

# **PHE Weekly National Influenza Report**

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

# 24 April 2014 – Week 17 report (up to week 16 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

## Influenza activity is continuing to decline.

- Overall weekly influenza GP consultation rates across the UK
  - In week 16 (ending 20 April 2014), overall weekly influenza GP consultations remained low in England (0.6 per 100,000), Wales (2.1 per 100,000), Scotland (5.2 per 100,000) and Northern Ireland (14.8 per 100,000)). Please note week 16 contained a bank holiday which will likely impact on observed GP consultation rates.
  - o In week 16, syndromic surveillance indicators for influenza remain low.
  - One new acute respiratory outbreak has been reported in the past seven days across the UK in a hospital (influenza A(H3)).

#### Virology

- o In week 16 2014, 38 influenza positive detections were recorded through the DataMart scheme (nine A(H1N1)pdm09, four A(H3), nine A(not subtyped) and three B, a positivity of 4.6% compared to 6.3% in week 15), with the highest positivity reported in 45-64 year olds (10.2%).
- Two samples were positive for influenza through the English GP sentinel schemes (one A(H1N1)pdm09 and one A(H3)).
- Disease severity and mortality
  - Eight new admissions to ICU/HDU with confirmed influenza (four A(H1N1)pdm09 and four A unknown subtype) and five confirmed influenza deaths were reported through the USISS mandatory ICU surveillance scheme across the UK (131 Trusts in England) in week 16. 15 new hospitalised confirmed influenza cases were reported through the USISS sentinel hospital network across England (25 Trusts).
  - In week 16 2014, no excess all-cause mortality by week of death was seen across the UK through the EuroMOMO algorithm.

#### Vaccination

- o 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 late circulation of influenza B continues, although the overall number of influenza detections remains low.
- Across Europe, influenza activity is declining but influenza is still circulating in some reporting countries.

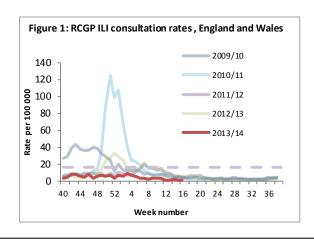
In week 16 (ending 20 April 2014), overall weekly influenza GP consultations remained low in England, Wales, Scotland and Northern Ireland.

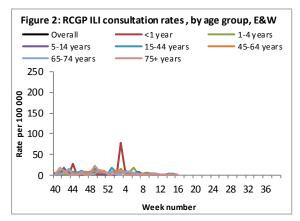
Influenza/Influenza-Like-Illness (ILI)

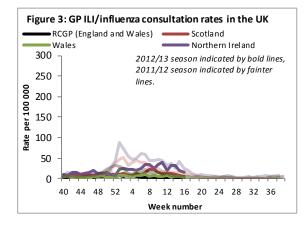
#### RCGP (England and Wales)

-The overall ILI consultation rate from RCGP for England and Wales remained stable at 0.6 per 100,000 in week 16 (Figure 1\*). ILI rates remained stable in the North at 0.7 per 100,000, Central at 0.8 per 100,000 and South region at 0.5 per 100,000.

-In week 16 2014, ILI consultations were reported in 75+ year olds (1.6 per 100,000) and 65-74 year olds (1.3 per 100,000).







## Northern Ireland

- -The Northern Ireland influenza rate decreased from 19.3 per 100,000 in week 15 to 14.8 per 100,000 in week 16 (Figure 3).
- -In week 16 2014, the highest rates were seen in 45-64 year olds (18.7 per 100,000) and 15-44 year olds (18.2 per 100,000).

#### Wales

- -The Welsh influenza rate decreased from 6.4 to 2.1 per 100,000 in week 16 (Figure 3).
- -The highest rates were seen in 45-64 year olds (3.4 per 100,000) and 65-74 year olds (2.8 per 100,000).

## Scotland

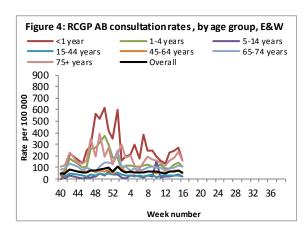
- -The Scottish ILI rate remained stable at 5.2 per 100,000 in week 16 (Figure 3).
- -The highest rates were seen in 45-64 year olds (6.8 per 100,000) and 15-44 year olds (6.4 per 100,000).

<sup>\*</sup>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 75.2 per 100,000 in week 15 to 55.4 per 100,000 in week 16 (Figure 4). The highest rates were seen in 75+ year olds (158.3 per 100,000) and <1 year olds (156.2 per 100,000).

