

HPA Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

24 November 2010 – Week 47



This report is published on the [HPA website](#). An email alert is sent out once it is published. To receive this email, or if you have any queries about the report, please email Respcdsc@hpa.org.uk.

A full report will be published fortnightly with a shorter summary in the intervening week while influenza activity is low. Should activity increase, a full report will be published weekly.

For further information on the surveillance schemes mentioned in this report, please see the [HPA website](#). Figures (including all those found in this report) displaying data from these schemes are available to download in PowerPoint format from the [HPA website](#).

Summary

- Influenza activity remains low across the UK.
- In week 46 (ending 21 November), the weekly influenza/influenza-like illness (ILI) consultation rates increased slightly in England (8.3 per 100,000), while decreasing in Scotland (37.3 per 100,000), Wales (8.1 per 100,000) and Northern Ireland (18.9 per 100,000). All GP consultation rates are well below baseline levels. Consultation rates for acute bronchitis increased and the pneumonia consultation rate decreased slightly.
- Five acute respiratory disease outbreaks in primary schools in London, the West Midlands and Yorkshire and Humber were reported in the last week. Influenza B has been detected from cases in three of these outbreaks, influenza H1N1 (2009) from the third and the fourth is still under investigation.
- Five specimens were reported as positive for influenza through sentinel GP surveillance in week 46 in England (one influenza A H1N1 (2009), one influenza A not subtyped and three influenza B).
- The proportion samples positive for respiratory syncytial virus (RSV) detections is increasing while for rhinovirus it is decreasing.
- All influenza B viruses characterised belong to the B-Victoria lineage, similar to the current vaccine strain B/Brisbane/60/2008.
- By week 46, the proportion of people in England aged over 65 years who had received the 2010/11 influenza vaccine was 62.1%. For those aged in a risk group aged under 65 it was 36.2%.
- Worldwide, influenza activity remains low, except in limited parts of tropical Asia and temperate South America. Seasonal influenza A(H3N2) viruses continue to be the predominant circulating type or subtype of influenza viruses worldwide, however, in addition, in many countries there has been co-circulation of seasonal influenza B viruses and to a lesser extent, influenza H1N1 (2009) viruses. Recently two sporadic cases of human infection with triple reassortant swine origin influenza A(H3N2) viruses were reported in the US and a confirmed human case of influenza A(H5N1) virus infection was reported in Hong Kong SAR, China.

Weekly consultation rates in national sentinel schemes

Influenza/influenza-like illness

In week 46 (ending 21 November), the weekly influenza/influenza-like illness (ILI) consultation rates increased in England while decreasing in Scotland, Wales and Northern Ireland (figure 1).

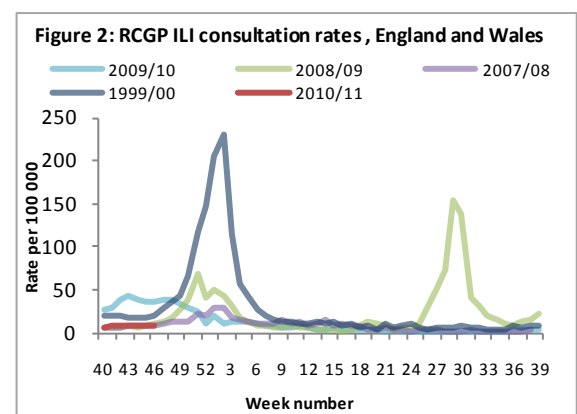
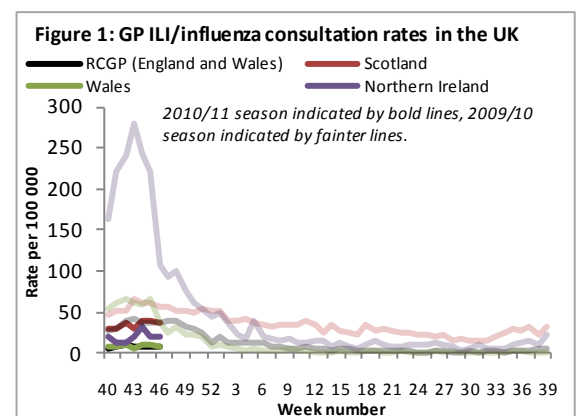
The overall ILI consultation rate from RCGP for England increased from 7.6 to 8.3 per 100,000 in week 46. This rate remains well below the winter baseline activity threshold of 30 per 100,000 (figures 1 and 2).

