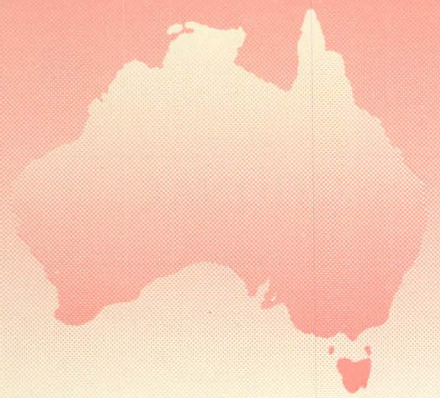

COMMUNICABLE DISEASES INTELLIGENCE

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Editor: Robert Hall

Editorial Staff: Jenny Hargreaves, Ponnuthurai Anura, Lenore Cupitt, Michelle Wood and Barbara Jenkins.

CDI is produced fortnightly by:
Communicable Diseases Section
Department of Health, Housing and Community Services
GPO Box 9848 Canberra ACT 2601
Fax: (06) 289 7802 Telephone: (06) 289 1555

DEPARTMENT OF HEALTH, HOUSING AND COMMUNITY SERVICES

COMMUNICABLE DISEASES NETWORK-AUSTRALIA
A National Network for Communicable Diseases Surveillance

HOSPITAL ACQUIRED INFECTIONS: A CROSS SECTIONAL PREVALENCE SURVEY

(Reproduced with acknowledgment from Monthly Infectious Diseases Report, The Children's Hospital Camperdown, No. 33, July 1992)

In July 1992 a team performed the fifth of our six-monthly cross-sectional surveys of hospital-acquired infection (HAI). The previous four studies were reported in *Monthly Infectious Diseases Report* No. 10 (August 1990), No. 16 (February 1991), No. 24 (July 1991) and No. 29 (March 1992) (*CDI* **15**:36-39, **15**:289-292, **16**:8-9 and **16**:360-361).

Every child in the hospital was visited and an assessment made as to whether the child had an HAI, defined as an active infection (child still on treatment) acquired during the current hospitalisation or as a result of a past hospital-based procedure, for example infection of a central venous catheter or intraventricular shunt. Children admitted with other infections or developing symptoms within the incubation period of the infection were deemed to have community-acquired infection (CAI).

The definitions used were as in the previous surveys. The statistical analysis is by odds ratio, with 95% confidence intervals (CI) given in brackets, and is statistically significant (p) if the lower CI is greater than 1.

Various risk factors known or suspected to be associated with HAI were examined (Tables 1 to 13).

Table 1. Duration of hospital stay and prevalence of HAI[1]

Hospital stay (days)	HAI%	Total
0-7	1 (1%)	103
8-14	2 (7%)	29
15-21	1 (8.5%)	12
>21	25 (21%)	24

1. Odds ratio (95% CI) for >14 days vs ≤14 = 7.3 (1.9 to 27.9); p = 0.003.

Table 2. Age and prevalence of HAI[1]

Age (months)	HAI (%)	Total
<1	1 (6%)	17
1-6	1 (4%)	25
7-12	1 (5%)	21
13-24	1 (7%)	15
25-36	0	13
37-48	1 (12.5%)	8
49-60	1 (12.5%)	8
>60	3 (5%)	61

1. No significant association between HAI and age.

Table 3. Sex and prevalence of HAI[1]

Sex	HAI (%)	Total
Male	7	93
Female	2	75

1. Odds ratio = 2.8 (0.6 to 13.2); p = 0.1.

Table 4. Intensive care and prevalence of HAI[1]

Intensive Care	HAI (%)	Total
Yes	2 (11%)	19
No	7 (5%)	149

1. Odds ratio = 2.2 (0.5 to 10.0); p = 0.1.

Table 5. Service and prevalence of HAI[1]

Service		HAI (%)	Total
Medical	General	2 (5%)	44
	Oncology	2 (18%)	11
	Other	3 (8%)	36
	All medical	7 (8%)	91
Surgical	General	0	16
	Orthopaedic	0	13
	Neurosurgical	1 (11%)	9
	Other	0	24
	All surgical	1 (2%)	62
Neonatal	Medical	1 (12.5%)	8
	Surgical	0	5
	Medical and Surgical	0	2
	All neonatal	1 (7%)	15

1. No significant difference: medical v. surgical v. neonatal.

Table 6. Surgery this admission and prevalence of HAI[1]

Surgery	HAI (%)	Total
Yes	2 (3%)	60
No	7 (6%)	108

1. p > 0.1.

Table 7. Immunosuppression and prevalence of HAI[1]

Immunosuppression	HAI (%)	Total
Yes	3 (17%)	18
No	6 (4%)	150

1. Odds ratio = 4.2 (1.1 to 15.2); p = 0.05.

Table 8. Endotracheal tube and prevalence of HAI[1]

Endotracheal tube	HAI (%)	Total
Yes	3 (27%)	11
No	6 (4%)	157

1. Odds ratio = 7.1 (2.1 to 24.7); p = 0.01.

Table 9. Urinary catheter and prevalence of HAI[1]

Urinary Catheter	HAI (%)	Total
Yes	0	7
No	9 (6%)	161

1. p > 0.05.

Table 10. Intravascular cannula and prevalence of HAI[1]

Any intravascular cannula	HAI (%)	Total
Yes	8 (9%)	88
No	1 (1%)	80

1. Odds ratio = 7.3 (1.2 to 56.9); p = 0.02.

Table 11. Nature of hospital-acquired infection

Nature of infection	Number
Pneumonia	3
Respiratory	2
Infected cannula	2
Gastroenteritis	1
UTI	1
Total	9

Table 12. Was the HAI preventable?

Not preventable	3
Possibly preventable	4
Definitely preventable	2

Table 13. Antibiotic use in oncology patients

Survey	Mean number of antimicrobials per patient (SD)
February 1991	3.94 (2.28%)
August 1991	3.07 (1.73%)
February 1992	2.10 (1.52%)
August 1992	3.47 (1.92%)

This survey was very similar in terms of the number of hospital-acquired infections and their perceived preventability, to the previous one. Exposure was also comparable in that there were similar numbers of children in hospital with community-acquired infections. The numbers of HAI are low, and reflect good attention to basic infection control measures such as hand-washing. It is important that these are maintained; lapses are most likely when the hospital is busy and short-staffed.

Sadly the oncology department's arithmetic fall towards zero antimicrobial use has been halted. This was obviously going to happen, but shows how important it is to have serial data before trying to reach conclusions. For example, we have now performed 5 studies at 6-monthly intervals and the rates of HAI have been 12.6%, 9.2%, 7.0%, 5.1% and now 5.4%. We could have published our results 6 months ago, and claimed superb results from some mythical intervention to reduce HAI (mythical since no such intervention was introduced). The latest figure may be a plateau, a hiccup, or the start of a new increase in HAI.

