Additional Reports

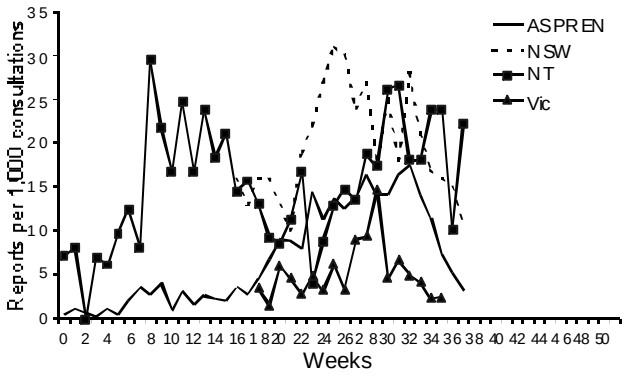
National Influenza Surveillance, 1999

Three types of data are included in National Influenza Surveillance, 1999. These are sentinel general practitioner surveillance conducted by the Australian Sentinel Practice Research Network, Department of Human Services (Victoria), Department of Health (New South Wales) and the Tropical Influenza Surveillance Scheme, Territory Health (Northern Territory); laboratory surveillance data from the Communicable Diseases Intelligence Virology and Serology Laboratory Reporting Scheme, LabVISE, and the World Health Organization Collaborating Centre for Influenza Reference and Research; and absenteeism surveillance conducted by Australia Post. For further information about these schemes, see CDI 1999; 23:56.

Sentinel general practitioner surveillance

Sentinel general practice influenza surveillance finished in Victoria on 6 September while other GP surveillance continued until 30 September 1999. Over the last 4 week reporting period the rate of reports of influenza consultations decreased in all sentinel reporting schemes except for the Northern Territory (Figure 2).

Figure 2. Sentinel general practitioner influenza consultation rates, 1999, by scheme

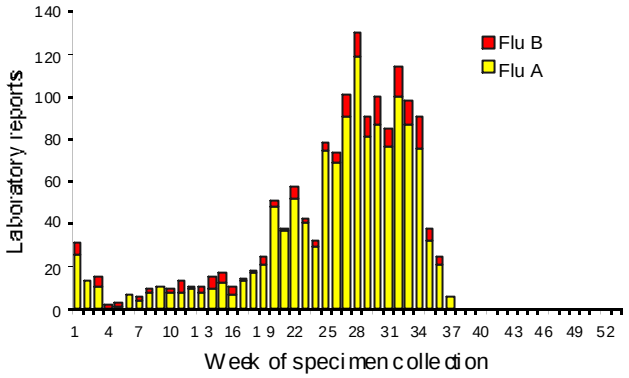


The rate of influenza consultations decreased to 3.2 per 1,000 consultations for the ASPREN surveillance scheme, 2.5 per 1,000 consultations for the Victorian surveillance scheme and 11.0 per 1,000 consultations for the New South Wales surveillance. In the Northern Territory the rate of influenza reporting decreased in the third week of the reporting period to 10.1 per 1,000 consultations but then increased again in the final week to 22.3 per 1,000 consultations. By the end of the reporting period influenza rates had almost returned to baseline levels for the Victorian and ASPREN surveillance schemes.

Laboratory surveillance

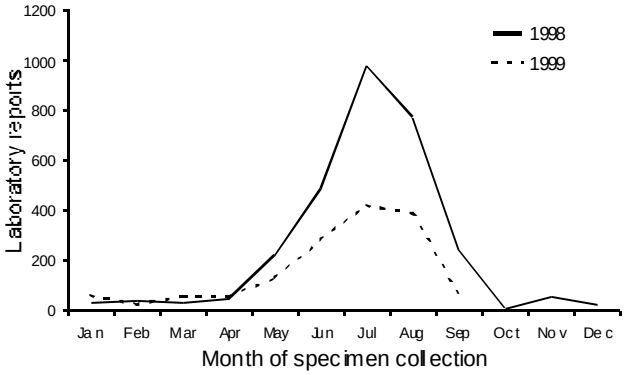
For the year to date until 19 September 1999, a total of 1,497 laboratory reports of influenza have been received. Of these, 1,323 (88%) were influenza A and 174 (12%) influenza B (Figure 3). For this reporting period, a total of 39 laboratory reports were received. Twenty-nine of these, (74%), were influenza A and 10 (26%) influenza B, representing a decrease in the number of laboratory reports of influenza and an increase in the proportion of influenza B reports (Figure 3).

Figure 3. Laboratory reports of influenza, 1999, by type and by week of specimen collection



Overall, the number of influenza laboratory reports has returned to baseline level. The peak level of laboratory reports occurred at a similar time but was much lower than in 1998.

