: 208 (53%) were 65 years or older.

• <u>United States of America</u> 25 April 2014 (Centre for Disease Control report)

During week 16 (April 13-19, 2014), influenza activity continued to decrease in the United States.

Nationwide during week 16, 1.4% 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%.

During week 16, 6.3% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 7.1% for week 16. Three influenza-associated pediatric deaths were reported to CDC during week 16. One death was associated with 2009 H1N1 virus and occurred during week 6 (week ending February 8, 2014) and two deaths were associated with influenza B viruses and occurred during weeks 10 and 11 (weeks ending March 8 and March 15, 2014). A total of 89 influenza-associated pediatric deaths have been reported during the 2013-2014 season from Chicago [1], New York City [4] and 30 states (AR [4]; AZ [1]; CA [8]; FL [4]; GA [1]; IA [1]; IL [1]; KS [2]; KY [1]; LA [6]; MA

[2]; MD [1]; ME [1]; MI [2]; MS [1]; NC [6]; NE [1]; NJ [2]; NV [1]; NY[1]; OK [2]; OR [1]; PA [3]; SC [2]; TN [4]; TX [18]; UT [2]; VA [1]; WI [2]; and WV [2]).

Of 5,061 specimens tested and reported during week 16 by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories, 606 (12.0%) were positive for influenza. By type, 266 (43.9%) were influenza A (14 (5.3%) A(H1N1)pdm09, 125 subtyping not performed and 127 (47.0%) A(H3)) and 340 (56.1%) were influenza B.

• <u>Canada</u> 25 April 2014 (Public Health Agency report)

In week 16, no region reported widespread activity and seven regions (BC(1), ON(5) and NS(1)) reported localized activity. The national influenza-like-illness (ILI) consultation rate decreased from 27.9 consultations per 1,000 patient visits in week 15 to 23.2 / 1,000 in week 16; which was within the expected range for week 16. In week 16, eight new laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network, compared to 14 in week 15. All the cases reported in week 16 had influenza B. A greater proportion of cases with influenza B this season have been children between 2 and 10 years of age compared to A(H1N1)pdm09. One ICU admission was reported in week 16 in a child 10-16 years of age with influenza B. No deaths were reported in week 16.

• Global influenza update 22 April 2014 (WHO website)

Globally, the northern hemisphere influenza season appeared to be approaching interseasonal levels in most countries. As influenza detections declined, the proportion of influenza B detections increased slightly in many regions, especially Asia, the Middle East, and North America.

In North America, influenza levels continued to decline. Late season circulation of influenza B continued; however, the overall numbers of influenza detections remained low.

In Europe, influenza activity continued to decrease, as the region appeared to be coming to an end of the influenza season. A rise in the percentage of influenza specimens testing positive was observed, but the overall number of specimens declined. Influenza A(H3N2) and A(H1N1)pdm09 co-circulated, with low numbers of influenza B virus detected. In eastern Europe, influenza activity was higher later in the season compared to the north and the south-west, but detections have begun to decline as well.

In Eastern Asia, influenza activity approached interseasonal levels, and influenza B comprised the majority of influenza detections.

In Tropical Asia, influenza activity continued to decline.

In Northern Africa and Western Asia, influenza activity remained low in most countries, with influenza B the predominant virus detected.

In the Southern Hemisphere, influenza activity remained low and detections were sporadic.

Based on FluNet reporting (as of 15 April 2014, 10:15 UTC), during weeks 13 to 14 (23 March 2014 to 5 April 2014), National Influenza Centres (NICs) and other national influenza laboratories from 82 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 44 319 specimens. 6717 were positive for influenza viruses, of which 4163 (62%) were typed as influenza A and 2554 (38%) as influenza B. Of the sub-typed influenza A viruses, 1149 (47.2%) were influenza A(H1N1)pdm09 and 1287 (52.8%) were influenza A(H3N2). Of the characterized B viruses, 224 (83%) belong to the B-Yamagata lineage and 46 (17%) to the B-Victoria lineage.

• <u>Avian Influenza</u> 24 April 2014 (WHO website)

Influenza A(H7N9)

In the past week, six new hospitalised cases of human infection with influenza A(H7N9) in China have been reported by <u>WHO</u>. 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, 649 human cases of H5N1 avian influenza have been officially reported to <u>WHO</u> from 15 countries, of which 385 (59%) died.

• Novel coronavirus 26 April 2014

Up to 26 April 2014, 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 165 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 257 confirmed cases have been reported internationally. This results in a current global total of <u>261 cases</u>, 93 of which have died (case fatality ratio=37%). 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 (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
- <u>MOSA</u>

Disease severity and mortality data

- USISS system
- <u>EuroMOMO</u> mortality project

Vaccination

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

Back to top

Back to top