A MALARIA DEATH: THE PUBLIC HEALTH LESSONS

(Kath Taylor, Public Health Officer, Infectious Diseases Program, Health Department Victoria; reprinted with permission from Update, September 1992)

A young Victorian woman recently died from falciparum malaria. The 17 year old had travelled from Melbourne to Lagos in Nigeria, the trip lasting two weeks. Prior to the trip she and her brother had sought advice regarding anti-malarials but were told that prophylaxis was not needed.

One day after her return to Australia the young woman developed a fever. She consulted a local doctor on that day and was told she 'might have malaria', however, no tests were done and no treatment offered. The following day she appeared to be somewhat better, but late in the evening she became delirious and semi-conscious. She was taken to hospital and on arrival was hypotensive and not breathing. A 10% falciparium parasitaemia was diagnosed on admission but she did not respond to treatment and died about 36 hours later.

This tragic case outlines the need for awareness of the risk of travelling to a malarious area. It is known that malarial parasites have become more resistant to drugs and that prophylaxis may not give full protection, but anti-malarials should be recommended and taken regularly. In addition travellers must guard against being bitten by mosquitoes by the use of insect repellents, bed nets and appropriate clothing.

Update Editorial Note

Despite increasing overseas travel, deaths from malaria are very rare in Victoria, occurring less frequently than one per decade. However, this tragic and unnecessary death illustrates the need for a person planning to travel overseas to receive appropriate advice about prophylaxis prior to embarking. The emergence of resistance to anti-malarials in different geographical areas reinforces the need to tailor advice to the individual given their travel arrangements.

The case fatality rate in falciparum malaria can be very high, and individuals who are partly immune or have been taking inadequate anti-malarial prophylaxis may show an atypical clinical picture. Fever in any returning passenger requires prompt and thorough investigation with appropriate treatment. Diagnosis of malaria depends on the demonstration of malaria parasites in blood films, and repeated examination may be required where there is a low density of parasitaemia. Malaria is a notifiable disease, but there is significant under-reporting.

CDI Editorial Comment

This is the third person who is known to have died from malaria this year in Australia, and compares with a total of only 9 deaths from malaria in the decade 1981 to 1990.

The number of cases of malaria reported in Australia also continues to rise (*CDI* 1991;15:400-408) and a total of 939 cases were reported in 1991 (Australian Malaria Register, unpublished data). Five hundred and fifty-six cases have been notified to the National Notifiable Diseases Surveillance System so far this year.

The Australian Malaria Register data indicate that the risk of contracting malaria when visiting Africa is high in West Africa, and in Nigeria in particular. In 1990, 37 cases of malaria reported in Australia had Africa reported as the region of exposure, and of these, 16 were specified as West Africa, and 7 as Nigeria.

Malaria chemoprophylaxis and/or anti-mosquito measures are recommended for Australians travelling to the many malarious regions of the world. Whether or not chemoprophylaxis is required, and what type of drug is to be used is a complex issue. It depends not only on the traveller's destination (and therefore on the species of parasites present and their resistance to anti-malarial drugs), but also on the length of stay, type of accommodation, age of the patient, and whether or not a female traveller is pregnant of lactating.

Detailed information on malaria risks and prophylaxis is available in *Health Information for International Travel*, published by the Department of Health, Housing and Community Services in 1991. This book, which also covers other aspects of preventative medicine for travellers, is available from the Australian Government Publishing Service at a cost of $9.95. AGPS publications are available from the Commonwealth Governemnt Bookshops in each State and Territory:

Adelaide	(08) 237 6955
Brisbane	(07) 229 6822
Canberra	(06) 247 7211
Darwin (NT Government Information Centre)	(089) 89 7152
Hobart	(002) 23 7151
Melbourne	(03) 663 3010
Parramatta	(02) 893 8466
Perth	(09) 322 4737
Sydney	(02) 299 6737
Townsville	(077) 21 5212 or (008) 80 5896.

A 24 hour on-line telephone order service is available for callers outside these areas on 008 02 0049.

Similar information is also available by phoning the International Travel Health Info-Line on 06 269 7815. This service is a computer based telephone message system which includes regularly updated information on malaria and other travel health topics.

The Info-Line is available 24 hours a day, 7 days a week, from any tone-dialling, push button telephone. Malaria information is accessed in this system by pressing 1 (to hear the main menu) and then 3 (to select malaria information).

COMPOSITION OF THE AUSTRALIAN INFLUENZA VACCINE FOR THE 1993 WINTER

In October, the Influenza Vaccine Committee met and decided on the composition of the influenza vaccine for the 1993 Australian winter. The vaccine is to contain 15 micrograms haemagglutinin of each of the following influenza viruses:

an A/Texas/36/91 (H_1N_1) - like strain

an A/Shanghai/24/90 (H_3N_2) - like strain

a B/Panama/45/90 - like strain.

Since 1977, two subtypes of influenza A (H_1N_1 and H_3N_2) and influenza B have circulated worldwide and over the last year influenza A strains have replaced influenza B as the predominant viruses.

During this period a number of countries have experienced significant outbreaks of influenza A and most disease has been caused by viruses of the H_3N_2 subtype. This year both Australia and New Zealand experienced influenza A outbreaks but due to different subtypes - H_3N_2 in Australia and H_1N_1 in New Zealand. Influenza activity in Australia was at its highest level for three years.

Influenza A H_1N_1

Over the last three years, the A/Beijing/353/89 variant has emerged as the predominant influenza A H_3N_2 strain. A/Beijing-like viruses were responsible for outbreaks during 1990 in New Zealand and subsequently spread throughout most of the world. The majority of virus isolates from the last northern winter were closely related to A/Beijing as were those from Australia this year. Occasional H_3N_2 strains related to a different variant, A/Shanghai/24/90 were also found during the northern winter and in Australia and, while still low in numbers, recent WHO surveillance indicates that these are becoming predominant in some areas where the A/Beijing-like viruses have circulated previously. Antibody screening suggests that there is little immunity to A/Shanghai-like viruses in the Australian population.

Influenza A H_3N_2

In recent years, viruses of the influenza A H_1N_1 subtype have been associated with sporadic disease and occasional outbreaks, however, during the last northern winter there were signs of increasing activity and the emergence of a new variant, A/Texas/36/91. Although outbreaks occurred in Japan and the eastern USA, H_1N_1 viruses were usually in the minority, often following H_3N_2 outbreaks, and 30-40% of isolates from Europe and the USA were A/Texas-like viruses. Subsequently, the H_1N_1 subtype has been predominant in outbreaks in Argentina and New Zealand and over 60% of isolates from New Zealand were found to be A/Texas-like viruses.

Influenza B

Two families of influenza B, B/Victoria/2/87-like and B/Yamagata/16/88-like viruses, have co-circulated during the last few years, however, the number of B/Victoria-like isolates has continued to diminish. While there has been little recent influenza B activity, the majority of isolates, including a number obtained late in the 1992 season from New Zealand, have been most closely related to B/Panama/45/90, a further minor drift variant of B/Yamagata.

