

HPA Weekly National Influenza Report

Summary of UK surveillance of influenza and other seasonal respiratory illnesses

9 December 2010 – Week 49



A full report will be published weekly 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.

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 is increasing across the UK. Although GP consultation rates remain low, several outbreaks and severe, hospitalised cases have been reported.
- In week 48 (ending 5 December), the weekly influenza/influenza-like illness (ILI) consultation rates increased slightly in England (13.3 per 100,000) and Wales (10.5 per 100,000), while decreasing in Scotland (28.8 per 100,000) and Northern Ireland (21.0 per 100,000). All GP consultation rates are within baseline levels. Consultation rates for acute bronchitis and pneumonia slightly increased.
- Nine acute respiratory disease outbreaks were reported in UK in week 48, eight (three influenza B and one H1N1) were reported from schools and one influenza H1N1 from a military base. This brings the total reported this season so far to 31.
- Twenty nine of 86 (33.7%) specimens from patients with ILI presenting to sentinel GPs in England in week 48, were reported as positive for influenza (eighteen influenza A H1N1 (2009), one influenza A not subtyped and ten influenza B). The proportion of specimens reported to DataMart as positive for influenza has increased to 16.7% (151 of 903).
- The proportion of samples positive for respiratory syncytial virus (RSV) and rhinovirus remains high, though is decreasing for rhinovirus.
- All influenza B and H1N1 (2009) viruses characterised have been found to be similar to the vaccine strains.
- By week 48, the proportion of people in England aged over 65 years who had received the 2010/11 influenza vaccine was 66.1%. For those aged in a risk group aged under 65 it was 40.2%.
- Worldwide, influenza activity remains low, except in areas of South Asia and central and western Africa, which have seen recent surges in influenza H1N1 (2009) virus detections. Most countries in the temperate zone of the northern hemisphere continued to report low activity levels. Except for a few countries in Southeast Asia, most countries in the tropics of the Americas and Asia have recently reported low levels of influenza activity. Globally, there continued to be co-circulation of influenza H1N1 (2009), A(H3N2), B viruses, with the latter two being predominant.

Weekly consultation rates in national sentinel schemes

Influenza/influenza-like illness

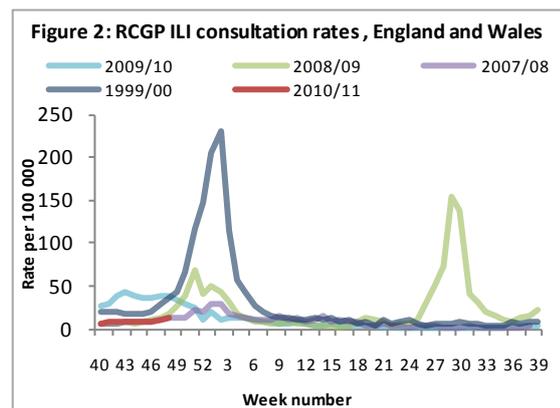
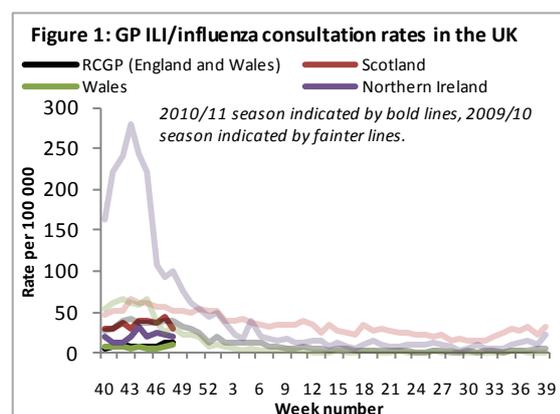
In week 48 (ending 5 December), the weekly influenza/influenza-like illness (ILI) consultation rates increased in England and Wales and decreased in Scotland and Northern Ireland (figure 1).

The overall ILI consultation rate from RCGP for England increased from 11.8 to 13.3 per 100,000. This rate remains within baseline activity levels (figures 1 and 2). The ILI rate decreased slightly from 10.4 to 8.1 per 100,000 and 12.3 to 11.4 per 100,000 in the northern and southern regions respectively and in the central region it increased from 11.7 to 20.1 per 100,000. The consultation rates in the RCGP scheme varied slightly between age groups. The highest rates were observed in the 5-14 year age group, at 18.1 per 100,000 (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 slightly from 22.6 to 21.0 per 100,000, remaining below the threshold of 70 per 100,000 (figure 1). In Northern Ireland in week 48, the rates were highest in the 5-14 year age group at 34.3 per 100,000.

