

INFLUENZA WEEKLY UPDATE

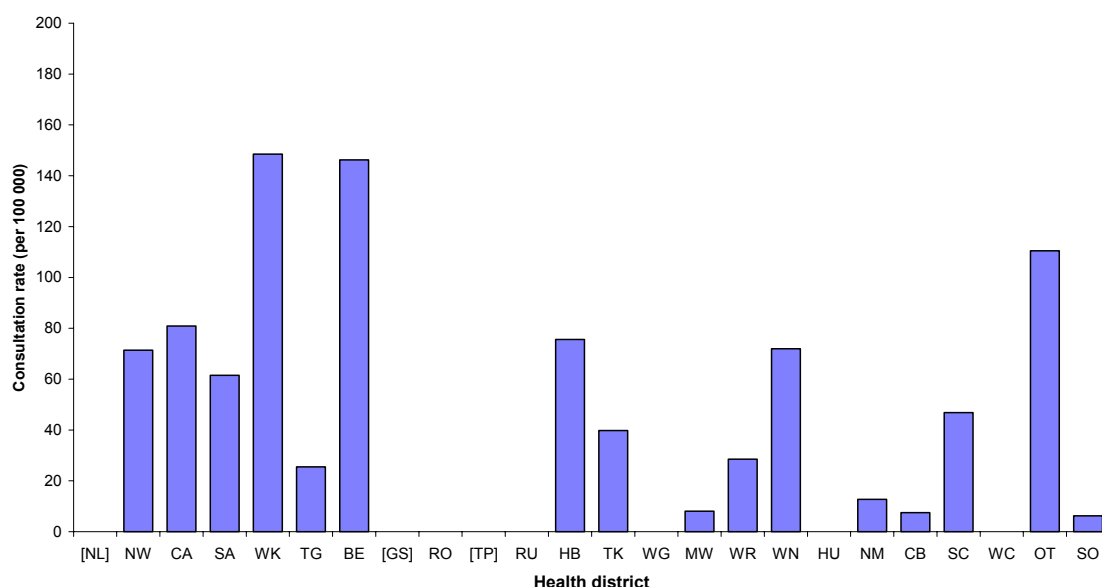
2005/21: 21 May – 27 May 2005

In the past week, a total of 179 consultations for influenza-like illness were reported from 83 general practices in 21 out of 24 health districts. This gives a weekly consultation rate of 55.7 per 100 000 patient population.

Figure 1 compares the consultation rates for influenza-like illness for each health district over the past week. Waikato had the highest consultation rate (148.5 per 100 000), followed by Eastern Bay of Plenty (146.3 per 100 000).

Figure 1

*Weekly consultation rates for influenza-like illness by health district
week ending 27 May 2005*



[] Health Districts not participating

Forty-four swabs were sent from the sentinel surveillance in the past week. Forty-eight swabs were received by virology laboratories. Of these, eight influenza viruses were identified, four as influenza B (yet to be antigenically typed), three as B/Hong Kong/330/2001-like, and one as B/Shanghai/361/2002-like viruses. The distribution by health district is shown in Table 1.

Table 1.

	CA	SA	WK	BE	WN	Total
B	0	1	3	0	0	4
B/Hong Kong/330/2001-like	1	0	0	0	2	3
B/Shanghai/361/2002-like	0	0	0	1	0	1
Total	1	1	3	1	2	8

In addition, 20 influenza viruses were reported this week from the laboratory-based (non-sentinel) surveillance. Fourteen were identified as influenza B (yet to be antigenically typed), four as influenza A (yet to be sub-typed), one each as B/Hong Kong/330/2001-

Figure 3 shows the weekly national consultation rates for 2003 and 2004 seasons, and 2005 so far. The current rate of influenza is higher than at the same time last year.