AUSTRALIAN HIV SURVEILLANCE REPORT, VOLUME 8 NUMBER 9, 30 SEPTEMBER 1992

The National Centre in HIV Epidemiology and Clinical Research reports that as of 31 August 1992, a total of 16,441 diagnoses of HIV infection and 3,484 cases of AIDS had been reported in Australia. For the period 1 to 31 August 1992, 10 new cases of AIDS and 92 new diagnoses of HIV infection were reported.

The cumulative figures are subject to retrospective revision, so there may be discrepancies between the number of new cases for the reporting month and the increment in the cumulative figure from the previous report.

The following tables provide more detailed information on a State/Territory basis (Table 1 and 2).

Table 1. New diagnoses of AIDS and deaths from AIDS occurring during the period 1 to 31 August 1992 and cumulative to 31 August 1992, by sex and State/Territory in which diagnosis was made

State/ Territory	August 1992		Cumulative to 31 August 1992					
			Cases[2]			Deaths[2]		
	Total Cases[1]	Total Deaths[1]	Male	Female	Total	Male	Female	Total
ACT	0	2	41	2	43	32	1	33
NSW	2	11	1,985	63	2,050	1,307	40	1,348
NT	1	0	12	0	12	6	0	6
Qld	0	5	286	9	296	184	7	192
SA	0	1	133	7	140	79	2	81
Tas	1	0	19	1	20	13	1	14
Vic	6	1	738	14	754	505	9	515
WA	0	0	161	8	169	100	3	103
Total	10	20	3,375	104	3,484	2,226	63	2,292

1. All males unless otherwise specified.
2. Persons whose sex was reported as transsexual are included in the cumulative totals.

Table 2. Number of new diagnoses of HIV infection in the period 1 to 31 August 1992 and cumulative diagnoses since the introduction of HIV antibody testing to 31 August 1992, by sex and State/Territory

State/ Territory	August 1992	Cumulative to 31 August 1992			
	Total[1]	Male	Female	Sex not reported	Total[6]
ACT	0	131	7	0	138
NSW[2]	55	8,566	441	2,042	11,054
NT	1	62	6	0	68
Qld[3]	13	1,088	58	2	1,151
SA	5	468	33	0	501
Tas	1	62	3	0	65
Vic[4]	15	2,675	110	65	2,857
WA	2	573	33	0	607
Total[5]	92	13,625	691	2,109	16,441

1. All males unless otherwise specified.
2. Total for NSW for August includes 4 females and 2 persons whose sex was not reported.
3. Two new diagnoses in Queensland in August were females.
4. Two new diagnoses in Victoria in August were females.
5. Eight new diagnoses in August were females.
6. Sixteen persons (5 New South Wales, 3 Queensland, 7 Victoria and 1 Western Australia) whose sex was reported as transsexual are included in the total.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization, and by the Communicable Disease Surveillance Centre, London.

Cholera Update

Iran has reported its first cases of cholera in recent times, and Khuzestan and Kurdestan Provinces have been declared infected. Other newly infected areas are Estele and Rivas Departments in Nicaragua, Limon Province in Costa Rica, Morrumbene District (Inhambane), Manihica District (Maputo) and Moatize District (Tete) in Mozambique.

Cases for September and October have been reported for Belize, Bolivia, Brazil, China, Costa Rica, El Salvador, Guatemala, Honduras, Iraq, Mozambique, Nicaragua, Panama, Singapore, Uganda and Venezuela.

Poliomyelitis in the Netherlands

An epidemic of poliomyelitis has occurred in the southwest of the Netherlands. Four cases (three paralytic and one non-paralytic) have been notified, in patients aged 7 to 40 years. The cases are members of the Dutch Orthodox Reformed Church who decline immunisation on religious grounds. A wild strain of type 3 poliovirus has been identified in stools from the patients and from two household contacts. Investigation at the religious school attended by the first case has shown that 20% of the pupils have evidence of recent poliovirus infection (type 3 specific IgM), whereas only 2% of students at a nearby non-religious school, where vaccine coverage is high, had evidence of recent infection.

The two provinces which form the catchment area for the school attended by the index case have been designated risk regions, and individuals who may have been in contact with cases have been offered oral polio vaccine. In other parts of the country, unvaccinated or partly vaccinated persons aged 40 years or less, have been offered immunisation with inactivated polio vaccine, the vaccine used routinely in the Netherlands.

An epidemic due to type 1 poliovirus occurred in the same religious community in 1978. One hundred and ten cases of polio were reported and over half a million individuals were estimated to have been infected. The epidemic involved the same school as the current epidemic and no cases occurred outside the community.

The British Department of Health has advised that individuals travelling to the Netherlands do not require extra doses of polio vaccine unless visiting members of the Orthodox Reformed Church.
(*Communicable Disease Report* 1992;**2**:185)

Meningococcal Meningitis in Burundi

An epidemic of meningococcal meningitis has caused 1,239 cases and 215 deaths in Burundi since 19 August. The Burundi national health authorities are advising all travellers to Burundi to be vaccinated against meningococcal meningitis caused by serogroups A and C, and that this measure is to remain valid until at least 2 November.

CDI NOTICE TO READERS

CDI Address Labels

Since our last issue we have introduced a new computer program for the address list for mailing *CDI*.

Should there be any incorrect details with your address label please return the flyer with amended details or call Lenore Cupitt on (06) 289 8107.

COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 1,904 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 6, 7 and 8).

- **Influenza** reports have decreased markedly recently, and this fortnight there were only 55 reports. A total of 41 were untyped **influenza A** (2 isolations, 1 antigen detection and 38 serological diagnoses - 37 single high titres, 1 four-fold change), and 14 of **influenza B** (1 isolation, 1 antigen detection, 1 four-fold change and 11 single high titres).

Figure 1. Influenza A H_3N_2 and untyped influenza A laboratory reports from reporting laboratories in South Australia, New South Wales and Queensland, 1992, by month of specimen collection

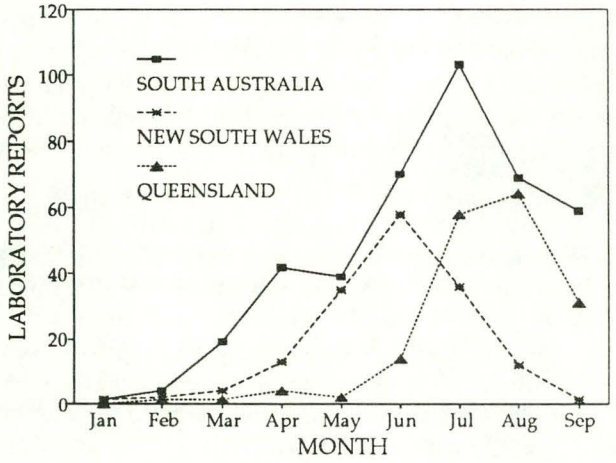
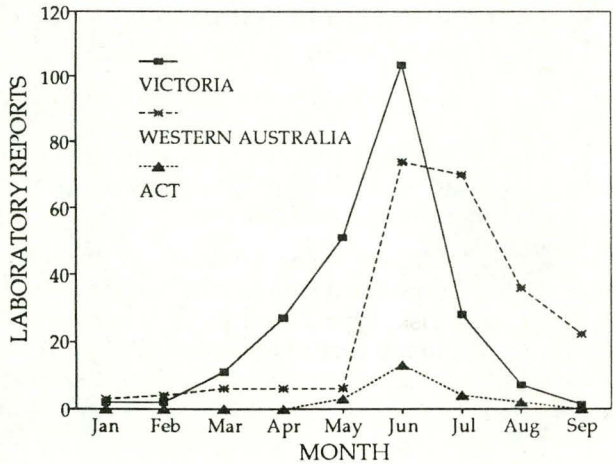


