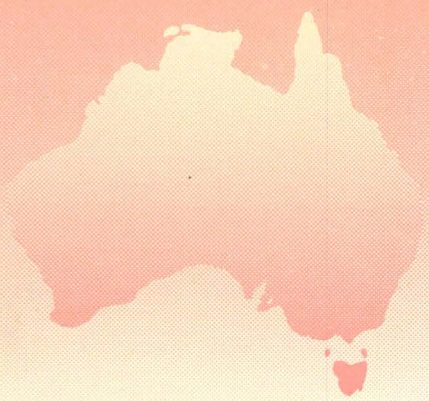

COMMUNICABLE DISEASES INTELLIGENCE

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DEPARTMENT OF HEALTH, HOUSING AND COMMUNITY SERVICES

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

ENTERIC DISEASE NOTIFICATIONS IN THE NORTHERN TERRITORY, 1991

(Adapted from the Northern Territory Communicable Diseases Bulletin, Vol 1, No 5, July 1992, Editor Angela Marianos)

Notifications for campylobacteriosis, hepatitis A, salmonellosis and shigellosis accounted for 34% of all communicable disease notifications in the Northern Territory in 1991 (1,320 of the 3,838 reports). Salmonellosis was the most commonly reported enteric infection with an annual incidence rate of 270 cases per 100,000 population (473 reports).

Case numbers for the notifiable enteric diseases were analysed by disease, age group and region, and incidence rates per 100,000 population determined. We were unable to stratify by race with any confidence because 41% of notifications failed to specify ethnic group.

The 1991 annual incidence rate per 100,000 population was 234 for campylobacteriosis, 42 for hepatitis A, 270 for salmonellosis, and 207 for shigellosis (Table 1). This compares with the 1991 Australian rates of 75.8, 12.7, 31.4 and 7.9, respectively. Thus the rates for the Northern Territory were 3.1, 3.3, 8.6 and 26.2 times the national rates respectively. In 1990, the annual notification rate of salmonellosis, shigellosis and campylobacteriosis had been 257, 133 and 206 per 100,000 respectively in the Northern Territory and 27, 4 and 33 per 100,000 in Australia. The rates in the Northern Territory were therefore 9.5, 33.3 and 6.2 times the national rates for the corresponding infections in that year. There has been little change in the notification rates for salmonellosis (Figure) and shigellosis in the last 12 years; the lower rates in 1976-77 reflect less consistent reporting practices. The rates have, however, been consistently about ten times that for Australia as a whole.

A total of 56.5% of all notifications for campylobacteriosis, salmonellosis and shigellosis involved children aged 0-4 years. Infants aged 0-11 months (2% of the Northern Territory population) accounted for 9.5% of reports. The highest incidence rates also occurred in the under 5 year age group (Table 1). Failure to thrive, growth retardation and chronic malnutrition are sequelae of this enteric disease burden in the Northern Territory. The second peak in age specific notification rates, in the 20-29 year age group, represents adults being infected while rearing young children. The sex ratio in this age group is F:M 1.7:1.

The highest region-specific notification rates were recorded for campylobacteriosis in the Alice Springs

Figure. Salmonella notifications, annual rate per 100,000 population, Northern Territory and Australia, 1976 to 1991, by year

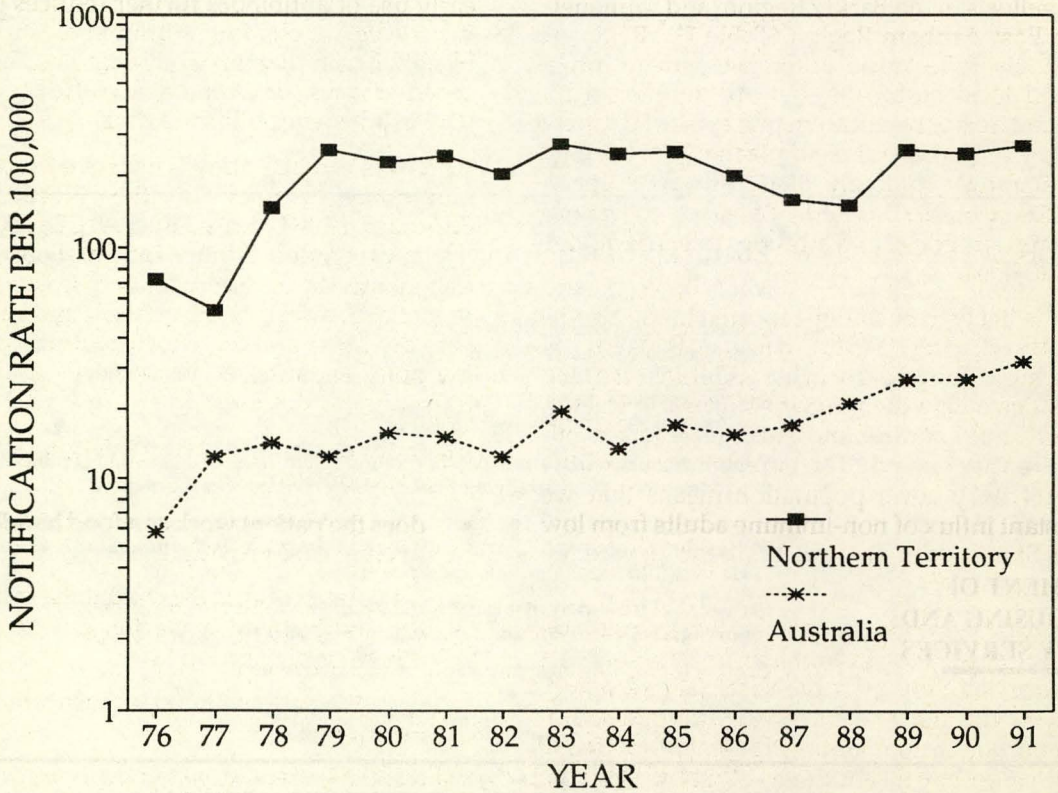


Table 1. Notifications and annual notification rates per 100,000 for the notifiable enteric diseases, Northern Territory, 1991, by age group

