2.1 Influenza

Summary

2008/2009 Influenza Season
Peak influenza-like illness rate: 120.6/100,000
% of influenza positive sentinel specimens: 56.9
Dominant circulating (sub)type: A (H3)
European data available at: www.euroflu.org

HPSC is working in collaboration with the NVRL, the ICGP and the Departments of Public Health on the influenza sentinel surveillance project. Fifty-four general practices (located in all HSE-Areas) were recruited to report electronically, on a weekly basis, the number of patients who consulted with influenza-like illness (ILI). Sentinel GPs were requested to send a combined nasal and throat swab on at least one ILI patient per week to the NVRL. Other indicators of influenza activity include a network of sentinel hospitals reporting admission levels, sentinel schools reporting absenteeism and enhanced surveillance of hospitalised influenza cases in 0-14 year olds.

Influenza activity in Ireland was high during the 2008/2009-influenza season, peaking during week 2 2009 at 120.6 per 100,000 population (figure 1). During the peak of activity, the majority of ILI cases reported were in the 15-64 year age group. A baseline threshold of 17.8 ILI GP consultations per 100,000 population was also used for the first time in Ireland during the 2008/2009 season.

The NVRL tested 353 sentinel specimens for influenza virus during the 2008/2009 season. Two hundred and one (56.9%) sentinel specimens were positive for influenza: 147 influenza A (129 A H3 and 18 A H1N1) and 54 influenza B.

Influenza A (H3) was the predominant subtype detected during 2008/2009. Influenza A (H3), accounted for 87.8% of subtyped positive sentinel specimens. The majority of positive influenza sentinel cases were in the 15-64 year age group (84.3%).

The NVRL tested 2,756 non-sentinel respiratory specimens during the 2008/2009 season, 73 (2.6%) of which were positive: 59 influenza A and 14 influenza B.

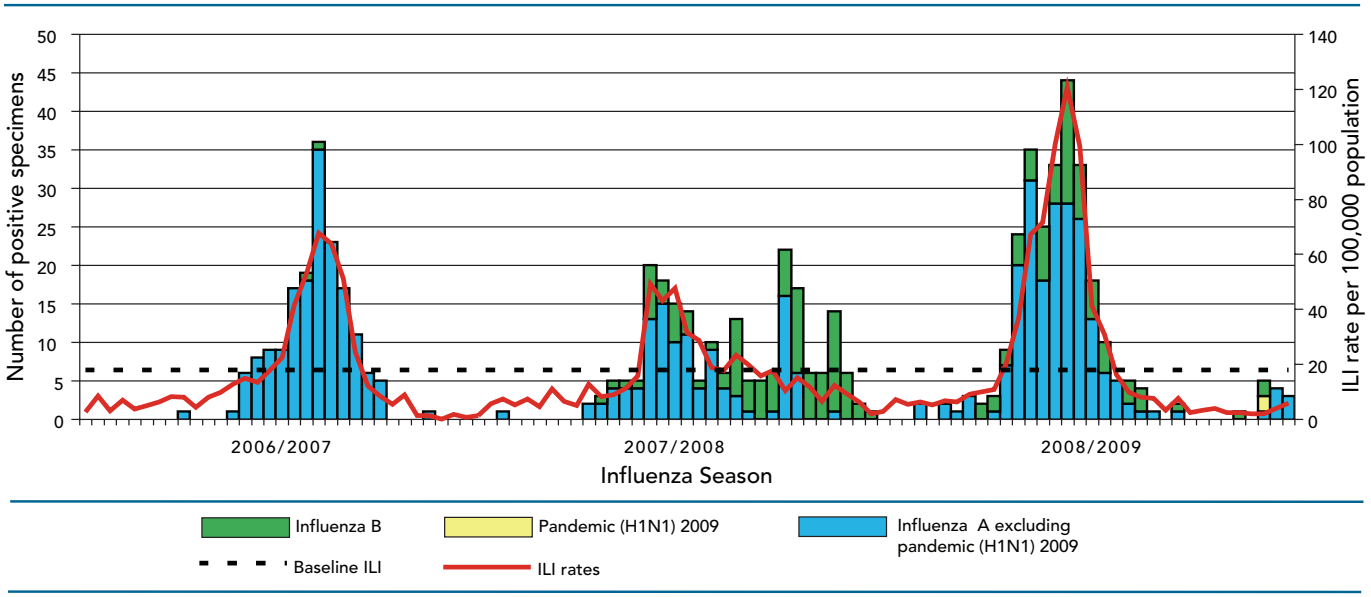

Figure 1: GP ILI consultation rate per 100,000 population and the number of positive influenza specimens detected by the NVRL by week and season, 2006/2007 to 2008/2009

The NVRL completed genetic characterisation for two influenza A(H3) and five influenza B viruses during 2008/2009. Both A(H3) viruses were characterised as A/Brisbane/10/2007-like virus. All five influenza B viruses were characterised as B/Malaysia/2506/2004-like (B/Victoria/2/87 lineage).