Figure 2. Influenza A H_3N_2 and untyped influenza A laboratory reports from reporting laboratories in Victoria, Western Australia and the ACT, 1992, by month of specimen collection

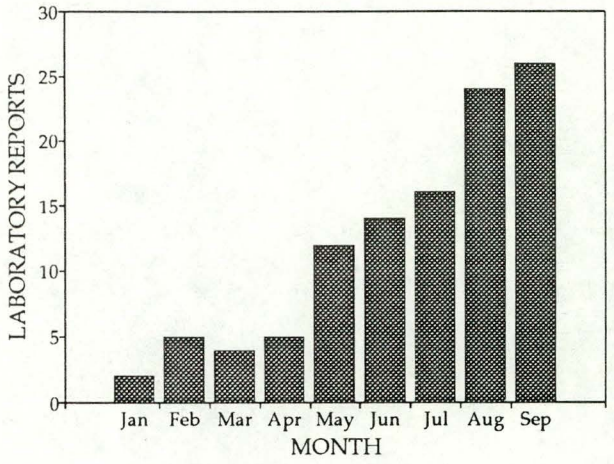


1992 has not been an epidemic year for influenza B, and only 112 reports of this virus have been received. They have, however, been increasing in recent months, and 26 have been received with September specimen collection dates (Figure 3). Thirty-five reports have been from Western Australia since June, including 5 isolations, 6 antigen detections, and 4 IgMs or four-fold changes. Influenza B reports usually peak in August-September in epidemic years in Australia.

This year, influenza A and influenza A H_3N_2 reports peaked in June in Victoria, the ACT and New South Wales, in July in South Australia, in June-July in Western Australia, and in July-August in Queensland (Figures 1 and 2).

- **Ross River virus** infection was reported for 32 patients this fortnight (all IgM). Specimen collection dates ranged between July and October, and locations reported were Brisbane, Gold Coast, Bundaberg, Cairns, Maryborough, Rockhampton, Sunshine Coast, Thursday Island, Townsville and Western Queensland, Armadale, Kalgoorlie and Kununurra in Western Australia, and Darwin.
- **Barmah Forest virus** infection was reported for 8 patients (all IgM). One report was from Darwin (August sepcimen collection date), and the remainder were from Queensland (Townsville, Brisbane and not stated, specimen collection between July and October).
- There were 49 reports of **dengue 2** (all IgM). Most were from Townsville and had specimen collection dates in July (35), August (12) and September (1).

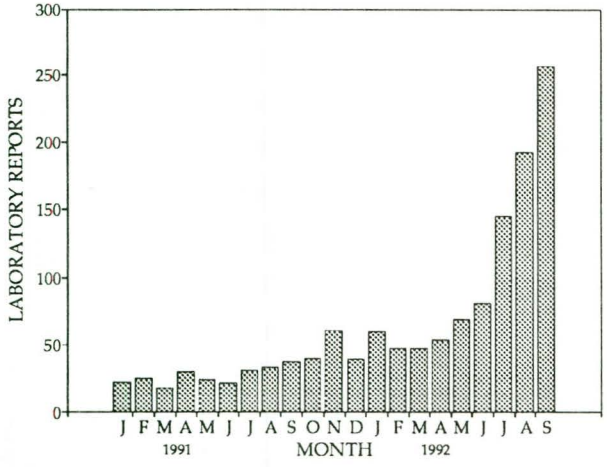
Figure 3. Influenza B laboratory reports, 1992, by month of specimen collection.



One report was in a 25 year old female who had returned from a trip to Indonesia.

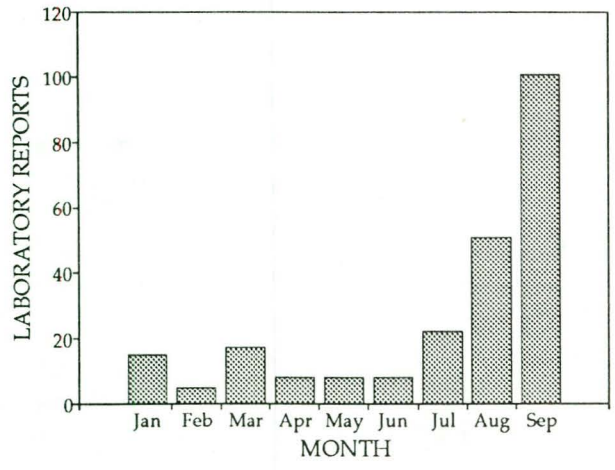
- The cyclical rise in the number of reports of *Mycoplasma pneumoniae* infection is continuing (Figure 4), and this fortnight, there were a further 114 reports. The total for the year is now 992, more than for any year since 1988, which was the last year in which there was increased activity of this organism in Australia. Reports from laboratories in New South Wales, Queensland, Victoria, Western Australia and South Australia have all increased over the last few months.

Figure 4. *Mycoplasma pneumoniae* **laboratory reports, 1991 and 1992, by month of specimen collection**



- **Rubella** was reported for 80 patients this fortnight, bringing the total for September to 101, many more than is usually recorded, and the total for the year to 262 (Figure 5). One patient was a female who was 6 weeks pregnant, and had a history of vaccination and antibody. There were six other reports in females of reproductive age, and one of the 60 reports in males was a 21 year old male whose fiancée was 7.5 weeks pregnant. Four reports in teenage males were associated with an outbreak in a boys' boarding school in Queensland.

Figure 5. Rubella laboratory reports, 1992, by month of specimen collection



The number of reports of rubella from laboratories in Queensland, New South Wales, Victoria and Western Australia have increased markedly over the last few months. A total of 175 of the 262 reports received this year have been in males, and 162 of these in the age group 5 to 44 years. Forty-six reports have been in females between the ages of 15 and 44 years.