	Campylobacteriosis		Hepatitis A		Salmonellosis		Shigellosis		
Age Group	Notifications	Rate	Notifications	Rate	Notifications	Rate	Notifications	Rate	Total
0 - 11 mths	34	1,172	0	0	82	2,828	9	310	125
1 - 4 yrs	251	2,083	13	108	187	1,552	140	1,162	591
5 - 9	25	179	5	36	20	143	24	171	74
10 - 14	8	58	5	36	4	30	6	43	23
15 - 19	7	54	5	38	8	61	11	84	31
20 - 29	28	850	20	61	29	880	47	143	124
30 - 39	24	83	17	59	26	90	45	156	112
40 - 49	6	35	0	0	17	99	17	99	40
50 and over	13	75	7	40	91	522	39	224	150
Unknown	14		2		9		25		50
Total	410	234	74	42	473	270	363	207	1,320

Table 2. Notifications and annual notification rates per 100,000 for the notifiable enteric diseases, Northern Territory, 1991, by region

Disease	Alice Springs		Barkly		Darwin		East Arnhem		Katherine	
	Notif-ications	Rate	Notif-ications	Rate	Notif-ications	Rate	Notif-ications	Rate	Notif-ications	Rate
Campylobacteriosis	245	958	19	546	143	183	0	0	3	32
Hepatitis A	1	4	7	201	48	61	5	106	13	139
Salmonellosis	80	313	15	431	294	376	41	868	43	459
Shigellosis	151	590	31	891	126	161	21	444	34	363
Total	477		72		611		67		93	

Region, shigellosis in the Barkly Region, and salmonellosis in the East Arnhem Region (Table 2). Regional differences may reflect true differences, for example unrecognised local outbreaks, but are influenced by laboratory and doctor notification practices, and different laboratory protocols (for example the Alice Springs Hospital laboratory routinely plates all faecal specimens for *Campylobacter*), criteria for stool collection, and patient recognition of and attitudes towards milder forms of diarrhoea.

Hepatitis A is likely to be under-reported in the Northern Territory (42 per 100,000), because the virus is probably being acquired early in life, as is often the case in communities where the virus is common, and diagnoses of very mild clinical and subclinical disease in young children are missed. The transient nature of the Northern Territory adult population means that we have a constant influx of non-immune adults from low prevalence States, with the potential for large scale outbreaks.

Our enteric disease notifications also under-estimate the true diarrhoeal disease problem in the Northern Territory, focusing only on some bacterial pathogens. Asymptomatic carriage and excretion of enteric pathogens are important in maintaining transmission. Single stool examinations are insensitive in diagnosis, and the early use of antibiotics further reduces isolation rates. In a survey of children admitted to the Royal Darwin Hospital with diarrhoeal disease and tested on 3 consecutive days, 75% of stool cultures were negative (Dr A Ruben, unpublished data).

As part of our activities to improve the control of communicable diseases in the Northern Territory, Communicable Disease Officers (CDOs) are contacting doctors to collect further information on the contact tracing carried out for priority diseases with outbreak potential (for example, the enteric and vaccine preventable diseases) and/or which require counselling (for example, hepatitis B, hepatitis C, and the sexually transmissible diseases).

Issues that have been identified as important in enteric disease control are:

- does the patient work as a food handler, health care or child care provider?
- if a young child, is the child toilet trained, and does the child attend a creche, day care centre, preschool or play group?
- does the patient attend an institution (educational or residential)?
- has the patient travelled overseas or interstate?

- is there known contact with other cases of diarrhoea?
- what is the patient's sexual preference and sexual practices? (Recent outbreaks of hepatitis A in gay men in New South Wales, Victoria and South Australia may make this relevant when investigating this disease.)

Guidelines for the period of exclusion of children from day care and educational facilities and adults from high risk occupations have been circulated to all doctors, Community Health Centres and the Education Department in the Northern Territory. The Centre for Disease Control recognises the difficulties doctors and parents confront when a child is excluded from their day care centre of school, but our data clearly indicate the need for adherence to exclusion guidelines.

We are also planning to adopt the initiatives introduced in New South Wales where doctors notify *'foodborne illness in two or more related cases'* and *'gastroenteritis among people of any age in an institution'*.

GONOCOCCAL SURVEILLANCE AUSTRALIA, 1 APRIL TO 30 JUNE 1992

(Contributed by the Australian Gonococcal Surveillance Programme - AGSP. Co-ordinator Dr JW Tapsall, the Prince of Wales Hospital, Sydney)

This report analyses the penicillin sensitivity of 507 isolates of gonococci examined by participating laboratories throughout Australia in the three months ended June 1992. The Table shows the distribution, in percentage terms, of the penicillin sensitivity of isolates from the three centres with a sufficiently large number of isolates to allow this type of comparison. Also shown are the same data from the June quarter in 1991.

A continuing trend is the high proportion of strains in Sydney and Melbourne which are fully sensitive to the penicillins, a change which appeared about two years ago in Sydney and a year ago in Melbourne. The levels of penicillin resistance in these two centres are still high however, accounting for about 20% of isolates in Melbourne and 30% of strains in Sydney when both chromosomal and plasmid mediated mechanisms are combined (a combination of the categories of relatively resistant gonococci and penicillinase producing Neisseria gonorrhoea PPNG). Nationally there were 62 PPNG (12.2% of all strains) but half of these were isolated in Sydney and a further quarter of this total in Melbourne. PPNG were also isolated in Adelaide, Brisbane and Perth. In 23 patients, details of acquisition of PPNG were not available, and in the remaining 39 patients, the infection was acquired through contact overseas in 21 instances. Endemic transmission of PPNG was more prominant in Sydney than for some time, with half the cases of PPNG in this centre acquired through local contact in this quarter.

The total number of isolates in this quarter (507) represents an increase over the number of strains examined in the corresponding quarter in 1991 (345 isolates) and also over the previous quarter (January to March 1992, 416 isolates). A considerable proportion of this increase is accounted for by an increase in the number of isolates from Sydney and Melbourne, and in particular, fully sensitive strains.