For further information and data from Northern Ireland please see the [Public Health Agency website](#).



The Scottish ILI rate decreased from 44.7 to 28.8 per 100,000 and is below the baseline threshold of 50 per 100,000 (figure 1). In week 48, the highest rates were observed in the under 1 year group, increasing from 287.9 to 383.8 per 100,000.

For further information and data from Scotland please see the [Health Protection Scotland website](#).

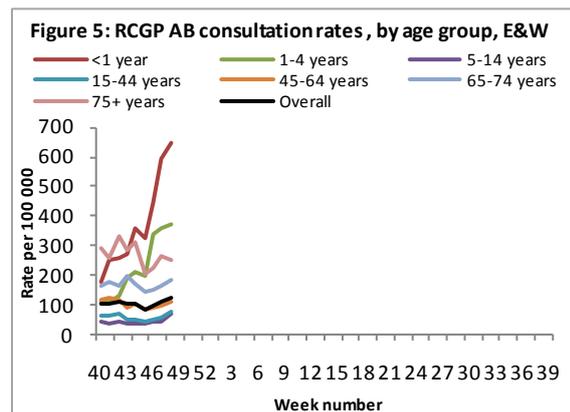
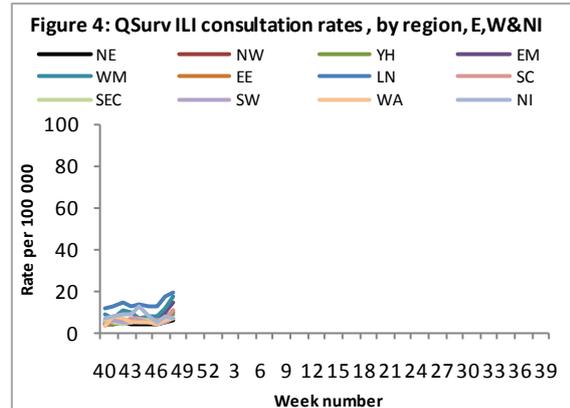
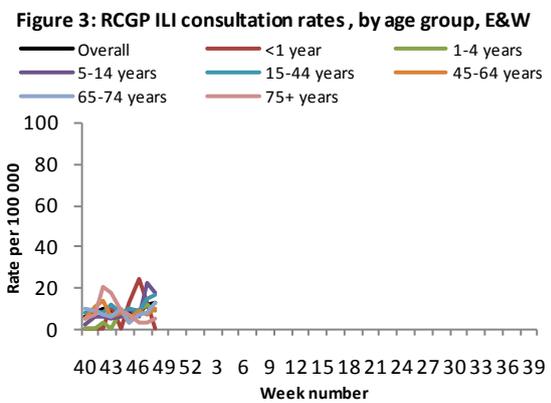
The Welsh influenza rate increased from 6.8 to 10.5 per 100,000 and remains below the baseline threshold of 25 per 100,000 (figure 1). By age group, the highest rates were in the 15-44 year group (14.3 per 100,000) and the 5-14 year group (10.1 per 100,000).

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 increased slightly from 9.9 to 12.5 per 100,000. The rates varied in most age groups with highest rate observed in the 15-44 year age group which increased from 12.5 to 16.8 per 100,000.

The weekly ILI rate through QSurveillance® in week 48 increased in most regions in England although highest rates continued to be observed in London at 19.4 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 127.6 per 100,000, increasing from 113.4 per 100,000 in week 47.

The acute bronchitis rates increased and were highest in the under 1 year (from 590.4 to 647.1 per 100,000) and 1-4 year (from 358.3 to 371.0 per 100,000) age groups (figure 5).

The overall weekly consultation rate for pneumonia from the RCGP scheme was increased slightly from 1.7 in week 47 to 1.8 per 100,000 in week 48.

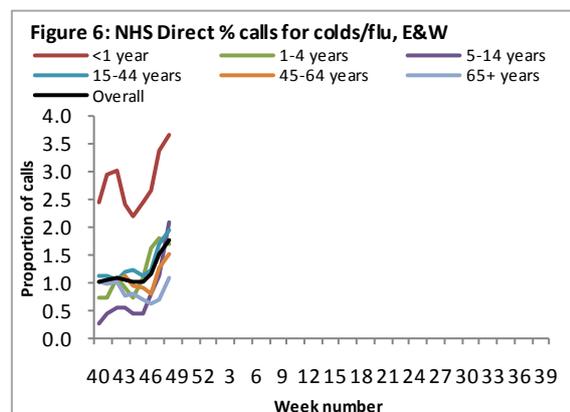
Community surveillance

The overall call rate to NHS Direct in week 48 was 197.4 per 100,000, increased slightly from 181.4 per 100,000.

