

# VIROLOGY

Table 21 summarises viral indentifications and mycoplasma infections in New Zealand in 1998. The information is based on weekly data collated from the virology laboratories of Auckland Healthcare, Healthcare Waikato, Canterbury Health Laboratories, Healthcare Otago and ESR.

Table 21. Summary of virus identification and mycoplasma infections, 1998

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Influenza A	3	2	4	0	3	76	178	155	59	5	2	1	488
Influenza B	0	0	0	0	2	0	0	0	0	0	0	0	2
Parainfluenza 1	1	0	0	2	7	7	3	0	1	1	0	1	23
Parainfluenza 2	0	0	0	1	5	3	0	0	2	0	0	0	11
Parainfluenza 3	2	1	0	0	2	0	5	1	10	13	11	9	54
Adeno	10	1	8	2	8	7	7	21	12	13	11	12	112
Enterov	4	0	2	1	2	7	6	3	3	4	5	3	40
RSV	4	4	4	11	20	27	167	329	184	38	5	7	800
Rhino	4	3	8	8	6	19	7	15	21	12	8	8	119
CMV	1	0	0	0	1	3	1	1	3	2	2	1	15
Rubella	0	0	0	0	0	0	1	1	0	0	0	0	2
Mumps	0	0	0	0	4	0	0	0	0	0	0	0	4
Measles	3	2	8	5	2	4	1	0	1	2	1	2	31
Mycoplasma	14	2	0	0	7	6	4	0	8	4	1	0	46

## RESPIRATORY VIRUSES

### Influenza

Influenza activity in 1998 occurred at the lowest level since the Influenza Surveillance Programme began to operate in New Zealand in its current form in 1990. The first influenza isolations during the surveillance period (May-September 1998) were reported from the Auckland region in May, with two sporadic cases of influenza B. In June, the influenza activity remained relatively low compared with previous years, with only nine cases of laboratory-confirmed cases of influenza A. The number of isolates began to increase in July. The 1998 influenza outbreak was characterised by two peaks, the first in early July and the second in the middle of August (Figure 9).

Figure 9. Laboratory-confirmed influenza isolates, January 1994 - September 1998

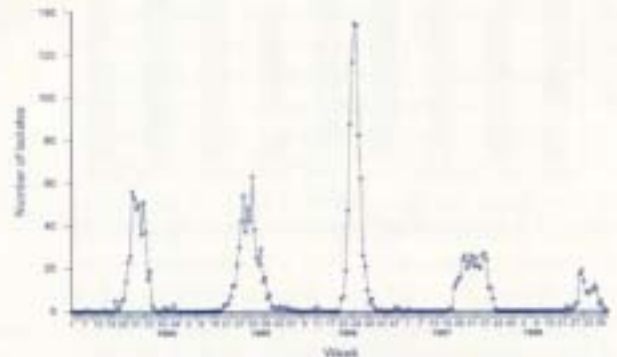
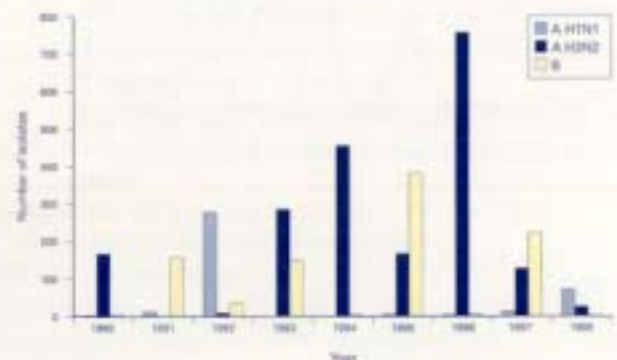


Figure 10. Laboratory-confirmed influenza isolates by type, 1990-1998



## ENTERIC VIRUSES

### *Viral gastroenteritis associated with Norwalk-like viruses or small round structured viruses (SRSVs)*

In 1998, SRSVs were detected in faecal specimens from 27 outbreaks of non-bacterial gastroenteritis. Most outbreaks occurred at restaurants and catered events (11) or in rest homes and hospitals (10). Foodborne transmission was common. A further three outbreaks occurred in camp or school situations. The sources for the other outbreaks (3) was unknown.