This report completes another year of AGSP surveillance and a total of about 39,000 isolates have been examined by participating laboratories since this programme began in 1981. For some time the member laboratories of the AGSP have been examining the sensitivity of gonococci to a number of other antibiotics which are used in the treatment of gonorrhoea. These data (on resistance to the quinolones, ceftriaxone and spectinomycin) will be included in subsequent AGSP reports.

Table . Penicillin sensitivity of isolates of *Neisseria gonorrhoeae*, 1 April to 30 June, 1992

	Percentage of Isolates[1]			
Centre	Sensitive[2]	Less Sensitive[3]	Relatively Sensitive[4]	PPNG[5]
Brisbane	20.3 (20)	63.8 (64.3)	1.4 (1.4)	14.5 (14.3)
Sydney	30 (22.8)	41 (62.6)	11 (8.7)	18 (6)
Melbourne	45.4(21.6)	32.2 (54.9)	11.9 (2.9)	10.5 (20.6)

1. Figures in parentheses represent data from the equivalent period in 1991 (readjusted to conform with categorisation revised as above from 1 July 1991).
2. Sensitive MIC ≤ 0.03 mg/L.
3. Less Sensitive MIC 0.06 - 0.5 mg/L.
4. Relatively Resistant MIC ≥ 1.0 mg/L.
5. PPNG = penicillinase producing *N. gonorrhoeae*.

AN ENDEMIC OF ROTAVIRUS DIARRHOEA IN FAR NORTH QUEENSLAND

(J Hanna, Tropical Centre for Disease Control, Cairns, Queensland)

In late May an epidemic of rotavirus diarrhoea began among young children in Cairns. At the time there was no evidence of rotavirus activity in either Townsville (Dr I Shellshear, personal communication) or Adelaide (Dr G Davidson, personal communication). The clinical features of the disease were typical with fever and vomiting being prominent symptoms, and with a number of children requiring hospitalisation for dehydration. The timing of the epidemic was also characteristic; May is the beginning of the cooler season in Far North Queensland.

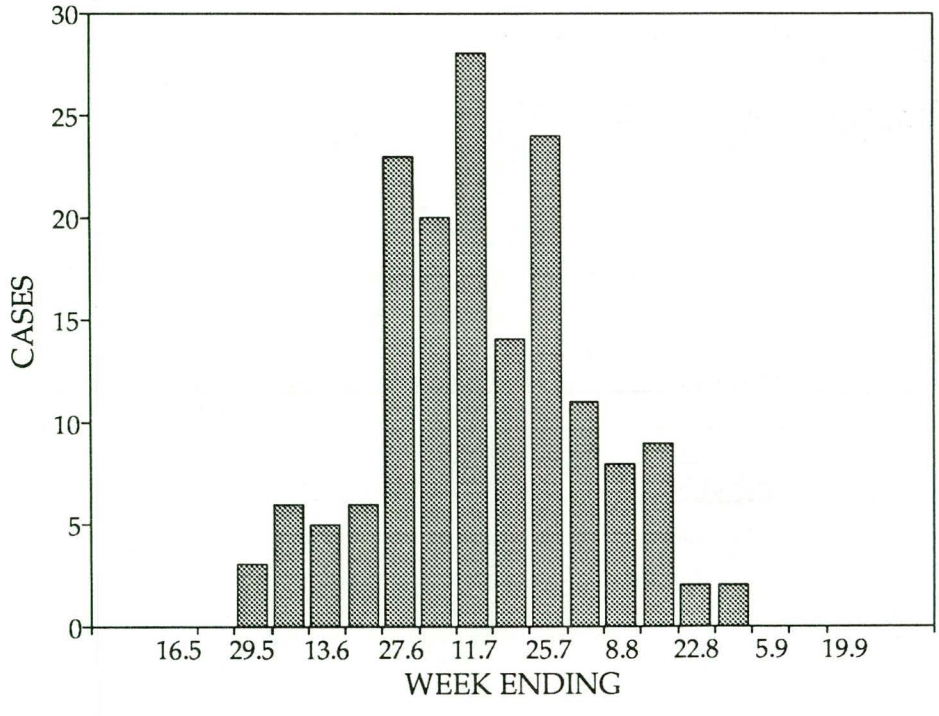
Using Gut Foundation literature[1] and the advice of local paediatricians, an information sheet about rotavirus diarrhoea was prepared by the Tropical Centre for Disease Control and distributed to parents through child-care facilities, doctors' surgeries and hospital outpatient departments. The information sheet gave advice on home management of a child with diarrhoea, when parents should seek medical advice for their ill child and advice on how to minimise the spread of the infection. In particular, it was recommended that a child with fever, vomiting and diarrhoea should remain away from any child-care facility until the child was well and the diarrhoea had ceased[2,3].

Within three weeks of the onset of the epidemic in Cairns, rotavirus diarrhoea occurred almost simultaneously on several remote Aboriginal communities north of Cairns. Emergency Royal Flying Doctor Service evacuations were necessary for the most severely affected children. Two children reached Cairns Base Hospital in a critical condition with severe dehydration and acidosis; both made a full recovery.

An urgent request was made to the World Health Organization (WHO) Programme for Control of Diarrhoeal Diseases for copies of the WHO Wall chart 'Management of the patient with diarrhoea' (1992 revision). This wall chart gives primary care providers simple advice on the assessment of dehydration and on treatment according to the presence of absence of dehydration. The wall charts were received within days, laminated, and distributed to the clinics on the most severely affected communities.

Cases were counted as the number of stool samples that tested positive for rotavirus (Figure), using a latex agglutination test, at the Cairns Base Hospital microbiology laboratory over the three months of the epidemic (Mr Noel Kuskie, personal communication). The samples tested were from both in- and out-patients, and included samples sent from district hospitals and community health centres. The hospital data do not accurately reflect the extent of the epidemic since samples were tested for rotavirus only if a specific request was made, and some children may have had more than one sample submitted. However, they do

Figure. Positive rotavirus stool tests, Cairns Base Hospital, 1992, by week



give a crude indication of the extent of the outbreak, particularly of those children ill enough to have warranted stool testing.