Figure 3

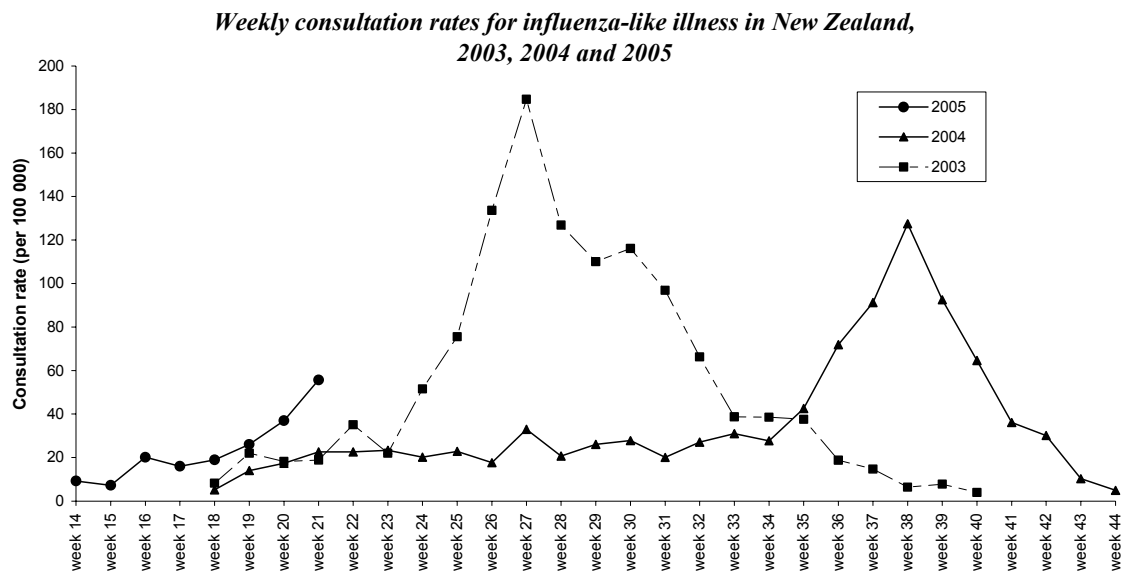
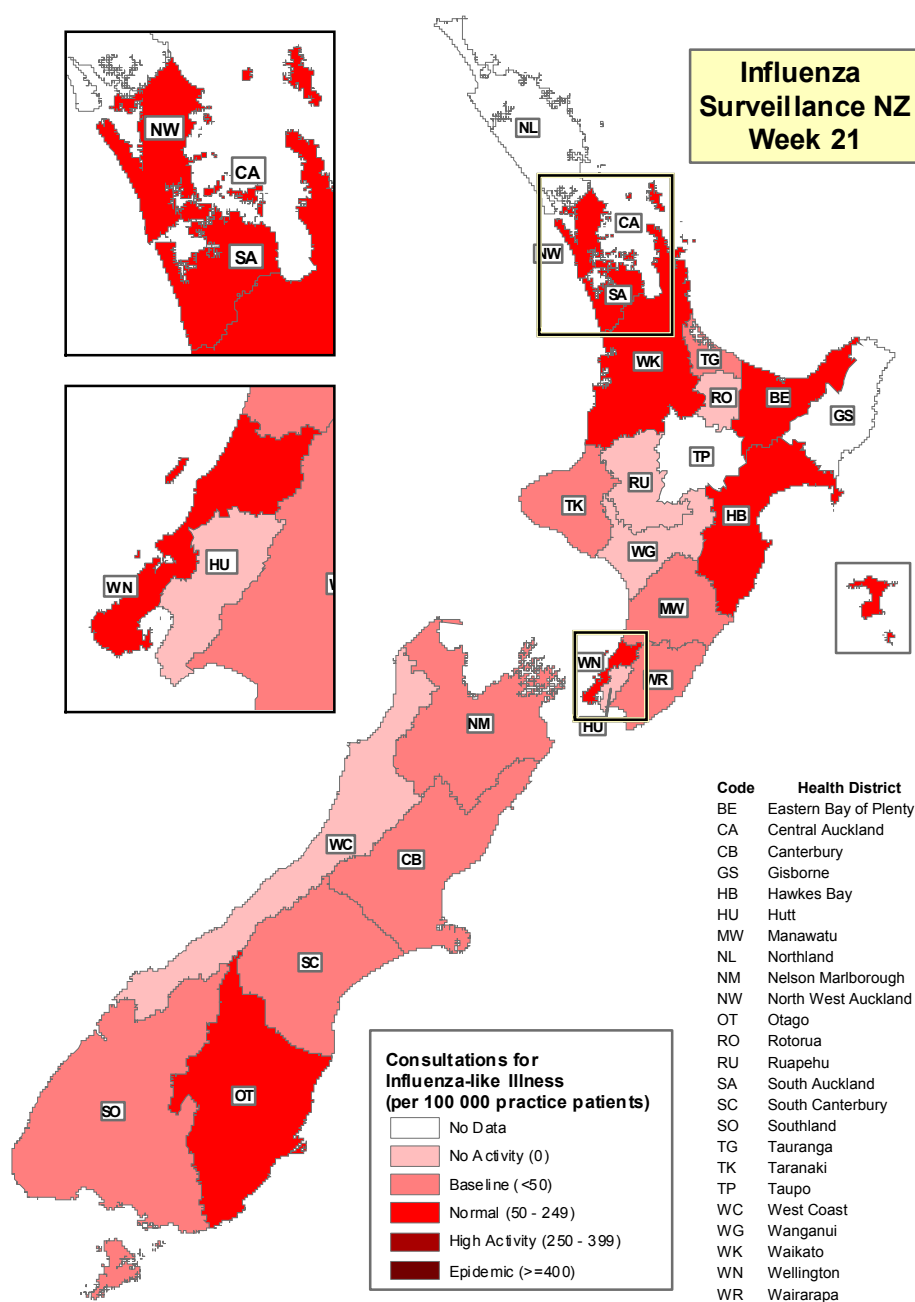