- The seasonal peak in reports of **respiratory syncytial virus** has now passed, and there were only 54 reports of this virus this fortnight, including 1 in a 7 day old male. This year, July was the month of specimen collection for the largest number of reports (1,043).
- There were 186 reports of **rotavirus** this fortnight. The number of reports of this virus this year has been about the same as the average for recent years, and peaked in August-September.
- Twenty-one reports of **hepatitis A** were received, 17 in males and 4 in females. Overseas travel was reported as the risk factor for one patient, a 19 year old female.
- There were 119 reports of **hepatitis B**. Included were 2 pregnant females, a 10 year old male whose father was a carrier, and a 32 year old female whose husband was a carrier.
- **Hepatitis C** was reported for 118 patients. A history of injecting drug use was reported for 20 patients (1 also tattoos, post-partum), 1 patient had a history of blood transfusion, 2 were pregnant, 1 was the defacto spouse of a hepatitis C postive person, 1 was a hospital staff member for whom contact with a hepatitis C positive patient's saliva was the reported risk, 1 had contact with a hepatitis C positive prisoner as the reported risk.
- Reports of many types of **adenoviruses** are increasing, as is usual at this time of year in Australia. This fortnight, **untyped adenovirus** was reported from post mortem heart, lung and trachea tissue of a 2 year old female who had suffered SIDS, and from lymph node tissue of a 2 year old male.
- There were 2 reports of **adenovirus type 11**, one in a 24 year old male bone marrow transplant patient who had haemorrhagic cystitis. This virus is often associated with HIV positive patients and other immunocompromised persons.
- **Herpes simplex virus** reports this fortnight included a type 1 in a patient with malignancy as the reported risk, type 2 in 2 pregnant females, and untyped in a 6 year old female with Down's Syndrome and acute lymphoblastic leukaemia.

Table 1. Australian Sentinel Practice Research Network, Weeks 42 and 43, 1992

Condition	Week 42, to 18 October 1992		Week 43, to 25 October 1992	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	25	3.6	21	3.4
Measles	0	0	1	0.2
Mumps	0	0	0	0
Rubella	4	0.6	2	0.3
Pertussis	0	0	0	0
Genital herpes	5	0.7	2	0.3
Gastroenteritis	91	13.1	76	12.5

- Fifteen reports of **parvovirus** were received, bringing the total for the year to 117. One patient was the 29 year old mother of a hydropic infant.
- There were 4 further reports of **echovirus type 7** this fortnight, all from Victoria. Meningitis and/or CSF isolate was reported for 3 patients, and pericarditis for the fourth, a 56 year old male. This virus is usually very rare in Australia; 5 or fewer reports of it have been received each year since 1987, however there was a large outbreak during 1985.
- There were 3 more reports of **echovirus type 25** received from New South Wales laboratories this fortnight, and 1 from Victoria. There have now been 8 reports of this virus since July; it is usually rare in Australia; fewer than 10 cases have been reported in most years.
- There were 80 reports of **cytomegalovirus** infection. Included were 3 HIV positive patients (one of whom died), 1 patient with a history of heart transplant, 2 congenitally infected infants, and 1 patient who was pregnant. The virus was also isolated from post-mortem lung tissue of two other male patients, one also with lymphoblastic lymphoma. Cardiac symptoms were reported for a 40 year old male, and hepatic symptoms for 2 female patients, aged 66 years, and 70 years.
- There were 2 reports of *Chlamydia pneumoniae* infection. For a 16 year old female patient, the risk factor was described as 'sick budgies'.
- **Q fever** was reported for 14 patients, all adults. Twelve were males and two were females. Hepatic disease was reported for a 47 year old male patient, chest pains for a 50 year old female, and joint disease for an 18 year old male. Two of the patients were described as meat workers, and one of these was known to have been unvaccinated.
- A single case of *Rickettsia australis* infection was reported. The patient was a 61 year old male for whom joint and skin disease were the reported symptoms.
- **Syphilis** was reported for 39 patients. Included were an HIV positive male, 2 pregnant females, a 29 year old female being investigated with regard to suspected congenital syphilis in her baby, and a male aged less than 1 month.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 6,923 patient encounters in Week 42 and 6,094 patient encounters in Week 43 (Table 1). The rate of reporting of influenza declined markedly this fortnight. Gastroenteritis continues to be reported at a rate of about 13 per 1,000 encounters.

Victorian Influenza Surveillance System

Results from Fortnights 10 and 11 for the Victorian Influenza Surveillance system are included in this issue of *CDI* (Table 2). This system is operated by the Infectious Diseases Unit of the Health Department Victoria and includes surveillance data supplied by sentinel general practices, diagnostic laboratories, hospitals, schools and industry. Total deaths (which usually increase during influenza epidemics) are also being monitored.

The rates of influenza, as detected by the sentinel general practices and by the laboratories, has continued to decline over the last 2 fortnights.

(Raina MacIntyre, Health Department Victoria)

National Notifiable Diseases Surveillance System, 4 October to 17 October 1992

A total of 2,287 reports of notifiable diseases was received during this period and all were in a format suitable for analysis (Tables 3, 4 and 5, Figure 8). In this report statistical divisions used by the Australian Bureau of Statistics are used for geographical analysis.

- There were 65 notifications of **Ross River virus infection** received this period, for a total to date of 5,145. Forty-five of the cases had onset dates recorded as September and 13 were recorded as October. All were from coastal Queensland statistical divisions except for 7 from the Hunter division of New South Wales. There were 37 males and 28

Table 2. Victorian Influenza Surveillance System, Fortnights 10 and 11 1992 (7 September to 2 October 1992)

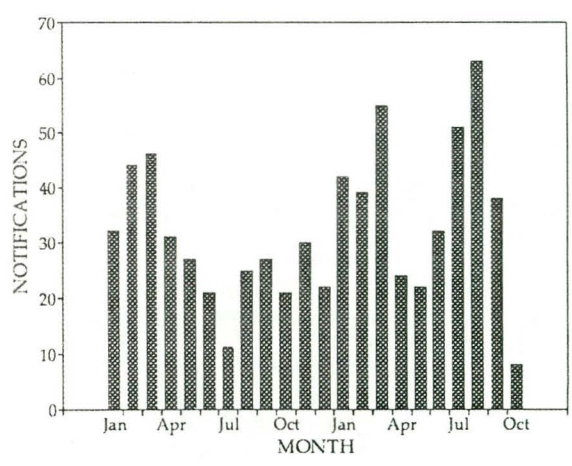
	Fortnight 10 7 September to 18 September	Fortnight 11 21 September to 2 October
General Practices (34) Influenza cases per 100 patients seen	0.5	0.3
Laboratories (2) Influenza cases (per 100 specimens)	2 (1.6)	0 (0)
Hospitals (3) Admissions with influenza and/or pneumonia (per 100 admissions)	40 (0.8)	32 (0.7)
Schools (30) Total absenteeism, Tuesday per 100 persons[1]	11	
Industry (2) Total absenteeism, per 100 employees	5.2	6.4
Deaths, from all causes Total per 10,000 population	3.3	2.6

1. School holidays in Fortnight 11.

females. Ages ranged from the 10-14 to the 80-84 years age groups.