The ILI rate decreased from 6.9 to 5.5 per 100,000 in the northern region, it was stable at 8.6 per 100,000 in the southern region and in the central region it increased from 6.1 to 9.5 per 100,000.

The consultation rates in the RCGP scheme varied slightly between age groups. The highest rate was observed in <1 year old group which increased from 12.5 per 100,000 in week 45 to 24.8 in week 46 (figure 3).

For further information and data from this scheme please see the [RCGP website](#).

The combined influenza/ILI rate in Northern Ireland has decreased from 21.1 to 18.9 per 100,000, remaining below the threshold of 70 per 100,000 (figure 1).



In Northern Ireland in week 46, the rates were highest in the 65-74 and 45-64 year age groups at 28.7 and 27.5 per 100,000 respectively. For further information and data from Northern Ireland please see the [Public Health Agency website](#).

The Scottish ILI rate decreased from 38.5 to 37.3 per 100,000 and is below the baseline threshold of 50 per 100,000 (figure 1). In week 46, the highest rates were observed in the 1-4 year group, increasing from 194.9 to 219.1 per 100,000. For further information and data from Scotland please see the [Health Protection Scotland website](#).

The Welsh influenza rate decreased from 9.3 to 8.1 per 100,000 and remains below the baseline threshold of 25 per 100,000 (figure 1). By age group, the highest rates were in the 5-14 year group (12.7 per 100,000) and the 65-74 year group (13.5 per 100,000).

It should be noted that a change in the surveillance system used by Wales has led to an overall increase in reported rates. For further information and data from Wales please see the [Public Health Wales website](#).

In the HPA/QSurveillance® scheme the overall rate was stable at 7.4 per 100,000. The HPA/QSurveillance® rates varied in most age groups. The highest rate was in the 1-4 year group which increased from 6.4 to 9.7 per 100,000.

The highest weekly ILI rate through QSurveillance® in week 46 continued to be in London at 12.8 per 100,000. All other rates in other regions were below 10 per 100,000 (figure 4).

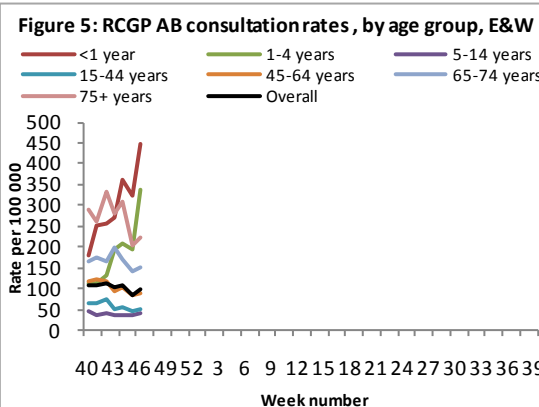
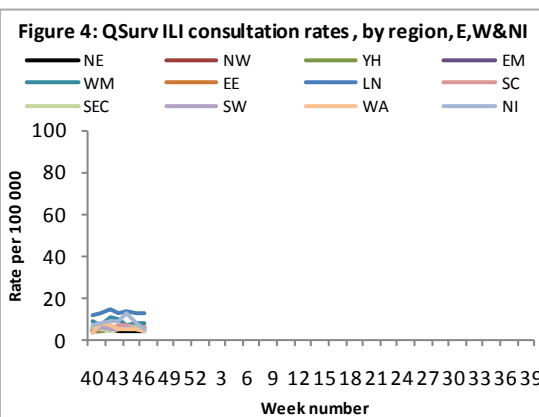
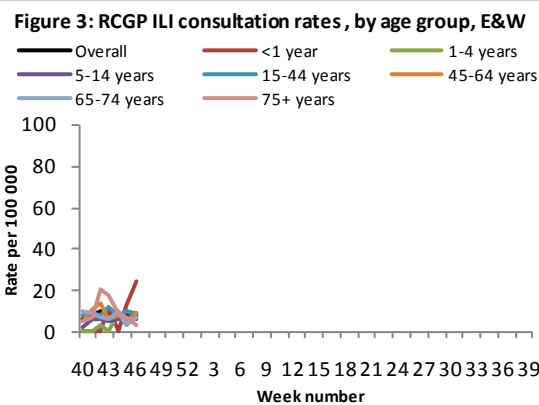
For further information and data from this scheme please see the Real-time Syndromic Surveillance page on the [HPA website](#).