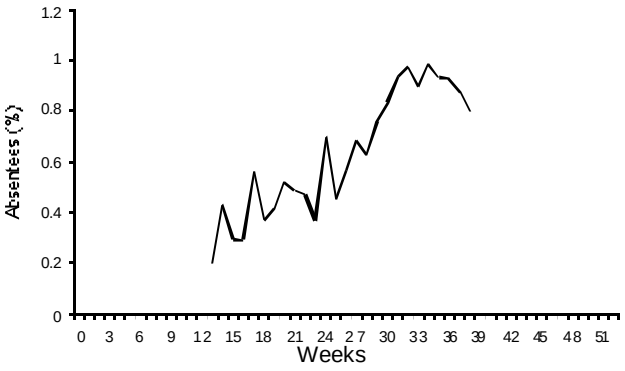
Figure 4. Laboratory reports of influenza, 1998-99, by month of specimen collection



Absenteeism surveillance

The average rates for the last 4 week reporting period until 29 September 1999 were 0.9% (0.88%) and the maximum rate 0.9% (0.93%). The trend was for the percentage of absentees to decrease from early September. The rate at the end of this reporting period (0.8%) remained higher than at the beginning of the reporting period (0.2%) (Figure 5).

Figure 5. Absenteeism rates in Australia Post, 1999



Sentinel Chicken Surveillance Programme

Sentinel chicken flocks are used to monitor flavivirus activity in Australia. The main viruses of concern are Murray Valley encephalitis (MVE) and Kunjin which cause the potentially fatal disease Australian encephalitis in humans. Currently 26 flocks are maintained in the north of Western Australia, seven in the Northern Territory, nine in New South Wales and ten in Victoria. The flocks in Western Australia and the Northern Territory are tested year round but those in New South Wales and Victoria are tested only from November to March, during the main risk season.

Results are coordinated by the Arbovirus Laboratory in Perth and reported bimonthly. For more information see CDI 1999;23:57-58

AK Broom,[1] JS Mackenzie,[2] L Melville,[3] DW Smith[4] and PI Whelan[5]

1. Department of Microbiology, The University of Western Australia
2. Department of Microbiology, The University of Queensland
3. Berrimah Agricultural Research Centre, Northern Territory
4. PathCentre, Western Australia
5. Department of Health and Community Services, Northern Territory

Sentinel chicken serology was carried out for 22 of the 27 flocks in Western Australia in July and August 1999. There were a number of seroconversions to MVE and Kunjin viruses in the Kimberley, Pilbara and Gascoyne flocks during this period. The number of chickens positive for flavivirus antibodies by ELISA at each site, and the virus (or viruses) they were infected with is shown in Table 6. Not all of these seroconversions have been confirmed. In response to the unusually late activity of MVE virus in the north of Western Australia the Health Department of Western Australia issued a media warning in mid September to warn residents and visitors to the region of the on-going risk of disease. Additional health warnings were sent via the Regional Public Health Units to Aboriginal communities in the region.

Table 6. Flavivirus seroconversions in Western Australian sentinel chicken flocks in July and August, 1999

Location	July 1999			August 1999			
Kimberley	MVE	MVE/KUN	FLAVI	MVE	KUN	MVE/KUN	FLAVI
Kalumburu		1					
Derby				1	1	1	
Broome	2						
Pilbara							
Port Hedland	1						
Harding Dam*	2		1	4		1	1
Karratha						1	
Newman	2						
Onslow				1	1		
Exmouth				1			
Gascoyne							
Carnarvon	1						

* 2 flocks of 12 chickens at these sites

MVE Antibodies to Murray Valley encephalitis virus detected by ELISA

KUN Antibodies to Kunjin virus detected by ELISA

MVE/KUN Antibodies to both MVE and KUN viruses detected by ELISA

FLAVI Antibodies to a flavivirus only (not MVE or KUN) detected by ELISA

Serum samples from all of the seven Northern Territory sentinel chicken flocks were tested in our laboratory in July and August 1999. There were two new, confirmed seroconversions to flaviviruses at Katherine in July 1999, one to MVE virus and one to Kunjin virus.

Childhood Immunisation Coverage

Tables 7 and 8 provide the latest quarterly report on childhood immunisation coverage from the Australian Childhood Immunisation Register (ACIR).

The data show the percentage of children fully immunised at age 12 months for the cohort born between 1 May and 30 June 1998 and at 24 months of age for the cohort born between 1 May and 30 June 1997, according to the Australian Standard Vaccination Schedule.

A full description of the methodology used can be found in CDI 1998;22:36-37.

Table 7. Percentage of children immunised at 1 year of age, preliminary results by disease and State for the birth cohort 1 April to 30 June 1998; assessment date 30 September 1999.