The overall proportion of calls for cold/flu was 1.8%, which is increased from 1.5% in week 47. 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 3.7% (figure 6). Regionally the cold/flu calls were highest at 2.5% in the Yorkshire and Humber and 2.1% in the South Central SHA.

The proportion of calls for fever in the 5-14 year age group increased from 10.1% to 11.8%, exceeding the baseline levels of 9%.

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



Nine acute respiratory disease outbreaks have been reported in various regions in the last week. Eight schools were affected; influenza B was detected from four outbreaks and influenza H1N1 (2009) from one. Influenza H1N1 (2009) was detected from an outbreak in an army barracks in Yorkshire and the Humber. Outbreaks should be reported to the local Health Protection Unit and Respcdsc@hpa.org.uk.

Microbiological surveillance

Of 903 respiratory specimens reported to the English Data Mart system as taken in week 48, 151 (16.7%) were positive for influenza (102 H1N1 (2009), five influenza A not subtyped and 44 influenza B) (figure 7). Detections of respiratory syncytial virus (RSV) remain high; the proportion positive was stable at 24% in week 48. Rhinovirus detections have decreased; the proportion positive decreased from 18.4% to 14.3% in the same time period.

Of the 86 samples submitted via the two English GP-based sentinel schemes in week 48, 29 (33.7%) were positive for influenza (one influenza A H3, 18 influenza H1N1 (2009) and ten influenza B) (table 1).

In week 48, five specimens were reported as positive for influenza through the sentinel GP scheme in Scotland (table 1).

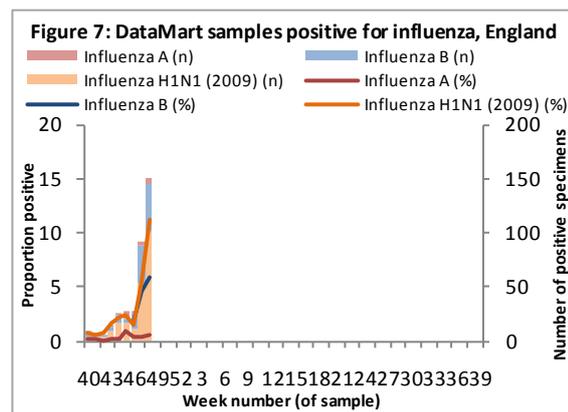


Table 1: Sentinel virological surveillance in the UK

| Week | England | Scotland | Northern Ireland | Wales |
|------|----------------|--------------|------------------|-----------|
| 44 | 11/112 (9.8%) | 0/29 (0%) | 1/5 (-) | 0/3 (-) |
| 45 | 5/106 (4.7%) | 3/17 (17.6%) | 0/10 (0%) | 0/8 (-) |
| 46 | 7/127 (5.5%) | 3/28 (10.7%) | 0/8 (-) | 0/2 (-) |
| 47 | 23/120 (19.2%) | 4/42 (9.5%) | 0/7 (-) | 0/4 (-) |
| 48 | 29/86 (33.7%) | 5/16 (31.3%) | 0/8 (-) | 0/10 (0%) |

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

The HPA Respiratory Virus Unit has isolated and characterised 21 influenza B, and 24 influenza A H1N1 (2009), 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 and all the H1N1 (2009) viruses are similar to the A/California/07/2009 vaccine strain.

Of 74 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. Four further H1N1 (2009) viruses, two influenza A H3 viruses and five 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> | 2,607 | 93 | 215 | 80 |
| <i>S. pneumoniae</i> | 1,865 | 86 | 1959* | 92* |
| <i>H. influenzae</i> | 6,131 | 98 | 5,883 | 91 |

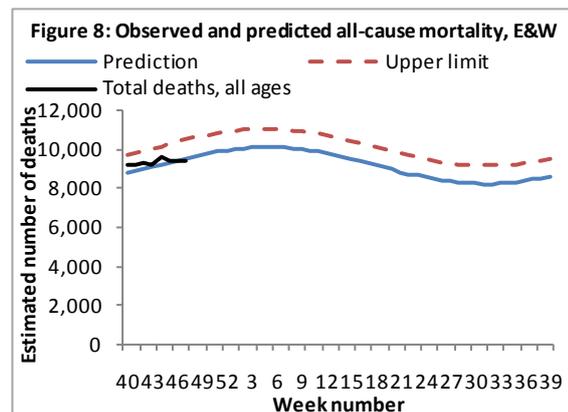
* *S. pneumoniae* isolates are not routinely tested for susceptibility to co-amoxiclav, however laboratory results for benzyl-penicillin are extrapolated to determine sensitivity to other beta-lactams such as co-amoxiclav.