- A further 42 notifications of **dengue** were received, from Townsville and surrounds and Brisbane. Onset dates for these cases were recorded as July (40) and August (2). There were 18 males and 24 females. To date there have been 307 notifications of dengue.
- There was a single report of **brucellosis** in a male in the 25-29 years age group, from rural Queensland.
- There were 91 notifications of **gonococcal infection** reported, to bring the total for the year to date to 2,167. Of the cases reported this period, 74 were in males and 17 were in females. Two cases (1 male and 1 female) were recorded in the 5-14 years age groups.
- Eleven notifications of *Haemophilus influenzae* **type b infection** were reported. Of these, 5 were in males and 6 were in females and all were aged less than 5 years. Two cases were reported with onset dates within 2 days from the same postcode area.
- A total of 53 cases of **hepatitis A** was reported this period. They were predominantly from rural areas of Queensland and New South Wales. The sex was recorded as male in 36 and female in 17 cases. Age was not recorded in 2 cases and 17 of the cases were aged less than 15 years.
- Six cases of **hydatid infection** were reported this period. They were from Brisbane (4), Melbourne and central Victoria (1 each). Ages ranged from the 25-29 to the 75-79 years age groups, 3 were males and 3 females.
- There were 3 notifications of **legionellosis** received. Twowere males and the other female, ages were reported as being in the 10-14, 30-34 and 65-69 years age groups. There was no apparent clustering. There have been 127 cases of legionellosis notified so far this year.
- Five notifications of **leptospirosis** were received, bringing the total so far this year for this disease to 86. Notifications this period were all in males in the 20-24 to 40-44 years age groups. One case was reported from the Adelaide statistical division, the others were from rural areas of Queensland and Victoria.
- Two cases of **listeriosis** were notified, in females in the 30-34 years age group. There have been 25 cases of listeriosis notified to date this year.
- There were 40 notifications of **measles** received, bringing the total for the year to 648. Twenty-two were males, 17 females and the sex was not recorded in 1 case. Age was not recorded in 2 cases, a single case was aged less than 1 year, and the average reported age was 15.2 years. There were 5 apparent clusters of 2 cases each in 5 different postcode areas, with reported dates of onset separated by intervals of 1 to 24 days.
- There were 33 notifications of **pertussis** this period. Nine of the cases were in males and 24 were in females; 9 were aged less than 5 years and 4 aged less than 1 year. There were 3 apparent clusters of 2 cases each and one of 3 cases in 4 different postcode areas, with reported dates of onset separated

Figure 6. Pertussis notifications, 1991 and 1992, by month of onset



by intervals of 0 to 30 days. There have been 388 notifications received of pertussis to date in 1992, compared with 275 to 17 October 1991. There has been an increase of activity of pertussis since June this year, earlier than the seasonal increase observed in 1991 (Figure 6). The last major increase in pertussis was in 1989-1990 (*CDI* 1990;(6):4-8).

- There were 11 cases of **meningococcal infection** reported, 1 male and 10 females. The total for the year is 191 cases. Four of the cases were aged less than 5 years. All cases were apparently epidemiologically unrelated.
- There were 22 notifications of **Q fever** reported this period, 21 males and 1 female to bring the total notifications for the year so far to 354. Cases were reported predominantly from rural areas of New South Wales, Queensland, and South Australia, and from Adelaide and Brisbane.
- The **rubella** epidemic continued this period. A total of 438 notifications was received. Sex was recorded as male in 303, as female in 129, and was not recorded in 6. The total cases to date this year is now 1,466. The increase in the number of cases with onset dates after July has risen further (Figure 7). Of the female cases, 38 were in the 15-44 years age group; of the males, 43 were in the 10-14 years age group, 115 in the 15-19 years age group and 49 were in the 20-24 years age group. For the sexes combined, 1 case was aged less than 1 year, and the mean age was 17.3 years. There were 76 apparent clusters in separate postcode areas with 2 to 28 cases in each cluster.
- There were 92 reports of **syphilis** notifications, 52 were in males and 40 were in females. Two cases were recorded as being aged less than 15, 1 was aged less than 1 year.
- There were 2 cases of **tetanus** notified, in a female in the 74-79 years age group and in a male in the 10-14 years age group. Total tetanus notifications now stand at 12 this year.

Figure 7. Rubella notifications, 1992, by month of onset

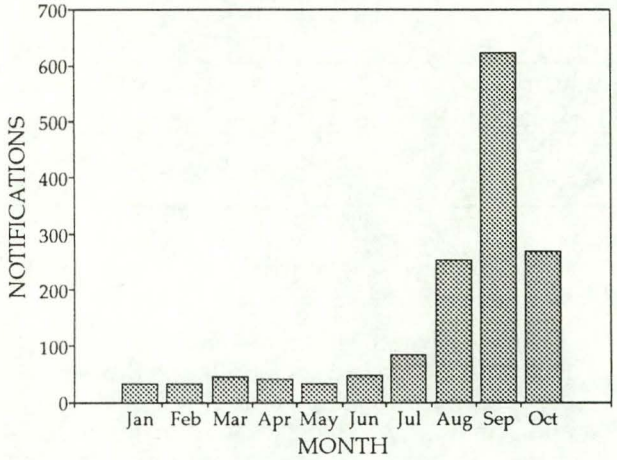
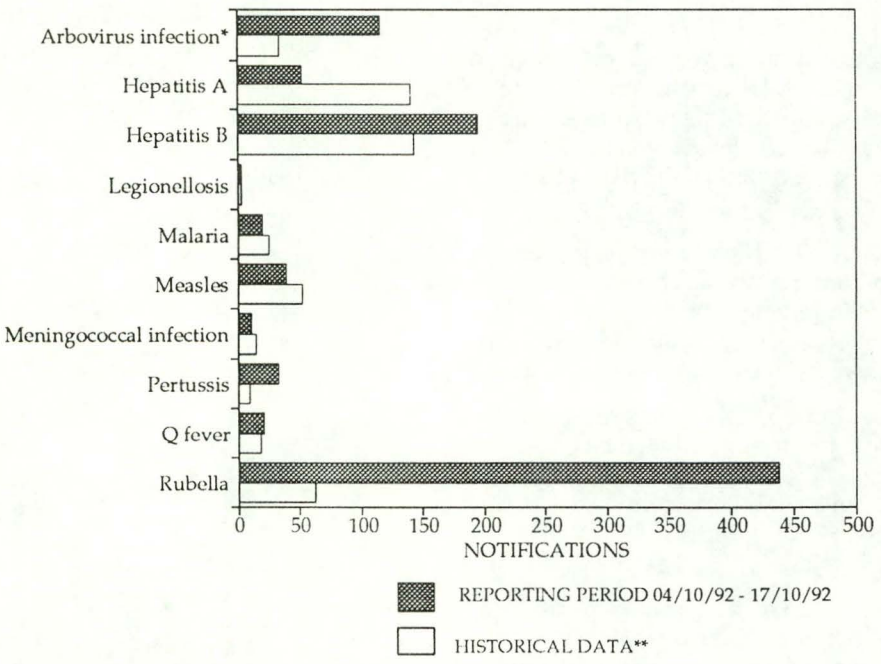


Figure 8. Selected National Notifiable Diseases Reports, and historical data **



* Includes Ross River virus and Dengue

** The Historical data are the averages of the number of notifications in 3 previous 2-week reporting periods: the corresponding periods of last year and the periods immediately preceding and following it.