The outbreak was widespread and affected a large number of young children; it is the first substantial outbreak of rotavirus diarrhoea in Far North Queensland for at least five years (Dr R Messer, personal communication). The rapid and extensive spread of the virus suggests that modes of transmission other than the faecal-oral route may have been involved. It has been suggested that rotavirus may be transmitted by the respiratory route, but apparently it has not been consistently identified in respiratory tract secretions[4].

Because rotavirus is highly infectious, because asymptomatic infections are frequent, and because several modes of transmission may be involved, it is likely that a vaccine will be required for the prevention of rotavirus diarrhoea. However, the apparent complexity of rotaviruses has made vaccine development difficult[5] and as yet no rotavirus vaccine has been licensed for widespread use. Meanwhile, it is crucial that primary care providers continue to be instructed on the effective management of a child with acute diarrhoeal disease.

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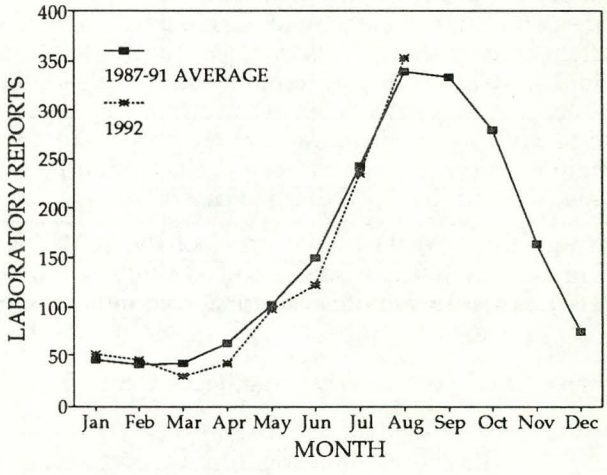
CDI Editorial Comment

The rotavirus epidemic in Cairns has coincided with the usual winter peak of rotavirus activity throughout Australia (Figure). There have been 1,193 reports of this virus made to the CDI Laboratory Reporting Schemes so far this year, about the average for recent years. There was a peak in reports from Victorian laboratories over the period May to July, and from New South Wales, Queensland, South Australia, Tasmania and Western Australia since July.

There have been more reports in males (667) than females (510); M:F ratio 1.00:1.31. Most of the reports (1,035 or 86.8%) have been in children under the age of 12 months, and 16 (1.3%) have been in children under the age of 1 month.

Figure. Rotavirus laboratory reports, 1987-91 average and 1992, by month of specimen collection



AUSTRALIAN HIV SURVEILLANCE REPORT, VOLUME 8 NUMBER 8, 31 AUGUST 1992

The National Centre in HIV Epidemiology and Clinical Research reports that as of 31 July 1992, a total of 16,458 diagnoses of HIV infection and 3,421 cases of AIDS had been reported in Australia. For the period 1 to 31 July 1992, 3 new cases of AIDS and 121 new diagnoses of HIV infection were reported.

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

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.

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

State/ Territory	July 1992		Cumulative to 31 July 1992					
			Cases			Deaths		
	Total Cases[1]	Total Deaths[1]	Male	Female	Total[2]	Male	Female	Total[2]
ACT	0	2	41	2	43	30	1	31
NSW	0	5	1,974	63	2,039	1,295	39	1,335
NT	0	0	11	0	11	6	0	6
Qld	0	1	277	9	286	179	7	186
SA	0	1	131	7	138	76	2	78
Tas	0	0	18	1	19	13	1	14
Vic	0	4	701	14	717	496	9	506
WA	3	4	160	8	168	100	3	103
Total	3	17	3,313	104	3,421	2,195	62	2,259

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

Table 2. New diagnoses of HIV infection occurring during the period 1 July to 31 July 1992 and cumulative diagnoses since the introduction of HIV antibody testing to 31 July 1992, by sex and State/Territory

State/ Territory	July 1992	Cumulative to 31 July 1992			
	Total[1]	Male	Female	Sex not reported	Total[5]
ACT	1	131	7	0	138
NSW[2]	62	8,564	442	2,042	11,058
NT	2	61	6	0	67
Qld[3]	24	1,131	56	2	1,193
SA	0	463	33	0	496
Tas	1	61	3	0	64
Vic[4]	29	2,662	108	65	2,842
WA	2	571	33	0	605
Total[5]	121	13,644	688	2,109	16,458

1. All males unless otherwise specified.
2. Total for New South Wales for July includes 11 persons whose sex was not reported, and 4 females.
3. Total for Queensland for July includes 2 persons whose sex was not reported, and 1 female.
4. Total for Victoria for July includes 3 females.
5. Total for July includes 8 females and 13 persons whose sex was not reported.
6. Seventeen persons (5 New South Wales, 4 Queensland, 7 Victoria and 1 Western Australia) whose sex was reported as transsexual are included in the cumulative totals.

OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the World Health Organization.

Cholera Update

Newly infected areas are Manyu and Meme Departments in the Province du Sud-Ouest in Cameroon, Tete City in Tete Province and Mandimba District in the Niassa Province of Mozambique, Jalisco, Queretaro and Quintana Roo States in Mexico, Anzoategui, Barninas and Monagas States in Venezuela, El Paraiso and Santa Barbara Departments in Honduras, and Boaco, Masaya and Matagalpa Departments in Nicaragua. The whole of Argentina has now been declared cholera-free.

Bhutan and China have reported their first cases in recent times, covering the periods June to August and January to August 1992, respectively. Other countries reporting cases for July, August and September are Angola, Argentina, Belize, Bolivia, Brazil, Cambodia, Ecuador, El Salvador, French Guiana, Guatemala, Honduras, India, Iraq, Malawi, Mongolia, Mozambique, Nepal, Nicaragua, Panama, Peru, Romania, Tuvalu and Venezuela.

Plague in Zaire

An outbreak of pneumonic plague has been reported from the north-eastern part of Zaire, and twenty-five persons have died. No further details are available yet.

Yellow Fever Update

Cases and deaths from yellow fever have been reported from three provinces of Ecuador for the period May to June 1992. Sucumbios Province has been added to the list of infected areas, so persons arriving in Australia after having been in that (or any other yellow fever infected) area in the previous six days are now required to have been vaccinated against yellow fever.