In the 12 weeks up to 28 November 2010, over 80% 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 47, an estimated 9,473 all-cause deaths were registered, which was increased slightly from 9,437 in week 46. This remains within expected levels for the time of year (figure 8).

Several severe cases of influenza have been reported in the last two weeks resulting in an increase in ITU-bed occupancy and in the provision of beds used for Extra-Corporeal Membrane Oxygenation (ECMO). The majority of these patients are aged under 65 years. Since week 36, ten deaths associated with influenza infection have been reported in the UK. None of the five fatal cases with information available had received the 2010/11 seasonal influenza, or the 2009 monovalent pandemic influenza vaccine.



Vaccine uptake

By week 48, the proportion of people in England aged over 65 years who had received the 2010/11 influenza vaccine was 66.1%, while in those aged under 65 in a risk group it was 40.2% (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](#) 3 December 2010

Worldwide, influenza activity remained low, except in areas of South Asia and central and western Africa, which have seen recent surges in influenza H1N1 (2009) virus detections. Most countries in the temperate zone of the northern hemisphere continued to report low levels of ILI and influenza virus detections as the northern hemisphere winter approaches. Except for a few countries in Southeast Asia, most countries in the tropics of the Americas and Asia have recently reported low levels of influenza activity. Globally, there continued to be co-circulation of influenza H1N1 (2009), A(H3N2), B viruses, with the latter two being predominant.

Countries in the temperate zone of the Northern Hemisphere: In North America, overall influenza activity and levels of ILI remained below baseline. Notably, however, in the South Eastern and South Western part of the United States, influenza activity has steadily increased over the month of November 2010 with Influenza B being the predominantly detected virus. Most countries of the European region continued to report low overall levels of ILI and low to sporadic levels of influenza virus detections. In East Asia, overall influenza activity remained low across China, Japan, and the Republic of Korea. In northern China, the number of respiratory specimens testing positive for influenza (primarily influenza A(H3N2)) increased between late October and mid-November 2010, however, this was associated with only a small rise the levels of ILI. Mongolia also reported a rise in detection rate of influenza A(H3N2) viruses during mid to late November 2010 which was associated with an increase in the rate of ILI above the seasonal threshold, suggesting that local winter influenza season has begun.

Countries in the temperate zone of the Southern Hemisphere: Overall, little influenza activity is being reported as the summer months approach in countries of the temperate Southern Hemisphere. Late season and regionally variable epidemics of influenza A(H3N2) virus in Chile and Argentina now appear to have largely subsided. In South Africa, influenza activity has also largely subsided after a period of low level springtime circulation of influenza B and H1N1 (2009) viruses detected in the sentinel ILI surveillance system during November 2010.

Countries in the tropical zone: In South Asia, only Sri Lanka reported a recent surge of influenza H1N1 (2009) virus detections during mid-October through late November 2010 while recent influenza activity observed in India and Bangladesh has now largely subsided. In Southeast Asia, several countries continued to report low to moderate levels of influenza A(H3N2) virus detections. In Sub-Saharan Africa, overall influenza activity remained low in most countries, except in Cameroon and Ethiopia, which as of early to mid-November 2010, reported a recent surge in the numbers of specimens testing positive for H1N1 (2009) virus. The extent to which these increased detections of influenza virus have been associated with increased ILI in the community is not yet known. Across the rest of the region, low to moderate levels of influenza A(H3N2) virus circulation continued to be detected in Kenya and Ghana, respectively. In the tropical zone of the Americas, overall influenza activity remained low to sporadic in most areas. In Costa Rica, influenza A(H3N2) and B viruses continued to co-circulate at low levels during November 2010. In Columbia, small numbers of influenza H1N1 (2009) viruses were detected during November 2010. Bolivia observed sustained active circulation of influenza A(H3N2) viruses since mid-September 2010 while in Cuba, there has been fluctuating low to moderate level circulation of influenza A(H3N2) viruses since early August 2010. In southern Mexico, influenza activity has largely subsided after a period of active influenza A(H3N2) circulation spanning August to mid-November 2010.

Avian Influenza: 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

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