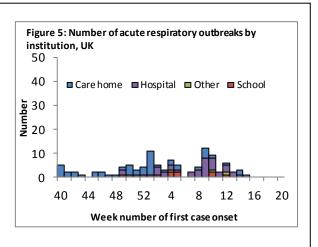


## **Community surveillance**

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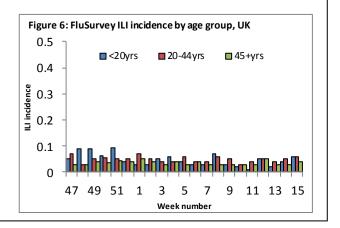
In week 16 influenza syndromic indicators remained low and one new acute respiratory outbreak has been reported in the last seven days.

- PHE Real-time Syndromic Surveillance
- -In week 16 syndromic surveillance indicators for influenza remain low.
- -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 from South of England in a hospital (tested positive for influenza A(H3)). So far this season, 52 outbreaks have been reported in care homes, 41 in hospitals, 10 in schools and three in other settings (where tested, 26 influenza A(H1N1)pdm09, 19 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 Respcidsc@phe.gov.uk.



#### FluSurvey

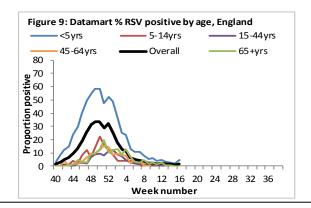
- -Internet-based surveillance of influenza in the general population is undertaken through the FluSurvey project (<a href="http://flusurvey.org.uk">http://flusurvey.org.uk</a>) run by the London School of Hygiene and Tropical Medicine.
- -FluSurvey have finished reporting for the 2013/14 influenza season. In week 15, the last week of reporting, the incidence of ILI reports was low across age groups (Figure 6).

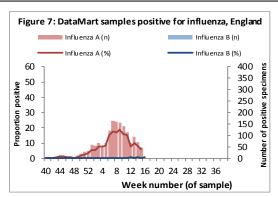


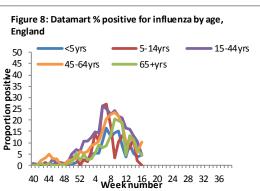
In week 16 2014, 38 influenza positive detections were recorded through the DataMart scheme (nine A(H1N1)pdm09, four A(H3), nine A(not subtyped) and three B), with the highest positivity reported in 45-64 year olds. Two samples were positive for influenza through the English sentinel schemes (one A(H1N1)pdm09 and one A(H3)).

Respiratory DataMart System (England)

In week 16 2014, out of the 478 respiratory specimens reported through the Respiratory Datamart System, nine (1.9%) were positive for flu A(H1N1)pdm09, four (0.8%) for influenza A(H3), nine (1.9%) for flu A (not subtyped) and three samples were positive for influenza B (Figure 7), with the highest influenza positivity in 45-64 year olds (10.2%, Figure 8). The overall positivity for RSV remained low (1.8%) in week 16 (Figure 9). Positivity increased for rhinovirus (from 13.7% to 15.6%) and parainfluenza (from 4.6% to 7.9%) and remained stable for adenovirus (5.4%) and hMPV (4.3%).







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

-In week 16, two samples from England were positive for influenza (one A(H1N1)pdm09 and one B). One sample from Scotland was positive for influenza A(H1N1)pdm09. No samples from Northern Ireland and Welsh scheme were positive for influenza (Table 1).

Table 1: Sentinel influenza surveillance in the UK

Week	England	Scotland	Northern Ireland	Wales
13	10/48 (20.8%)	4/40 (10%)	2/6 (-)	0/2 (-)
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 (-)	1/12 (8.3%)	0/4 (-)	0/1 (-)

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, 911 and 180 influenza viruses have been tested for Osetamivir and Zanamivir susceptibility, respectively, in the UK. Nineteen (2.2%) of 862 flu A(H1N1)pdm09 and one (1.7%) of 59 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 13 April 2014, 84% 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, 23 weeks up to 13 April 2014, E&W

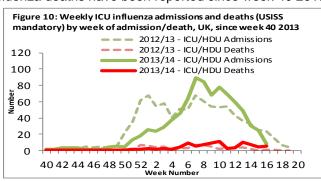
	Tetracyclii	nes	Co-amoxiclav	
Organism	Specimens tested (N)	Specimens susceptible (%)	Specimens tested (N)	Specimens susceptible (%)
S. aureus	3,307	92	237	86
S. pneumoniae	2,646	84	2833*	92*
H. influenzae	10,949	99	10,446	94