CDI NOTICE TO READERS

Correction - Food Poisoning in Darwin

A correction is required for the article 'An investigation of an outbreak of food poisoning in Darwin', published in *CDI* 1992;**16**:378-379. In the left hand column of the Table, the labels '4-6' and '7-9' should have read '4 or more' and '7 or more', respectively.

COMMUNICABLE DISEASES SURVEILLANCE

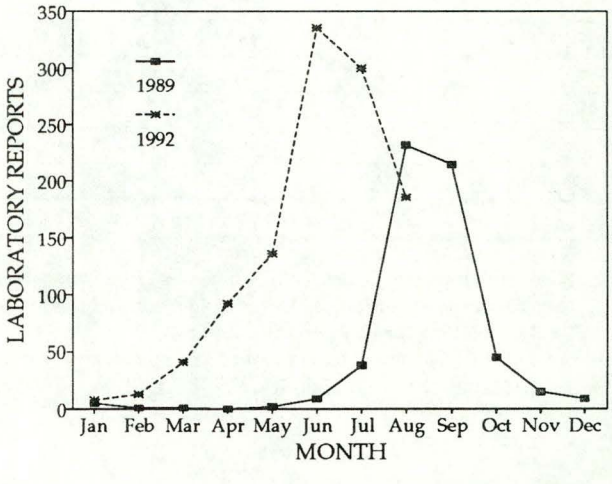
Laboratory Reporting Schemes

There were 2,081 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 6, 7 and 8).

- **Influenza** was reported for 90 patients. A total of 68 were untyped **influenza A** (12 isolations, 3 antigen detections and 53 serological diagnoses - 49 single high titres, 3 IgM, 1 other), 5 of **influenza A H_3N_2** (all isolations), 1 of **influenza A H_1N_1** (isolation), 15 of **influenza B** (5 isolations, 3 antigen detections and 7 serological diagnoses - 6 single high titres, 1 four-fold change), and 1 untypable influenza (isolation).

  The reports of influenza A untyped and influenza A H_3N_2 peaked in June and July (Figure 1), earlier than the peak which is usually seen in Australia in August, and larger than the peak in 1989, the last year in which influenza a H_3N_2 predominated.

Figure 1. Influenza A H_3N_2 and untyped influenza A laboratory reports, 1989 and 1992, by month of specimen collection



There have now been 7 reports of influenza A H_1N_1 this year, more than for any year since 1988, when the last epidemic of this virus occurred in Australia. Specimen collection dates for these were in May, June, July and August.

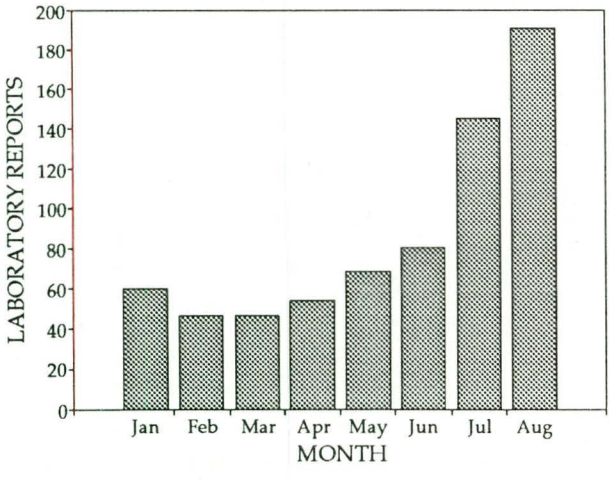
There have been 89 reports of influenza B so far this year, more than is usual for 'non-epidemic' years for this virus. The number of reports has increased through the winter, with 24 with August specimen collection dates.

Twenty-four reports of untyped influenza A this fortnight were in persons over the age of 65 years, as were 2 reports of influenza B.

Two cases of meningitis were included this fortnight (1 type A in a 29 year old female, 1 type B in a 74 year old male), and 1 case for which cardiac symptoms were reported. One influenza A isolate was from post-mortem lung tissue of an 84 year old female.

- **Respiratory syncytial virus** was reported for a total of 158 patients this fortnight, bringing the total for the year to 3,330, more than for any year since the Reporting Schemes began.
- There were 234 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.
- A total of 131 reports of *Mycoplasma pneumoniae* infection were received this fortnight, bringing the total for the year to 751 (Figure 2). Fifty-nine reports were from New South Wales, 46 from Queensland, 17 from Victoria and 9 from South Australia. The number of reports from all these States has increased over the last 3 to 4 months. Encephalitis and meningitis were the reported symptoms for a 6 year old female patient.

Figure 2. *Mycoplasma pneumoniae* **laboratory reports 1992, by month of specimen collection**



- Twelve reports of **measles** were received this fortnight. Five were from South Australia, as were 9 last fortnight.
- The number of reports of **rubella** continues to increase, in parallel with the increasing number of rubella notifications (see below). This fortnight, there were 39 laboratory reports, mostly from Victoria, Queensland and Western Australia, which, with New South Wales, have all had increased reports of this virus this spring. Twenty-five reports this fortnight were in males, but there were 8 reports in females of reproductive age (17 years, 19 years, 20 years, 29 years, 38 years, 40 years, 41 years and 44 years).
- **Ross River virus** infection was reported for 17 patients this period. Ten were from Queensland (including 3 from Townsville and 3 from Brisbane), and 7 were from Western Australia (including 3 from the Carnarvon area). All had specimen collection dates in August or September. Meningitis was the reported syndrome for a 36 year old female patient.
- Eleven reports of **Barmah Forest virus** infection were reported. Seven were from Western Australia (including 5 from the Carnarvon area and 1 from Perth), 1 was from Darwin and 3 were from Queensland. All had specimen collection dates in August.
- There were a further 25 reports of **dengue 2**. Twenty-three were from the Townsville area and 1 was from Cairns. The 3 cases of untyped dengue reported this fortnight were also from the Townsville area. All had specimen collection dates in June or July.
- A case of **kunjin virus** infection was reported, from the Northern Territory. The patient was a 40 year old male for whom general malaise/fever was the reported syndrome.
- Twenty-one reports of **hepatitis A** were received. A trip to Thailand was the risk factor reported for 1 patient, a 34 year old male.
- There were 115 reports of **hepatitis B**. Included were 6 pregnant females and 1 patient with a history of injecting drug use.
- **Hepatitis C** was reported for 174 patients. A history of injecting drug use was reported for 39 patients, 1 patient had renal failure and was on haemodialysis, 1 was pregnant, 2 were described as carriers, and 1 was diagnosed and identified as the donor following a needle stick injury.
- Seven reports of **echovirus type 4** were received from Victoria. All were isolates from CSF and/or had meningitis as the reported syndrome. One had a specimen collection date in January, and the others were in June, July and August. This virus is usually rare in Australia, although 84 cases were reported to the Reporting Scheme during a period of increased activity in 1988-89.