Faecal specimens were analysed by reverse transcription and polymerase chain reaction (RT-PCR) to determine the presence of SRSVs and further differentiated by dot blot hybridisation with specific probes. Nucleotide sequence analysis was carried out on representative outbreak strains.

Over the previous three years, the predominant New Zealand strain has been the Maryland/ Camberwell virus, which is genetically similar to the Bristol / Lordsdale virus group in Genogroup 2.<sup>1</sup> This group of closely related strains is common internationally and in New Zealand rest home and hospital outbreaks. During 1998, a wider range of SRSV strains has been observed. There were more from Genogroup 1 (the Norwalk-like group), rather than Genogroup 2, which have been most prevalent in New Zealand in previous years. Saratoga virus and Desert Shield virus were both first identified in New Zealand during 1998, along with German and Dutch strains. Southampton virus and Napier virus were also identified from a few outbreaks. Comparison of SRSV nucleotide sequences with international reference SRSV strains showed that the majority of New Zealand strains are the same as those occurring overseas.

Seventy faecal samples were examined for the presence of Sapporo-like viruses. These viruses are a newly recognised group also classified within the Caliciviridae. The Sapporo-like viruses are more closely related to rabbit calicivirus than the SRSVs. They cause gastroenteritis, especially in young children, and have been frequently associated with day care centre outbreaks overseas. However, only one outbreak associated with these viruses has been detected to date in New Zealand.

<sup>1</sup> *Lancet* 1998; 351: 17-8.

Influenza activity in New Zealand was caused predominantly by A/H1N1, similar to A/Johannesburg/82/96 viruses, which accounted for 55% of the 129 laboratory-confirmed influenza isolates (Figure 10). This is in contrast to other countries where A/H1N1 caused only sporadic outbreaks with no major activity. Most of the influenza activity worldwide in 1998 was due to A/H3N2, whereas it accounted for only 20% of laboratory-confirmed influenza isolates in New Zealand. Interestingly, there were two groups of A/H3N2 viruses identified: one which was typical A/Sydney/5/97-like and another which reacted with reduced titre to antisera to A/Sydney/5/97. These A/Sydney/5/97 low reacting strains were examples of the host-selected variation phenomenon because they regained reactivity to antisera against A/Sydney/5/97 directly after being passaged in embryonated eggs (Figure 10).

The Australian Influenza Vaccine Committee, with a New Zealand representative, met in Canberra in October 1998 to decide on the influenza vaccine composition for 1999. Based on isolate data from the southern hemisphere countries, such as Australia, South Africa and New Zealand, the recommended composition was:

- H1N1 an A/Beijing/262/95-like strain
- H3N2 an A/Sydney/5/97-like strain
- B a B/Beijing/184/93-like strain

### *Respiratory Syncytial Virus (RSV)*

RSV activity in 1998 was the second largest (800 cases) since 1990 (Figures 11 and 12). It had a rapid onset at the beginning of July (55 cases in week 28) and remained at that level through July and early August. The number of cases peaked in the middle of August with 90 cases in week 31 which was three weeks earlier than the 1997 peak (71 cases in week 34). The number of reported cases declined rapidly around the middle of October.

Figure 11. Annual laboratory-confirmed RSV cases, 1990-1998

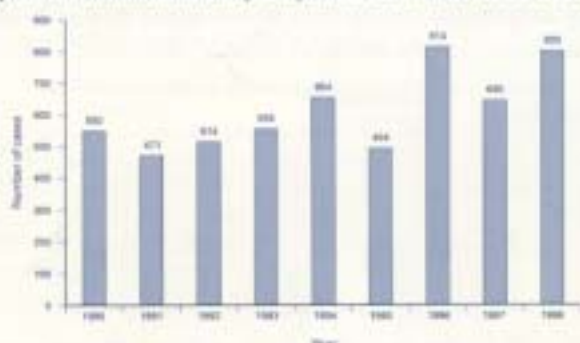


Figure 12. RSV laboratory-confirmed cases by week, 1994-1998