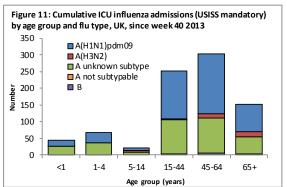
\*S. pneumoniae isolates are not routinely tested for susceptibility to co-amoxiclav, how ever laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other betalactams such as co-amoxiclav. In week 16, eight new admissions of confirmed influenza cases to ICU/HDU (four A(H1N1)pdm09 and four A unknown subtype) and five confirmed influenza deaths in ICU/HDU have been reported through the national USISS mandatory ICU scheme across the UK (131 Trusts in England). 15 new hospitalised confirmed influenza cases have been reported through the USISS sentinel hospital network across England (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 16)

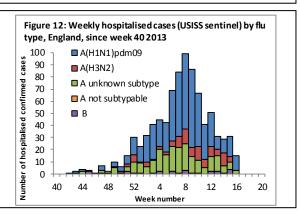
-In week 16, eight new admissions to ICU/HDU with confirmed influenza infection (four A(H1N1)pdm09 and four A unknown subtype) were reported across the UK (131/156 Trusts in England) through the USISS mandatory ICU scheme (Figures 10 and 11) compared to 25 in week 15. Five new confirmed influenza deaths were reported in week 16 2014. A total of 842 admissions (462 A(H1N1)pdm09, 329 A(unknown), 37 A(H3N2) and 14 B) and 84 confirmed influenza deaths have been reported since week 40 2013.





 USISS sentinel weekly hospitalised confirmed influenza cases, England (week 16)

-In week 16, 15 new hospitalised confirmed influenza case were reported through the USISS sentinel hospital network from 25 NHS Trusts across England (Figure 12) compared to 31 in week 15. A total of 867 hospitalised confirmed influenza admissions (522 A(H1N1)pdm09, 215 A unknown, 102 A(H3N2) and 28 B) have been reported since week 40 2013.



## All-cause mortality data

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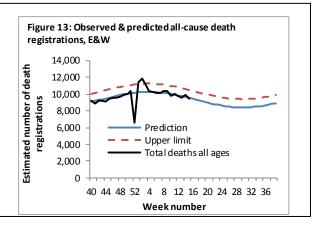
In week 16 2014, no excess all-cause mortality by week of death was seen in England through the EuroMOMO algorithm and none has been reported since week 40 2013.

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

-In week 15 2014, an estimated 9,504 all-cause deaths were registered in England and Wales (source: Office for National Statistics). This is slightly less than the 9,944 estimated death registrations in week 14 and remains below the 95% upper limit of expected death registrations for this time of year as calculated by PHE (Figure 13). The sharp drop in number of deaths 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

-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 \*Excess mortality is calculated as the observed minus the standardised algorithm was seen across Wales, Scotland or expected number of deaths in weeks above threshold 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 NA 15-64 65+ NA

Figure 14: Excess mortality in 65+ year olds by week of death, EuroMOMO, England				
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ated	2,000	Deaths (corrected)		
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ű		40 44 48 52 4 8 12 16 20 24 28 32 36		
Week number				

Table 4: Excess mortality by UK country\*

Country	Excess detected	Weeks with excess in
Country	in week 16 2014?	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

- 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 report 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 report 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</u> report.

International Situation | Back to top |

Overall influenza activity in North America continues to decrease – late circulation of influenza B continues, although the overall number of influenza detections remains low. Across Europe, influenza activity is declining but influenza is still circulating in some reporting countries.

Europe 18 April 2014 (European Centre for Disease Prevention and Control report)

Low intensity was reported by all reporting countries. Geographic patterns of influenza activity varied across Europe: widespread activity was reported by Croatia, and regional activity by Greece and the Netherlands. Local or sporadic activity was reported by 17 countries and the UK. As for the previous week, Bulgaria, Cyprus, Italy and Malta reported no influenza activity. Increasing trends were reported by Finland and the UK. Seventeen countries reported stable trends, while decreasing trends were reported by seven countries and the UK.