- There were 78 reports of **cytomegalovirus** infection. Included were a 27 year old female patient, from whose breast milk the virus was isolated, 5 HIV positive patients, 1 patient with a history of transplant (bone marrow), and 2 patients who were pregnant (including a 23 year old, who had specific IgM, and the virus isolated from products of conception). One further congenital infection was reported, diagnosed in a 6 month old female, and a case of encephalitis was reported in a 30 year old male.
- A case of **HTLV-1** infection was reported, in a 73 year old male. This is the first report of this virus this year, and the twelfth collected in the Reporting Scheme.
- One case of **enterovirus type 71** was reported, in a 4 year old female. Meningitis was the reported syndrome and the virus was isolated from CSF. There have been 10 reports of this virus so far this year.
- **Q fever** was reported for 16 patients, 4 females and 12 males. Most were from rural areas of New South Wales and Queensland, and hepatic disease was reported for one patient, a 32 year old male.
- **Syphilis** was reported for 26 patients. Included were 2 pregnant females.

Australian Sentinel Practice Research Network

The Australian Sentinel Practice Research Network collected data from 7,001 patient encounters in Week 38 and 5,116 patient encounters in Week 39 (Table 1). The rate of reporting of influenza has continued to fall, and is now below 10 per 1,000 encounters for the first time since the beginning of the influenza season. Rubella continues to be reported at a higher rate than earlier in the year, coinciding with increased laboratory reports of the virus and notifications of rubella to the National Notifiable Diseases Surveillance System. The rate of reporting of gastroenteritis has increased slightly this fortnight, from between 7 and 13 reports per 1,000 encounters registered for each week since the end of May.

Australian Encephalitis: Sentinel Chicken Surveillance Programme Serological Results, July and August 1992

Sentinel chicken serology was undertaken for 24 flocks in the Kimberley and Pilbara regions of Western Australia. One additional chicken from Marble Bar seroconverted to Kunjin virus in August, giving a total of 3 Kunjin seroconversions at Marble Bar since May 1992.

There was also a total of 5 seroconversions at the Harding Dam, 2 in July and 3 in August. Two of the chickens seroconverted to Murray Valley encephalitis virus and 3 to Kunjin virus. This increase in flavivirus activity in areas of the Pilbara this year is due to heavy winter rainfall.

Information on the location of sentinel chicken flocks in Western Australia was presented in *CDI* 1992;**16**:55-57.

(AK Broom and JS Mackenzie, Department of Microbiology, The University of Western Australia)

Victorian Influenza Surveillance System

Results from the Fortnights 5 - 9 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, peaked in the first two weeks of June (*CDI* 1992;**16**:303), and has declined since then.

Results at the end of Fortnight 6 showed that there had been a higher rate of cases of influenza reported through the sentinel general practices from rural areas than from the metropolitan areas (2.9 per 100 consultations for rural areas, 2.0 per 100 consultations for metropolitan). Sentinel general practice results also showed the highest number of cases had occurred in persons in the 20 to 29 year and 30 to 39 year age groups.

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Table 1. Australian Sentinel Practice Research Network, Weeks 38 and 39, 1992

Condition	Week 38, to 20 September 1992		Week 38, to 27 September 1992	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	66	9.4	47	9.2
Measles	2	0.3	0	0
Mumps	0	0	0	0
Rubella	4	0.6	7	1.4
Pertussis	1	0.1	1	0.2
Genital herpes	5	0.7	1	0.2
Gastroenteritis	94	13.4	82	16.0

Table 2. Victorian Influenza Surveillance System, Fortnights 5 - 9, 1992 (29 June to 4 September 1992)

	Fortnight 5 29 June to 10 July	Fortnight 6 13 July to 24 July	Fortnight 7 27 July to 7 August	Fortnight 8 10 August to 21 August	Fortnight 9 24 August to 4 September
General Practices (34) Influenza cases per 100 patients seen	1.5	1.0	1.4	0.7	0.4
Laboratories (2) Influenza cases (per 100 specimens)	27 (5.7)	17 (3.9)	4[1] (2.4)	4 (2.9)	4 (2.9)
Hospitals (3) Admissions with influenza and/or pneumonia (per 100 admissions)	51 (1.3)	48 (1.2)	45 (1.0)	16 (0.3)	20 (0.4)
Schools (30) Total absenteeism, Tuesday per 100 persons	17	7.8	14	22	16
Industry (2) Total absenteeism, per 100 employees	6.8	5.6	6.4	5.0	5.0
Deaths, from all causes Total per 10,000 population	3.0	3.4	3.4	3.2	2.9

1. One laboratory only in Fortnight 7.

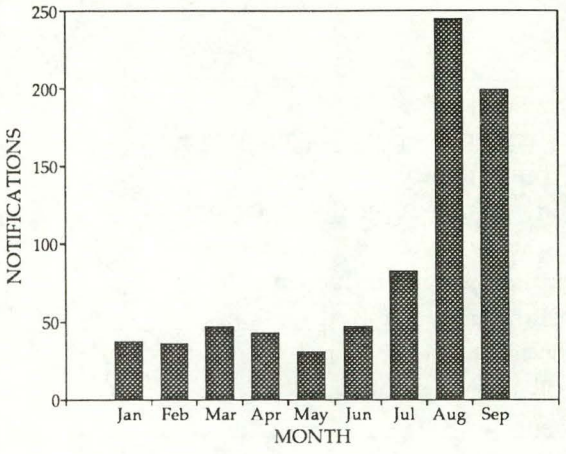
National Notifiable Diseases Reports 6 September to 20 September 1992

A total of 1,888 reports of notifiable diseases was received during this period and all were in a format suitable for analysis (Tables 3, 4 and 5; Figure 4). In this report statistical divisions used by the Australian Bureau of Statistics are used for geographical analysis.

