

## Rapid communications

# PUBLIC HEALTH IMPLICATIONS OF INFLUENZA B OUTBREAKS IN CLOSED SETTINGS IN THE UNITED KINGDOM IN THE 2007/08 INFLUENZA SEASON

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Several influenza B outbreaks occurred in closed settings late in the 2007/08 influenza season (October to mid-May) in the United Kingdom (UK), with implications for public health management. Influenza B viruses usually circulate late in the season and cause a milder disease than influenza A viruses [1]. Epidemics of influenza B usually occur every two to three years with the burden of disease falling predominantly on school-aged children [2].

The weekly Royal College of General Practitioners' (RCGP) incidence rate for influenza-like illness (ILI) remained at or near baseline levels (<30 new episodes per 100,000 population) for the duration of the 2007/8 season (Figure 1).

Influenza A (H1) and influenza B were the predominant virus types isolated from community samples throughout the UK this season. Influenza B detections peaked late, in week 10/08 (n=33), compared to influenza A (Figure 2).

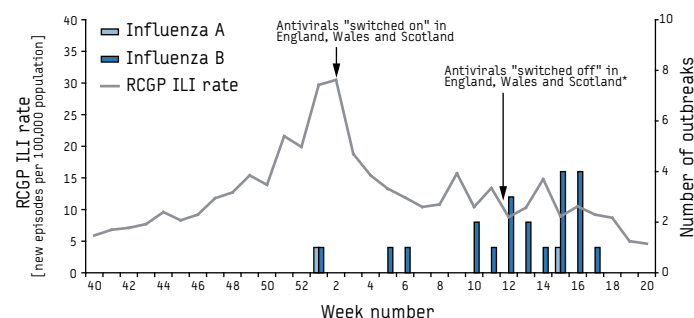
All of the influenza B viruses analysed this season (n=194) belonged to the B/Yamagata lineage (B/Florida/4/2006-like viruses) and were distinct from the B/Victoria lineage virus (B/

Malaysia/2506/2004-like virus) which was included in the 2007/08 northern hemisphere influenza vaccine.

Twenty-three outbreaks reported to the UK Health Protection Agency (HPA) Centre for Infections (Cfi) from England (n=14), Wales (n=7) and Northern Ireland (n=2) during the 2007/08 influenza season were virologically confirmed as being due to influenza. Scotland reported no outbreaks during the 2007/8 season. Twenty-one outbreaks (91%) were due to influenza B and of these, 14 (67%) occurred in care homes for the elderly (Table). These influenza B outbreaks started in week 01/08 and continued until week 17/08 (Figure 1), with their timing broadly consistent with the virological surveillance data (Figure 2).

FIGURE 1

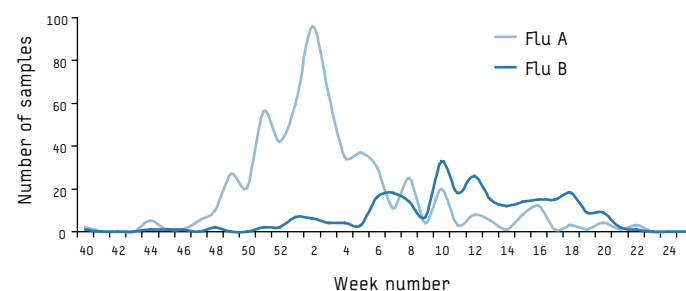
Reported outbreaks (by week of onset) of laboratory confirmed influenza during the 2007/08 season in the United Kingdom



\* In Wales, recommendation for prescribing of antivirals was switched back on in week 17/08, lasting until week 22/08.  
RCGP: Royal College of General Practitioners; ILI: influenza-like illness

FIGURE 2

Total (hospital and community) influenza detections 2007/08 season



TABLE

Outbreaks reported to the UK Centre for Infections during the 2007/08 influenza season

Outbreak Setting	Influenza A	Influenza B
Elderly Care Home	1	14
Schools	1	3
Hospital Ward	0	3
Prison	0	1
Total	2	21

The recommendations for the use of antivirals for the treatment and prevention of influenza in at-risk groups are made by the UK departments of health and are based on the National Institute for Health and Clinical Excellence (NICE) guidelines. In Wales, responsibility for this decision has been given to the National Public Health Service. In England, recommendation for the use of antivirals is triggered when the RCGP ILI incidence rate exceeds the baseline of 30 consultations per 100,000 practice population per week [3,4]. The trigger for the use of antivirals in the other UK countries is not necessarily coincident with that in England. The English trigger may, however, prompt a review of the national consultation rates for clinical general practitioners (GPs) and of virological data in the other UK countries, if a recommendation has not already been made.

During the 2007/08 season, antiviral prescribing in England was triggered between weeks 02/08 and 11/08, after the RCGP threshold was exceeded in week 01/08. Use of antivirals was also recommended during the same period in Wales and Scotland. During this period, five outbreaks of influenza B in closed settings were reported. However, once the prescribing of antivirals was switched off, a further 15 outbreaks of influenza B were reported (Figure 1). While the number of reported outbreaks was small, they do indicate that influenza B continued to circulate in the community in this period. When consulted concerning the management of influenza B outbreaks after week 11/08, the HPA continued to advise front-line staff in the use of antivirals for any exposed at-risk populations in closed setting outbreaks in order to mitigate any morbidity. In Wales, in light of the reported influenza B outbreaks, recommendation for prescribing of antivirals was switched back on in week 17/08, lasting until week 22/08. The epidemiological situation in Northern Ireland was different and, having reviewed sentinel GP consultation rates and virological data, the Department of Health in Belfast did not issue a recommendation that antivirals should be used during the 2007/08 season.

Virological surveillance showed that the majority (>50%) of influenza B isolates throughout the season were from individuals under the age of five years or from young adults aged 15 to 44 years. Less than 12% of influenza B isolates were from over 65 year-olds. However, most of the influenza B outbreaks reported to the HPA this season occurred in elderly care homes, despite a reported national influenza vaccine coverage of 74% this season in those over 65 years of age [5]. The apparent mismatch of the influenza B strain included in the 2007/08 northern hemisphere vaccine with the circulating influenza B strain may have had an impact on the clinical effectiveness of the vaccine in the targeted population. Indeed, recent work from the United States suggests a reduced influenza vaccine effectiveness for confirmed influenza B infections in the 2007/08 season [6].

The discrepancy in age distribution between virological surveillance and outbreak reports may reflect an outbreak ascertainment bias in favour of care homes compared to schools, particularly if the morbidity is milder in the latter. However, contrary to this suggestion, influenza B outbreaks during the 2005/06 season were readily and frequently ascertained in school age children rather than in the elderly in care homes [2]. During the 2005/06 season, however, the influenza B strain included in the vaccine was a better match for the circulating strain.

These observations support a surveillance strategy using multiple indicators of influenza activity in addition to clinical GP consultation rates to inform the prescribing of antivirals. Reliance on a single indicator of influenza activity may be misleading, particularly during seasons of vaccine mismatch, such as the 2007/08 season.

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