For week 15/2014, 333 sentinel specimens were tested across 15 countries and the UK (Northern Ireland, Scotland and Wales) and 42 (13%) were positive for influenza virus, a percentage approximately half that of the previous week. Of the positive specimens, 40 (95%) were type A and two (5%) were type B (Tables 1–2). Of 24 type A viruses subtyped, 14 (58%) were A(H3) and 10 (42%) were A(H1)pdm09. Since week 40/2013, of 6 926 sentinel specimens testing positive for influenza virus, 6 766 (98%) were type A and 160 (2%) were type B. Of the 6 271 subtyped influenza viruses, 3 381 (54%) were A(H1)pdm09 and 2 890 (46%) were A(H3). Countries have reported variable patterns of A(H1)pdm09 and A(H3) as the dominant subtype.

Since week 40/2013, none of the 1 455 antigenically characterised viruses have differed significantly from the current vaccine viruses recommended by WHO. A total of 10 were reported to be non-attributable to a category.

Since week 40/2013, 1 000 A(H1N1)pdm09 viruses, 299 A(H3N2) and 43 influenza B viruses have been tested for susceptibility to neuraminidase inhibitors (NAIs) by genetic and/or phenotypic methods, and reported on by 10 countries.

For week 15/2014, eight countries and the UK (Northern Ireland, Scotland and Wales) reported 85 respiratory syncytial virus detections, just above the baseline level for detections.

For week 15/2014, 40 hospitalised laboratory-confirmed influenza cases were reported by four countries (France, Ireland, Spain and Sweden). Influenza A virus was detected in 39 cases and influenza B virus in one patient. Of 40 hospitalised cases, 11 were admitted to intensive care units (ICUs).

Since week 40/2013, seven countries have reported 4 582 hospitalised, laboratory-confirmed influenza cases: 4 527 (99%) were related to influenza virus type A infection and 55 (1%) to type B virus infection (Tables 5). Of 3 100 subtyped influenza A viruses, 2 299 (74%) were A(H1)pdm09 and 801 (26%) were A(H3). A higher proportion of A(H1)pdm09 viruses has been detected in patients in ICU (1 326 out of 1 550 subtyped, 86%) than in patients in regular wards (973 out of 1 550 subtyped, 63%).

Of the 3 767 hospitalised cases with reported age, 1 404 (37%) were 40–64 years old and 1 392 (37%) were over 64 years of age.

Five countries have reported a total of 391 fatal cases since week 40/2013 (Table 6): 388 (99%) were associated with influenza virus type A infection and three (1%) with type B virus. 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 387 of the fatal cases: 205 (53%) were 65 years or older.

<u>United States of America</u> 18 April 2014 (Centre for Disease Control report)

During week 15 (April 6-12, 2014), influenza activity continued to decrease in most regions of the United States.

Nationwide during week 15, 1.5% 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 15, 6.4% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 7.2% for week 15. One influenza-associated pediatric death was reported to CDC during week 15. This death was associated with an influenza B virus

and occurred during week 14 (week ending April 5, 2014). A total of 86 influenza-associated pediatric deaths have been reported during the 2013-2014 season from Chicago [1], New York City [4] and 29 states.

Of 4,653 specimens tested and reported during week 15 by U.S. World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories, 675 (14.5%) were positive for influenza. By type, 301 (44.6%) were influenza A (20 (6.6%) A(H1N1)pdm09, 143 subtyping not performed and 138 (45.8%) A(H3)) and 374 (55.4%) were influenza B.

## • Canada 17 April 2014 (Public Health Agency report)

In week 15, two regions (ON(1) and QC(1)) reported widespread activity and seven regions (BC(1), ON(4), NS(1) and NB(1)) reported localized activity. Data was not reported for five regions in week 15. The national influenza-like-illness (ILI) consultation rate was similar to the previous week at 30.7 consultations per 1,000 patient visits in week 15; which was within the expected range for week 15. In week 15, 12 new laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network, compared to 11 in week 14. Influenza B was reported in 10 of the 12 cases in week 15. 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. Two ICU admissions were reported in week 15: one child 6-23 months of age with A(H1N1)pdm09, and one 5-9 years of age with influenza B. No deaths were reported in week 15.

## 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.

## • Avian Influenza 16 April 2014 (WHO website)

#### Influenza A(H7N9)

In the past week, one 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 WHO from 15 countries, of which 385 (59%) died.

Novel coronavirus 20 April 2014

Up to 20 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 133 suspect cases in the UK that have been investigated for MERS-CoV and tested negative. A further 236 confirmed cases have been reported internationally. This results in a current global total of <u>250 cases</u>, 93 of which have died (case fatality ratio=37%). 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

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