- There were 37 notifications of **Ross River virus infection** received this period, bringing the total so far this year to 4,926. The cases were in males in 17, females in 15 and sex was not recorded in 5; ages ranged from the 0-4 to 95-98 years age groups. Dates of onset were recorded as July in 1, August in 16 and September in 14. Cases were notified predominantly from Southeastern and Southwest statistical divisions of Western Australia, coastal Queensland and north coastal New South Wales.
- **Dengue** was notified on 22 occasions, 8 of the cases were in males and 14 in females. Ages ranged from the 10-14 years age group to the 70-74 years age group. Dates of onset were recorded as June in 9 cases, July in 12 and August in 1. All cases bar 1 were notified from Townsville and surrounds. There have been 263 notifications of this disease to date in 1992.
- There were 123 notifications of **gonococcal infection** reported to bring the total for the year to date to 1,921. Of these cases 81 were in males and 42 were in females and one case was aged less than 1 year.
- Eighteen reports of notifications of ***Haemophilus influenzae* type b infection** were received. Of these, 9 were in males, 8 were in females and sex was not recorded in 1. Fourteen cases were reported in the 0-4 years age group with 7 aged less than 2 years and 4 aged less than 1 year. There were no apparent clusters of cases. A total of 356 cases have been notified thus far this year.
- A total of 54 cases of **hepatitis A** was reported this period, 25 males and 29 females bringing the notifications for the year so far to 1,424. Sixteen of the cases were aged less than 15 years; the 30-34 years age group was the next most commonly reported with 3 males and 9 females. Cases were most frequently reported from Melbourne and Northwestern New South Wales.
- A single report of **hydatid infection** was received in a female in the 45-49 years age group in the Melbourne statistical division.
- There were 4 notifications of **legionellosis**, with 2 from the same postcode area. Two were in males in the 45-49 and the 75-79 years age groups and 2 were in females in the 20-24 and the 60-64 years age groups.
- There were 3 notifications of **leptospirosis** received this period; all were in males between the ages of 15 and 29 years in rural Victoria.
- A single case of **listeriosis** was notified in a female in the 75-79 years age group in the Sydney statistical division. There has been a total of 27 notifications of listeriosis this year.
- A total of 36 notifications of **measles** was received, bringing the total for the year to 609 notified cases. Of the cases reported this period, 5 were aged less than 1 year and the mean age of cases was 11.2 years. Males comprised 21 of the cases and females 15. There were 4 apparent clusters of cases with 6 cases occurring over an interval of 26 days in 1 postcode area, and pairs of cases over intervals of 7, 8 and 10 days in 3 other postcode areas.

- Thirteen cases of **meningococcal infection** were reported, 7 males and 6 females, bringing the total for the year to 195 cases. Five of the cases were aged less than 1 year and 10 were aged less than 5 years. All cases were apparently epidemiologically unrelated.
- There were 22 notifications of **pertussis** this period, for a total this year of 327 cases. Of the cases, 7 were in males and 15 were in females; 4 were aged less than 5 years and 2 aged less than 1 year. There was an apparent cluster of a pair of cases in the same postcode area over a period of 2 days.
- **Q fever** was notified in 21 cases this period, (18 males and 3 females, predominantly in the working age group), to bring the total notifications for the year so far to 342. Cases were reported mainly from the Brisbane (5), Northwestern New South Wales (4) and Darling Downs (3) statistical divisions.
- The **rubella** epidemic continued this period, with a total of 233 notifications. Of these, 189 were in males and 42 were in females, with the cases notified to date totalling 766. The increase in the number of cases with onset dates after July has continued (Figure 3). Of the female cases, 15 were in the 15-44 years age group; of the males, 20 were in the 10-14 years age group, 104 in the 15-19 years age group and 18 were in the 20-24 years age group.

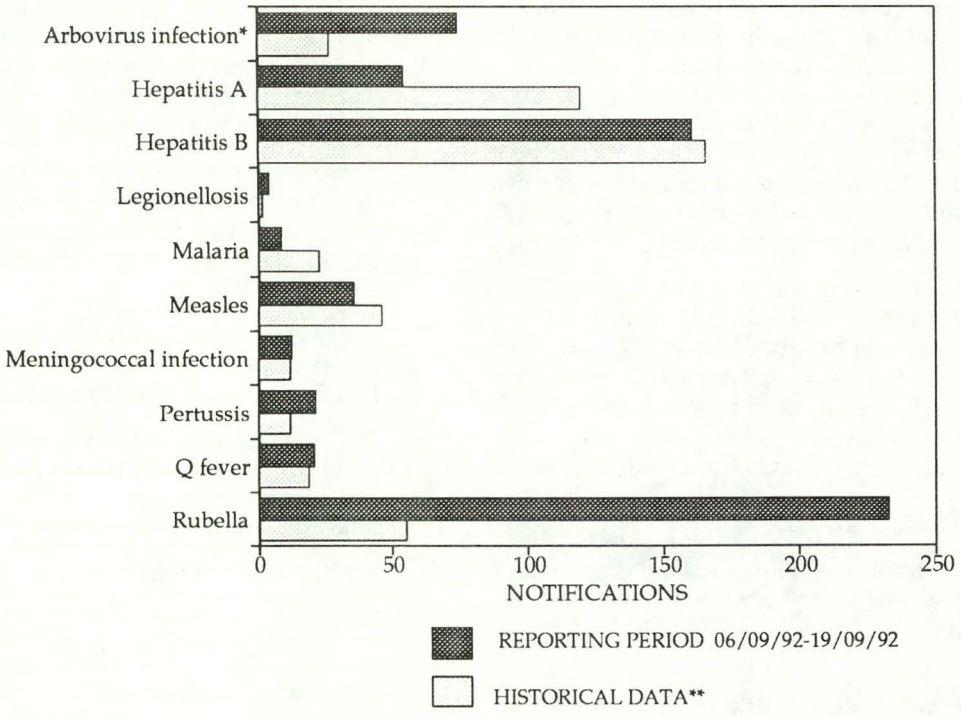
Figure 3. Rubella notifications, 1992, by month of onset



Sexes combined, 1 case was aged less than 1 year and the mean age was 19.5 years. There were 36 apparent clusters in separate postcode areas with 2 to 53 cases in each cluster.