Other respiratory indicators

The overall weekly consultation rate for acute bronchitis in England and Wales through the RCGP scheme was 100.4 per 100,000, increasing from 85.8 per 100,000 in week 45.

The acute bronchitis rates increased and were highest in the under 1 year (from 323.7 to 446.5 per 100,000) and 1-4 year (from 195.9 to 338.5 per 100,000) age groups (figure 5).

The overall weekly consultation rate for pneumonia from the RCGP scheme was decreased from 2.1 in week 45 to 0.8 per 100,000 in week 46.



Community surveillance

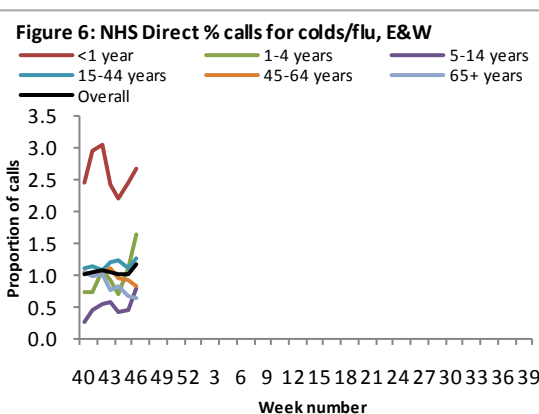
The overall call rate to NHS Direct in week 46 was 172.4 per 100,000, increased slightly from 170.4 per 100,000.

The overall proportion of calls for cold/flu was 1.2%, which is increased from 1.0% in week 45. The national threshold for cold/flu calls in all ages is 1.2%; values above this level are indicative of influenza circulation in the community. By age group, the highest proportion was in the under 1 year group at 2.7% (figure 6).

Regionally the cold/flu calls were highest at 1.5% in the South East and 1.4% in the North East and London SHAs.

The proportion of calls for fever in the 5-14 year age group increased from 6.8% to 7.8%, remaining below the threshold of 9%.

For further information and data from this scheme please see the Real-time Syndromic Surveillance page on the [HPA website](#).



Four acute respiratory disease outbreaks in primary schools have been reported in the last week. Two schools were affected in Yorkshire and the Humber (one due to influenza B and one due to influenza H1N1 (2009)). Two London primary schools were also affected (one due to influenza B and the other still under investigation). In the West Midlands a large influenza B outbreak was reported. Outbreaks should be reported to the local Health Protection Unit and Respcdsc@hpa.org.uk.

Microbiological surveillance

Of 646 respiratory specimens reported to the English Data Mart system as taken in week 46, 20 (3.1%) were positive for influenza (nine H1N1 (2009), one influenza A not subtyped and ten influenza B) (figure 7). Detections of respiratory syncytial virus (RSV) continue to increase; the proportion positive increased from 17.7% in week 45 to 21.8% in week 46. Rhinovirus detections are declining; the proportion positive decreased from 18.4% to 10.6% in the same time period.