The NVRL conducted nucleotide sequencing on 10 influenza A(H1) specimens taken by sentinel GPs in Ireland during 2008/2009, nine (90%) of which were resistant to oseltamivir and one was sensitive.

Of the 201 positive influenza virus detections from sentinel specimens, 171 (85.1%) were unvaccinated, 10 (5.0%) were vaccinated and vaccination status was unknown in 20 (10.0%) cases. Of the 10 vaccinated cases, influenza A (H1) was detected in one case, influenza A(H3) in 7 cases and influenza B in two cases.

Overall, influenza activity was most intense in HSE-E, -NE and -SE during the 2008/2009 season. Seven influenza/ILI outbreaks were reported to HPSC during the 2008/2009 season. Influenza A was detected in four outbreaks, influenza B in one and the remaining two outbreaks were suspected influenza/ILI.

Hospital respiratory admissions (as a proportion of total hospital admissions) in sentinel hospitals peaked during week 52 2008 (figure 2), two weeks prior to the peak in sentinel GP ILI consultation rates. Absenteeism in several sentinel schools was also at elevated levels during peaks in ILI consultation rates.

A total of 434 influenza notifications were reported on CIDR during the 2008/2009 influenza season. Of the 434 notifications, 116 were patients aged between 0 to 14 years, 37 of whom were hospitalised. Enhanced data were completed for all 37 cases. Twenty-four enhanced cases were positive for influenza A, 10 were positive for influenza B and influenza type was not reported for three cases. Symptoms included fever (30/37), cough (30/37), gastrointestinal manifestations (14/37) and sore throat (12/37). Complications included bronchitis, croup, primary viral pneumonia, secondary bacterial pneumonia, bone marrow dysfunction and other respiratory complications. The mean number of days hospitalised was 3 (ranging from 0-10). Three cases were in an at-risk category for influenza vaccine. No cases were vaccinated. Twenty-seven cases recovered, one died, outcome was unknown for five and outcome was not reported in four cases.

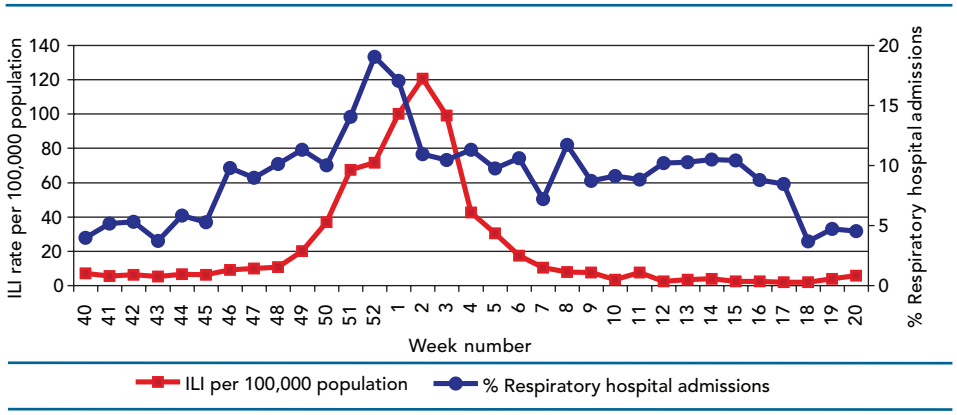

Figure 2: Respiratory admissions as a percentage of total hospital admissions in ten sentinel hospitals and GP ILI consultation rate per 100,000 population by week for the 2008/2009 influenza season

Four influenza associated deaths were registered with the General Register Office (GRO) during the 2008/2009-influenza season. Influenza was the secondary cause of death and not the primary cause in all four cases. One death was in the 15-64 year age group and three deaths were in those aged 65 years and older.

On 25th April 2009, a public health emergency of international concern was declared by the World Health Organization (WHO) due to an outbreak of pandemic (H1N1) infection in Mexico and the USA. WHO has described this virus as a new strain of influenza A(H1N1) not previously detected in humans and containing a mix of swine, human and avian influenza virus genes. On 11th June 2009, WHO raised the pandemic alert level from phase five to phase six, declaring the outbreak a pandemic.

For the forthcoming season, existing surveillance systems have been strengthened and a number of additional measures have been put in place in Ireland to improve surveillance of ILI/influenza and pandemic influenza (H1N1) 2009. The number of sentinel general practices has been increased to 62. In addition, virological surveillance in sentinel practices has been expanded so that each practitioner takes at least 5 swabs per week from ILI patients. The NVRL will continue monitoring oseltamivir resistance. Non sentinel influenza virology data will also be included from Cork University Hospital and University College Hospital in Galway. Surveillance of hospitalised cases and outbreaks of pandemic (H1N1) 2009 will continue and intensive care unit (ICU) surveillance of pandemic (H1N1) is currently being implemented. Mortality surveillance monitoring excess all cause deaths and pneumonia and influenza deaths has also been augmented and is now undertaken in a more timely manner. Data from these surveillance systems will assist in guiding the management and control of the pandemic

Further information on influenza is available at www.hpsc.ie