Table 3. Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 4 October to 17 October 1992

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This Period 1992	This Period 1991	Year to Date 1992	Year to Date 1991
Diphtheria	0	0	0	0	0	0	0	0	0	0	12	7
Measles	6	3	1	7	2	0	20	1	40	52	648	996
Mumps	0	1	NN	NN	NN	NN	0	NN	1	NN	12	NN
Pertussis	0	2	0	23	0	0	7	1	33	9	388	275
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	120	15	0	82	2	0	219	0	438	37	1466	477
Tetanus	0	0	1	NN	0	0	1	0	2	0	12	6

1. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision, so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
2. NT, Tas, WA: CRS only; ACT, NSW, Qld: rubella only; SA, Vic: rubella and CRS.

NN Not Notifiable.

Table 4. Other Notifiable Diseases[1], for the reporting period 4 October to 17 October 1992

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This Period 1992	This Period 1991	Year to Date 1992	Year to Date 1991
Arbovirus infection (NEC)[3]	0	0	1	8	0	0	0	0	9	2	282	179
Ross River virus infection	0	1	6	58	0	NN	0	NN	65	26	5145	3388
Dengue	0	-	0	42	-	NN	0	NN	42	1	307	43
Campylobacteriosis[4]	8	-	15	188	114	25	66	12	428	381	6607	6512
Chlamydial infection (NEC)	1	NN	32	111	0	29	39	0	212	130	4466	3175
Donovanosis	0	NN	0	0	NN	NN	0	0	0	5	62	56
Gonococcal infection[5]	0	14	23	24	0	0	14	16	91	100	2167	1932
Haemophilus influenzae type b[6]	0	2	NN	4	0	0	5	NN	11	27	343	442
Hepatitis A	2	11	5	25	2	2	5	1	53	104	1396	1537
Hepatitis B	8	48	1	59	0	4	74	1	195	113	4744	3014
Hepatitis C	19	62	4	178	NN	8	38	NN	309	222	5907	3052
Hepatitis (NEC)	0	2	0	1	0	0	0	NN	3	2	45	236
HIV infection[7]	1	2	0	0	0	1	0	0	4	0	198	33
Legionellosis	0	0	0	2	0	0	0	1	3	3	127	84
Leptospirosis	0	0	0	1	1	0	3	0	5	7	86	120
Listeriosis	0	0	NN	0	NN	0	2	0	2	1	25	33
Malaria	1	1	0	14	0	1	2	1	20	26	555	650
Meningococcal infection	0	2	0	3	1	0	5	0	11	14	191	222
Ornithosis	0	NN	0	0	1	0	3	0	4	9	73	92
Q fever	0	8	0	9	4	0	1	0	22	16	354	521
Salmonellosis (NEC)	0	10	7	37	8	6	16	2	86	142	3644	4544
Shigellosis[4]	1	0	8	4	2	1	6	2	24	24	512	737
Syphilis	0	11	44	33	0	0	0	4	92	82	1865	1586
Tuberculosis	2	7	0	4	4	0	46	0	63	18	634	430
Typhoid[8]	0	0	0	0	0	0	0	0	0	1	37	59
Yersiniosis[4]	0	-	1	6	4	0	1	0	12	8	481	419

1. For rarely notified diseases, see Table 5.
2. Totals comprise data from all States and Territories. Cumulative figures are subject to retrospective revision so there may be discrepancies between the number of new notifications and the increment in the cumulative figure from the previous period.
3. NSW, SA, Tas: includes Ross River virus and dengue. WA: includes dengue.
4. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.
5. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
6. SA: only as 'bacterial meningitis'; meningococcal infection is separately notified; Tas: only as 'non-meningococcal meningitis'; Vic: epiglottitis and meningitis only.
7. More complete data on new diagnoses of HIV infections are presented in the monthly *Australian HIV Surveillance Report*.
8. NSW and Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 5. Rarely Notified Diseases[1] for the reporting period 4 October to 17 October 1992

DISEASES	Total this period	Reporting States or Territories	Year to date1992
Botulism			0
Brucellosis	1	Qld 1	17
Cholera			3
Chancroid			5
Hydatid infection	6	Qld 4, Vic 2	32
Leprosy			10
Lymphogranuloma venereum			3
Plague			0
Rabies			0
Yellow fever			0
Other viral haemorrhagic fevers			0

1. Fewer than 50 cases of each of these diseases were notified each year during the period 1986 to 1991.

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 7 October to 20 October 1992, historical data[1], and total reports for the year

	STATE OR TERRITORY OF REPORTING LABORATORY							Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA										
Measles virus			7	5		1		13	11.2	150
Mumps virus			2			1	1	4	1.2	41
Rubella virus	1	2	52	6	1	10	8	80	12.5	304
HEPATITIS VIRUSES										
Hepatitis A virus		4	16				1	21	13.2	295
Hepatitis B virus	3	53	36	1		9	17	119	98.8	1,949
Hepatitis C virus	19		39	41			19	118	32.8	2,001
Hepatitis D virus			1					1	.5	40
ARBOVIRUSES										
Ross River virus			27				5	32	5.8	1,229
Barmah Forest virus			7				1	8	.2	218
Dengue type 1			1					1	.7	8
Dengue type 2			48				1	49	.2	286
Dengue not typed			1					1	1.7	68
Kunjin virus			1					1	.0	10
Flavivirus (unspecified)			2					2	1.2	31
ADENOVIRUSES										
Adenovirus type 1		1		1				2	6.3	82
Adenovirus type 2		1				4		5	8.8	105
Adenovirus type 3		1		4				5	3.0	47
Adenovirus type 4		2		5		1		8	2.2	33
Adenovirus type 5		2		3				5	2.7	27
Adenovirus type 6				1				1	.7	6
Adenovirus type 9		2						2	.7	9
Adenovirus type 10				1				1	.0	4
Adenovirus type 11						2		2	2.0	13
Adenovirus not typed/pending		13	25	13		12	8	71	33.2	917

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 7 October to 20 October 1992, historical data[1], and total reports for the year, continued