Figure 4 illustrates consultation rates for influenza-like illness mapped by health district for week 21, 2005.

Figure 4



The threshold used to describe the influenza-like activity can be referred in New Zealand Public Health Report 2001, 8 (1): 9-12 "Influenza surveillance and immunisation in New Zealand, 1990-1999"

Compiled by: Liza Lopez
 Population and Environmental Health
 ESR Kenepuru Science Centre
 PO Box 50 348
 PORIRUA

phone: 04 914-0647
 fax: 04 914-0770
 email: liza.lopez@esr.cri.nz

Appendix: Influenza B strain characterisation

Two distinct lines of influenza B have been observed during recent years. The B/Panama/45/90 variant of influenza B was first observed in 1990. This strain and its further variants (most recently representative strain-B/Shanghai/361/2002) spread worldwide whereas strains of the previous B/Victoria/2/87-like viruses continued to circulate within Asia and subsequently underwent independent evolution as an antigenically distinct lineage (most recent representative strain-B/HongKong/330/2001). For reasons not wholly understood, B/HongKong lineage viruses remained geographically restricted to Asia until 2001.

In 2002 the B/HongKong/330/2001-like strains managed to spread to New Zealand and completely replaced B/Shanghai lineage virus during that year. In 2003, there were 3 influenza B isolations (one B/HongKong lineage virus in March and two B/Shanghai lineage viruses at the end of the winter season). In 2004, a total of 62 influenza B viruses were typed (61 as B/Shanghai/361/2002-like strains and 1 as B/HongKong/330/2001-like).

In 2005, influenza B circulation has three interesting features: 1) Influenza B became the predominant strain at the beginning of the influenza season. This is in contrast to the usual pattern that influenza B predominates at the tailing period of the season. 2) B/HongKong lineage virus and B/Shanghai lineage virus are co-circulating in the community, both of these strains caused school outbreaks in the Auckland and Wellington regions. 3) So far, there have been more B/HongKong lineage viruses (12) than B/Shanghai lineage viruses (10).

In October 2004, the Australian Influenza Vaccine Committee (AIVC) made influenza vaccine composition recommendations for 2005 for New Zealand, Australia and South Africa. B/Shanghai/361/2002-like strain was chosen as the B component of the vaccine based on epidemiological, antigenic, genetic and serological evidence. The great majority of influenza B isolates was antigenically closely related to B/Shanghai/361/2002-like strains. In 2004, B/Shanghai lineage viruses were the predominant influenza B viruses whereas B/Hong Kong lineage viruses circulated at a lower level.

Vaccines containing influenza B/Shanghai/361/2002 -like antigens stimulated post-immunization HI antibodies at titres >40 to the vaccine virus in the sera of 71% of adult and 76% of elderly vaccinees. For representative recent B/Shanghai/361/2002-like isolates, the titres and frequencies of antibodies were similar. For representative recent B/Hong Kong/330/2001-like viruses, the titres and frequencies of antibodies were lower: 27% of adults and 43% of elderly vaccinees had HI titres >40. (*Weekly Epidemiological Record* 2004 79(41): 369-376)

Because influenza B has a greater antigenic stability than influenza A, illness due to influenza B tends to occur mostly in younger age group, particularly school-age children. This could explain the current school outbreaks in the Auckland and Wellington regions. In general, influenza B causes less severe diseases compared with influenza A. For example, it has been reported the frequency of serious influenza B infection requiring hospitalisation is about 4-fold less than that of influenza A virus. In addition to the usual influenza-like symptoms, gastrointestinal symptoms and muscle inflammation (Myositis) are more common manifestations of influenza B than influenza A.

(Dr. Sue Huang, Science Leader-Virology, ESR, (phone): 04 914 0764, email: Sue.Huang@esr.cri.nz)