Of the 82 samples submitted via the two English GP-based sentinel schemes in week 46, five (6.1%) were positive for influenza (one influenza A not subtyped, one influenza H1N1 (2009) and three influenza B) (table 1).

In week 46, two specimens were reported as positive for influenza H1N1 (2009) through the sentinel GP scheme in Scotland (table 1).

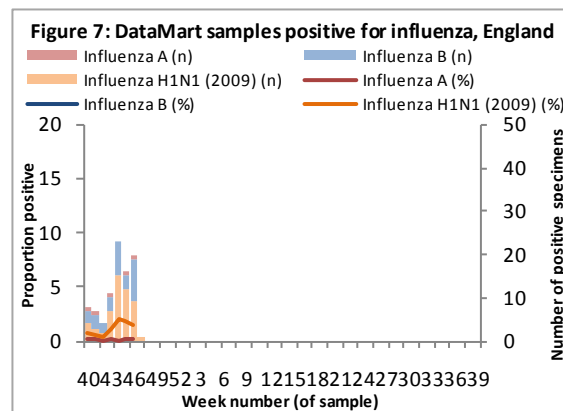


Table 1: Sentinel virological surveillance in the UK

| Week | England | Scotland | Northern Ireland | Wales |
|------|---------------|--------------|------------------|---------|
| 42 | 5/103 (4.9%) | 1/20 (5%) | 0/6 (-) | 0/0 (-) |
| 43 | 14/90 (15.6%) | 1/22 (4.5%) | 0/0 (-) | 0/0 (-) |
| 44 | 11/111 (9.9%) | 0/29 (0%) | 1/5 (-) | 0/3 (-) |
| 45 | 5/104 (4.8%) | 3/16 (18.8%) | 0/10 (0%) | 0/8 (-) |
| 46 | 5/82 (6.1%) | 2/18 (11.1%) | 0/8 (-) | 0/2 (-) |

NB. Proportion positive omitted when fewer than 10 specimens tested.

The HPA Respiratory Virus Unit has isolated and characterised seven influenza B viruses from community and hospital samples since week 40. All influenza B viruses characterised belong to the B-Victoria lineage, similar to the current vaccine strain B/Brisbane/60/2008.

Of 44 influenza H1N1 (2009) viruses tested for antiviral susceptibility since week 40 2010, one has been found to carry the H275Y mutation which confers resistance to the antiviral drug oseltamivir. Five further H1N1 (2009) viruses, two influenza A H3 viruses and two influenza B viruses have been fully tested for susceptibility and found to be sensitive to oseltamivir and zanamivir.

Table 2: Antimicrobial susceptibility surveillance, E&W

| Organism | Tetracyclines | | Co-amoxiclav | |
|----------------------|----------------------|---------------------------|----------------------|---------------------------|
| | Specimens tested (N) | Specimens susceptible (%) | Specimens tested (N) | Specimens susceptible (%) |
| <i>S. aureus</i> | 2,500 | 94 | 220 | 83 |
| <i>S. pneumoniae</i> | 1,684 | 86 | 1764* | 92* |
| <i>H. influenzae</i> | 5,727 | 98 | 5,488 | 91 |

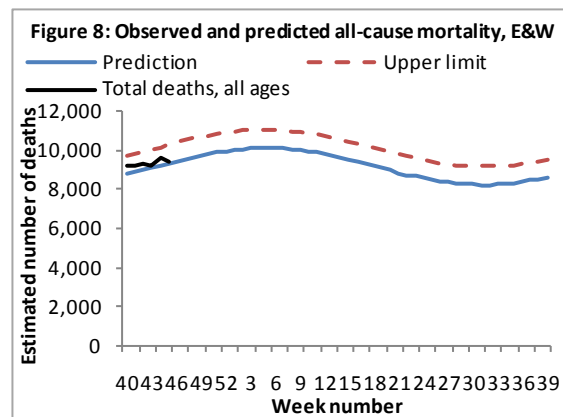
* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other beta-lactams such as co-amoxiclav.