	State or Territory								
Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,027	21,794	941	12,427	4,638	1,479	15,153	6,492	63,951
Diphtheria, Tetanus, Pertussis (%)	89.5	86.1	85.9	89.3	90.0	88.2	89.3	87.2	88.0
Poliomyelitis (%)	89.5	86.0	85.2	89.2	90.1	88.0	89.2	87.3	87.9
Haemophilus influenzae type b (%)	89.1	85.4	88.9	89.7	89.8	87.6	88.6	87.2	87.7
Fully Immunised (%)	89.0	84.2	82.9	88.4	89.0	87.0	87.7	86.2	86.5
Change in fully immunised since last quarter (%)	+0.3	+0.7	+5.6	+0.4	+0.4	-0.7	-0.2	+0.3	-0.4

Table 8. Proportion of children immunised at 2 years of age, preliminary results by disease and State for the birth cohort 1 April to 30 June 1997; assessment date 30 September 1999[1]

	State or Territory								
Vaccine	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Australia
Total number of children	1,106	22,007	931	12,559	4,674	1,547	15,504	6,256	64,584
Diphtheria, Tetanus, Pertussis (%)	87.0	81.9	75.0	86.7	85.4	85.1	84.7	81.8	83.8
Poliomyelitis (%)	91.7	87.9	86.9	91.3	92.2	91.8	91.0	88.3	89.8
Haemophilus influenzae type b (%)	86.7	82.0	82.8	87.0	83.9	83.8	84.4	82.0	83.8
Measles, Mumps, Rubella (%)	91.2	86.5	87.3	90.8	90.1	90.2	89.7	87.8	88.7
Fully Immunised (%)[2]	83.8	72.2	67.1	81.1	76.8	77.1	77.3	73.4	75.9
Change in fully immunised since last quarter (%)	+2.4	+1.8	+9.3	+0.8	+5.2	+2.3	+2.6	+2.9	+2.4

1. The 12 months age data for this cohort was published in *CDI* 1998;22:123.
2. These data relating to 2 year old children should be considered as preliminary. The proportions shown as "fully immunised" appear low when compared with the proportions for individual vaccines. This is at least partly due to poor identification of children on immunisation encounter forms.

Acknowledgment: These figures were provided by the Health Insurance Commission (HIC), to specifications provided by the Commonwealth Department of Health and Aged Care. For further information on these figures or data on the Australian Childhood Immunisation Register please contact the Immunisation Section of the HIC: Telephone 02 6124 6607.

Rotavirus Surveillance

The National Rotavirus Reference Centre (NRRC) undertakes surveillance and characterisation of rotavirus strains causing annual epidemics of severe diarrhoea in young children throughout Australia.

There are currently twelve laboratories contributing data and rotavirus specimens for the characterisation of representative rotavirus serotypes.

The NRRC is happy to give and receive notifications of rotavirus outbreaks Australia-wide. The NRRC can be contacted at the Department of Gastroenterology and Clinical Nutrition, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052. Telephone: (03) 9345 5069, Facsimile: (03) 9345 6240, Email: masendyp@cryptic.fch.unimelb.edu.au.

January - July, 1999

This is the first of a quarterly report series on rotavirus surveillance.

Laboratory based rotavirus surveillance has commenced with the establishment of twelve sentinel centres collecting rotavirus positive specimens Australia-wide. In the first twelve months, it is estimated approximately 1,800 rotavirus positive specimens will be collected and forwarded to the National Rotavirus Reference Centre (NRRC) for analysis. The Centre will serotype representative rotavirus specimens with an in-house enzyme immunoassay (EIA) that uses a panel of monoclonal antibodies specific for the four major infecting serotypes (types G1, G2, G3 and G4). Specimens unable to be assigned a serotype by EIA will be analysed by reverse transcription/ polymerase chain reaction (PCR) using primers specific for the important human serotypes. Rotavirus serotypes detected, will be reported regularly in Communicable Diseases Intelligence quarterly.

Monthly reports of rotavirus positive cases for January-July 1999 (Figure 6) show three Australian regions that share similar rotavirus seasons. Townsville, Brisbane, Sydney, Melbourne and Hobart have been grouped together as the eastern region. All appear to have a distinct rotavirus peak beginning in June 1999. The central region (Darwin, Alice Springs and Adelaide) experienced a rotavirus peak in March-April 1999. Both adults and children were affected in the Northern Territory, with several adults in Alice Springs suffering severe rotavirus infection and requiring intravenous rehydration. Two collaborating centres represent the Western Australian region: the Princess Margaret Hospital, which screens Perth specimens, and the PathCentre, which receives specimens north of Perth.

Preliminary serotyping results for specimens received for June and July have shown serotypes G1 and G2 circulating in Perth, Melbourne and Alice Springs. The Australia-wide rotavirus serotype picture should become clearer when more rotavirus positive specimens are received from other collaborating centres.

Figure 6. Rotavirus laboratory reports, January to July, by month of specimen collection and region