	STATE OR TERRITORY OF REPORTING LABORATORY							Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
HERPES VIRUSES										
Herpes simplex virus type 1	2	2	62	25	1	33	33	158	126.8	2,943
Herpes simplex virus type 2	1	11	92	17		43	42	206	164.3	3,697
Herpes simplex not typed/pending	6	15	8				3	32	32.0	751
Cytomegalovirus	3	6	52		1	12	6	80	78.2	1,559
Varicella-zoster virus		1	16			8	10	35	21.2	555
Epstein-Barr virus	2	15	59	16		9	7	108	45.2	1,340
Herpes virus group - not typed						1	1	2	5.8	39
OTHER DNA VIRUSES										
Parvovirus						11	4	15	.5	130
PICORNA VIRUS FAMILY										
Coxsackievirus A9				1		2		3	3.2	9
Coxsackievirus A16						1	1	2	1.2	13
Coxsackievirus B5				1		1	1	3	.5	34
Echovirus type 7						4		4	.2	9
Echovirus type 9							2	2	.2	167
Echovirus type 17						1		1	.2	43
Echovirus type 18						1		1	.2	4
Echovirus type 22						1		1	1.0	8
Echovirus type 25		3				1		4	.3	10
Poliovirus type 2 (uncharacterised)				1				1	1.8	42
Rhinovirus (all types)		3	9			14	1	27	18.0	541
Enterovirus type 71 (BCR)						1		1	.2	19
Enterovirus not typed/pending		2	10			5	11	28	19.3	719
ORTHO/PARAMYXOVIRUSES										
Influenza A virus			20	17			4	41	12.3	1,078
Influenza B virus			2	2		1	9	14	22.8	135
Parainfluenza virus type 1							2	2	3.0	282
Parainfluenza virus type 2			1				1	2	1.7	62
Parainfluenza virus type 3	1		16			7	7	31	17.7	424
Respiratory syncytial virus	2	5	19	10	5	7	6	54	114.7	3,539
OTHER RNA VIRUSES										
HIV-1			4					4	1.7	29
Rotavirus		55	37	41	8	27	18	186	168.8	1,785
Calici virus		2						2	1.3	24
Small virus (like) particle		5						5	2.5	55
OTHER										
Chlamydia trachomatis not typed		10	57	7		1	20	95	100.5	2,230
Chlamydia pneumoniae						2		2	.0	14
Chlamydia psittaci			1			5		6	4.5	90
Mycoplasma pneumoniae	1	20	55	13		23	2	114	18.7	1,065
Coxiella burnetti (Q fever)		1	11	2				14	7.0	222
Rickettsia australis			1					1	.0	8
Streptococcus species			10					10	.0	37
Brucella species			1					1	.0	7
Bordetella species			3					3	.0	11
Cryptococcus species			3					3	.0	9

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 7 October to 20 October 1992, historical data[1], and total reports for the year, continued

	STATE OR TERRITORY OF REPORTING LABORATORY							Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
Leptospira icterohaemorrhagiae			1					1	.0	2
Treponema pallidum		9	30					39	.0	149
Toxoplasma gondii			3			2		5	.0	22
Echinococcus granulosus			3					3	.0	6
TOTAL	41	246	851	234	16	264	252	1,904	1,236.7	31,790

1. The historical data are the averages of the numbers of reports in 6 previous 2 week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 7. Laboratory reports by clinical information for the reporting period 7 October to 20 October 1992

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus					1			8				4	13
Mumps virus					1							3	4
Rubella virus								28		5		47	80
HEPATITIS VIRUSES													
Hepatitis A virus							8					13	21
Hepatitis B virus							39	1				79	119
Hepatitis C virus							22	1				95	118
Hepatitis D virus							1						1
ARBOVIRUSES													
Ross River virus								1		5		26	32
Barmah Forest virus			1			1		1				5	8
Dengue type 1												1	1
Dengue type 2			3		1			1				44	49
Dengue not typed												1	1
Kunjin virus										1			1
Flavivirus (unspecified)												2	2
ADENOVIRUSES													
Adenovirus type 1					1	1							2
Adenovirus type 2					3	1						1	5
Adenovirus type 3					2	3							5
Adenovirus type 4					3	3			2				8
Adenovirus type 5					3	2							5
Adenovirus type 6					1								1
Adenovirus type 9						2							2
Adenovirus type 10						1							1
Adenovirus type 11												2	2
Adenovirus not typed/pending					38	18	1		3			11	71

Table 7. Laboratory reports by clinical information for the reporting period 7 October to 20 October 1992, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
HERPES VIRUSES													
Herpes simplex virus type 1					7			100	6		42	3	158
Herpes simplex virus type 2					1			95			103	7	206
Herpes simplex not typed/pending					2			9			8	13	32
Cytomegalovirus				4	26	1	5	2				42	80
Varicella-zoster virus								32				3	35
Epstein-Barr virus					6	2	4	1		1	1	93	108
Herpes virus group - not typed								2					2
OTHER DNA VIRUSES													
Parvovirus				1				7		3		4	15
PICORNA VIRUS FAMILY													
Coxsackievirus A9		2			1								3
Coxsackievirus A16								2					2
Coxsackievirus B5		1			1							1	3
Echovirus type 7		3										1	4
Echovirus type 9		2											2
Echovirus type 17		1											1
Echovirus type 18					1								1
Echovirus type 22					1								1
Echovirus type 25		1			1	2							4
Poliovirus type 2 (uncharacterised)												1	1
Rhinovirus (all types)					24	1						2	27
Enterovirus type 71 (BCR)								1					1
Enterovirus not typed/pending			1		14	3		2				8	28
ORTHO/PARAMYXOVIRUSES													
Influenza A virus			1		19		1	2		2		16	41
Influenza B virus			1		7							6	14
Parainfluenza virus type 1												2	2
Parainfluenza virus type 2					1							1	2
Parainfluenza virus type 3					26							5	31
Respiratory syncytial virus					50			1				3	54
OTHER RNA VIRUSES													
HIV-1												4	4
Rotavirus					3	163						20	186
Calici virus						1						1	2
Small virus (like) particle						3						2	5
OTHER													
Chlamydia trachomatis not typed					2	1			2		59	31	95
Chlamydia pneumoniae					1							1	2
Chlamydia psittaci					3		1					2	6
Mycoplasma pneumoniae		1			63	2	1			1		46	114
Coxiella burnetti (Q fever)					1	1	1			1		10	14
Rickettsia australis										1			1
Streptococcus species								1				9	10

Table 7. Laboratory reports by clinical information for the reporting period 7 October to 20 October 1992, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Brucella species												1	1
Bordetella species					3								3
Cryptococcus species		1										2	3
Leptospira icterohaemorrhagiae							1						1
Treponema pallidum											4	35	39
Toxoplasma gondii												5	5
Echinococcus granulosus												3	3
TOTAL		11	8	5	318	212	85	298	13	20	217	717	1904

Table 8. Laboratory reports by contributing laboratories for the reporting period 7 October to 20 October 1992

STATE	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	41
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	140
	Prince Henry / Prince of Wales Hospitals, Sydney	2
	Royal Alexandra Hospital for Children, Camperdown	31
	South West Area Pathology Service, Liverpool	73
Queensland	Dr TB Lynch, Pathologist, Rockhampton	159
	Queensland Medical Laboratory, West End	323
	State Health Laboratory, Brisbane	369
South Australia	Institute of Medical & Veterinary Science, Adelaide	234
Tasmania	Northern Tasmanian Pathology Service, Launceston General Hospital	16
Victoria	Fairfield Hospital, Melbourne	180
	Royal Children's Hospital, Melbourne	84
Western Australia	Princess Margaret Hospital, Perth	43
	State Health Laboratory Services, Perth	209
TOTAL		1904