In the 12 weeks up to 14 November 2010, over 83% of all 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.

Disease severity and mortality data

HPA receives weekly death registrations from the Office for National Statistics.

In week 45, an estimated 9,406 all-cause deaths were registered, which was decreased slightly from 9,668 in week 44. This remains within expected levels for the time of year (figure 8).



Vaccine uptake

Up to 31 October 2010, the proportion uptake of seasonal influenza vaccine in the over 65 year group was 47.5% and in people aged under 65 years in a clinical risk group it was 26.3%; these figures are slightly lower than those observed at the same time in 2009 (54.4% and 31.1% respectively). The NHS has been advised to encourage uptake in targeted groups to increase protection and reduce illness. For further information please see the letter from Professor David Salisbury on the [Department of Health Central Alerting System website](#).

By week 46, the proportion of people in England aged over 65 years who had received the 2010/11 influenza vaccine was 62.1%, while in those aged under 65 in a risk group it was 36.2% (provisional data). For further information on the 2010/11 seasonal influenza vaccine programme see the [Department of Health Green Book](#).

International Situation

[WHO influenza update 22 November 2010](#)

Worldwide, influenza activity remains low, except in limited parts of tropical Asia and temperate South America. Localised, late epidemic influenza outbreaks have been reported in Argentina most notably in the north-western part of the country. As the temperate zone of the Northern Hemisphere enters the late autumn and winter months, influenza activity remains at or below the seasonal baseline level in most countries of Europe, North America and temperate Asia. Seasonal influenza B and A (H3N2) viruses continue to co-circulate worldwide with the latter slightly more prominent. Circulation of influenza H1N1 (2009) virus continues to be detected at low to moderate levels across Asia, and sporadically in other parts of the world.

Temperate zone of the Southern Hemisphere: In most countries of the temperate zone of the Southern Hemisphere, influenza virus circulation remained low to sporadic and ILI activity levels remained near or below baseline. In Argentina, however, there have been recent reports of localised, late season epidemics of influenza occurring during September and October 2010 in several north-western and far southern provinces. These outbreaks have been associated with circulation of influenza A viruses (some isolates have been characterized as seasonal influenza A(H3N2) but most have not been subtyped). In neighbouring Chile, overall influenza activity remained low through late October 2010 after a recently concluded influenza season characterized by a predominance of circulating seasonal influenza A(H3N2) viruses. In South Africa, small numbers of influenza B viruses continued to be detected as the winter influenza season came to an end. In Australia, low level co-circulation of influenza B and H1N1 (2009) viruses continued to be detected through early November 2010 as levels of ILI remained low.

Tropical zone: Several countries of Southeast Asia continued to report active circulation of influenza viruses. In Thailand, as of mid to late October 2010, there continued to be reports of active but declining co-circulation of seasonal influenza A(H3N2), B, and influenza H1N1 (2009) viruses. In neighbouring Cambodia, since September 2010, there has been sustained active circulation of predominantly seasonal A(H3N2) viruses, but also to a lesser extent, seasonal influenza B and H1N1 (2009). In Hong Kong SAR (China), small numbers of seasonal influenza A(H3N2) viruses continue to be detected as levels of ILI have largely returned to seasonal levels after a recently concluded period of epidemic influenza activity. In Singapore, sustained co-circulation of seasonal influenza and H1N1 (2009) viruses has been observed, in varying proportions over time, since April 2010. Levels of ARI have remained within the expected seasonal range over past two months. Elsewhere in Asia, Sri Lanka has reported a recent increase in the circulation of seasonal influenza A(H3N2), B, and H1N1 (2009) viruses, while in both Bangladesh and India, influenza

activity appears to have significantly subsided after a period of persistent influenza virus circulation since March and June 2010, respectively.

In most countries in the tropics of the Americas, influenza activity has largely subsided. This comes after a period of variable influenza virus transmission spanning late July through early October 2010 during which many countries in the region observed active circulation of seasonal A(H3N2) viruses, while a few noted either seasonal influenza B or H1N1 (2009) activity. More recently, during October 2010, low to moderate levels of influenza A(H3N2) and H1N1 (2009) viruses have been detected in parts of Bolivia and Colombia, respectively.

Limited data from the tropical areas of sub-Saharan Africa suggest that overall influenza activity has remained low. Since late spring and late summer, there has been persistent low levels of circulation of seasonal influenza A(H3N2) viruses in Kenya and Madagascar, respectively. During late September through mid-October 2010, Cameroon, in central Africa, has also begun to detect significant levels of seasonal influenza A(H3N2) and B viruses. In contrast, little influenza activity has been reported in West Africa during recent months, except in Togo, which has recently reported small numbers of H1N1 (2009) virus detections.

Temperate zone of the Northern Hemisphere: In Canada and the United States, overall influenza activity and levels of ILI remained near or below baseline; small numbers of seasonal influenza A(H3N2) and B viruses have been detected during the past month.

Most countries in the European Region continued to report low overall levels of ILI activity, with sporadic detections of influenza A(H3N2), H1N1 (2009) and influenza B viruses.

As of late October 2010, overall influenza activity remained low to sporadic in China and Japan. In both, seasonal influenza A(H3N2) viruses were detected at low levels during October 2010.

Human infections with other influenza viruses:

Swine-origin H3N2 virus infection in the US: On 12 November, 2010, the United States Centers for Disease Control and Prevention (US CDC), reported two sporadic cases of human infection with triple reassortant swine origin influenza A(H3N2) viruses. The two cases occurred in separate states, are not believed to be epidemiologically linked to each other, and both occurred in the vicinity of live pigs. Both patients have fully recovered from their illness. The viruses isolated from both patients had some genetic differences further suggesting that two cases were not linked. Investigations thus far have not shown any evidence of community transmission of these viruses. For more information visit: http://www.cdc.gov/flu/weekly/pdf/External_F1044.pdf or <http://www.cdc.gov/media/subtopic/heard.htm>

The first detection in a human of the triple reassortant swine A(H3N2) virus was in 2005 in Ontario Canada. Since then human cases have been reported nearly every year. All cases have fully recovered and no increased severity has been associated with the infection with these viruses in humans

In North America, A(H3N2) viruses in pigs emerged around 1998-99, when the human influenza A(H3N2) viruses entered into swine population and reassorted with other influenza viruses already circulating in pigs. The A(H3N2) viruses currently circulating in the swine population in US and Canada contain gene segments from avian-like, swine-like, and human-like viruses.

Early identification and investigation of human infections with novel influenza A viruses is critical to evaluate the extent of the outbreak and possible human-to-human transmission and WHO continues to encourage member states to investigate and report these events.

H5N1 case in Hong Kong: On 17 November 2010, the Department of Health of Hong Kong SAR, China, reported a confirmed human case of influenza A(H5N1) virus infection to WHO. The case has a travel history to Shanghai, Nanjing and Hangzhou. The investigation is still ongoing but based on current information this is a sporadic case of human infection with influenza A(H5N1) virus without secondary spread. See also http://www.who.int/csr/disease/avian_influenza/en/index.html

Since 2003 a total of 508 human cases of H5N1 avian influenza have been reported to WHO from 15 countries. Of this 508, 302 (59%) have reportedly died (20 of 40, 50% in 2010). For further information, see the [WHO website](#).

Acknowledgements

This report was prepared by Estelle McLean, Chinelo Obi and Richard Pebody. We are grateful to all who provided data for this report including the RCGP Research and Surveillance Centre, the HPA Real-time Syndromic Surveillance team, the HPA Respiratory Virus Unit, the HPA Modelling and Statistics unit, the HPA Dept. of Healthcare Associated Infection & Antimicrobial Resistance, regional microbiology laboratories, NHS Direct, ONS, the Department of Health, Health Protection Scotland, National Public Health Service (Wales) and the Public Health Agency Northern Ireland.