- There was a single case of **tetanus** notified, in a male in the 80-85 years age group, bringing the total this year to 7.

Figure 4. 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 6 previous 2-week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 3. Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 6 to 19 September 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	2	12	7
Measles	3	0	0	3	15	1	14	0	36	43	629	885
Mumps	0	0	NN	NN	NN	NN	0	NN	0	NN	14	NN
Pertussis	0	2	0	3	5	3	8	1	22	9	341	253
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	23	2	0	20	2	0	186	0	233	26	710	314
Tetanus	0	0	0	0	0	0	1	0	1	0	10	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 6 to 19 September 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	2	13	0	0	0	0	15	0	277	173
Ross River virus infection	0	5	6	21	-	NN	2	3	37	15	5027	3334
Dengue	0	-	0	22	-	NN	0	NN	22	1	265	42
Campylobacteriosis[4]	4	-	9	107	103	19	127	33	402	289	5829	5782
Chlamydial infection (NEC)	2	NN	24	85	0	9	39	0	159	119	4052	2899
Donovanosis	0	NN	2	1	NN	NN	0	0	3	1	61	47
Gonococcal infection[5]	2	9	20	19	0	0	8	65	123	82	2087	1764
Haemophilus influenzae type b[6]	0	4	NN	6	2	0	6	NN	18	20	361	382
Hepatitis A	0	14	7	12	7	0	11	3	54	77	1436	1289
Hepatitis B	1	37	0	48	2	2	53	18	161	151	4773	2728
Hepatitis C	1	95	0	158	NN	3	50	NN	307	179	6132	2552
Hepatitis (NEC)	0	0	0	0	0	0	1	NN	1	2	48	231
HIV infection[7]	2	1	0	0	1	0	0	0	4	7	208	32
Legionellosis	0	2	0	2	0	0	0	0	4	2	142	77
Leptospirosis	0	0	0	0	0	0	3	0	3	4	80	99
Listeriosis	0	1	NN	0	NN	0	0	0	1	4	27	31
Malaria	0	3	0	2	0	0	3	1	9	30	548	601
Meningococcal infection	0	2	0	1	1	1	7	1	13	13	197	196
Ornithosis	0	NN	0	0	0	0	4	0	4	4	69	82
Q fever	0	9	0	12	0	0	0	0	21	10	346	480
Salmonellosis (NEC)	2	16	5	31	11	2	19	9	95	109	3613	4259
Shigellosis[4]	0	-	9	6	3	0	6	5	29	22	467	681
Syphilis	0	14	30	18	0	0	3	11	76	62	1875	1425
Tuberculosis	0	3	1	8	1	0	7	0	20	25	602	383
Typhoid[8]	0	0	0	0	0	0	0	0	0	2	38	54
Yersiniosis[4]	0	-	0	7	6	0	1	0	14	15	455	396

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 6 to 19 September 1992

DISEASES	Total this period	Reporting States or Territories	Year to date1992
Botulism			0
Brucellosis			15
Cholera			3
Chancroid			3
Hydatid infection	1	Vic	28
Leprosy			11
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 9 to 22 September 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		3	4	5				12	8.2	125
Mumps virus			1					1	.7	36
Rubella virus	2	5	13	1		11	7	39	10.8	195
HEPATITIS VIRUSES										
Hepatitis A virus	1		10	6		3	1	21	16.0	260
Hepatitis B virus	3	51	45	1	1	7	7	115	94.3	1,742
Hepatitis C virus	21		46	60	14		33	174	35.7	1,768
Hepatitis D virus			3					3	.8	39
ARBOVIRUSES										
Ross River virus			11				6	17	23.8	1,194
Barmah Forest virus			3				8	11	.7	206
Dengue type 2			25					25	.2	233
Dengue type 3			2					2	.0	3
Dengue not typed			3					3	5.5	66
Kunjin virus							1	1	.3	9
Flavivirus (unspecified)			1			1		2	.8	29
ADENOVIRUSES										
Adenovirus type 1		7						7	3.2	72
Adenovirus type 2		3				2		5	5.3	79
Adenovirus type 3		5				2		7	3.8	35
Adenovirus type 4		2						2	2.2	16
Adenovirus type 8						5		5	2.0	22
Adenovirus type 11		1				1		2	1.5	11
Adenovirus type 37						1		1	.2	3
Adenovirus not typed/pending		15	10	18		2	3	48	35.3	798
HERPES VIRUSES										
Herpes simplex virus type 1	1	13	86	28	4	35	25	192	121.2	2,662
Herpes simplex virus type 2		33	109	50	1	32	41	266	146.8	3,338
Herpes simplex not typed/pending	9	33	6				5	53	34.3	676

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 9 to 22 September 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			
Cytomegalovirus	1	24	27		1	14	11	78	82.0	1,445
Varicella-zoster virus	1	8	10	2		5	7	33	20.7	482
Epstein-Barr virus		6	33	5		7	7	58	52.3	1,192
Herpes virus group - not typed							1	1	4.5	37
OTHER DNA VIRUSES										
Contagious pustular dermatitis (Orf virus)							1	1	.0	5
Parvovirus						7		7	.7	112
PICORNA VIRUS FAMILY										
Coxsackievirus A9		1						1	.8	5
Coxsackievirus B1						1		1	.0	16
Echovirus type 4						7		7	.2	13
Echovirus type 6		1				1	2	4	.5	85
Echovirus type 7						1		1	.0	2
Echovirus type 9		1					3	4	.2	159
Echovirus type 11	1							1	.7	9
Echovirus type 17				1				1	1.0	42
Poliovirus type 1 (uncharacterised)		2						2	1.5	47
Poliovirus type 2 (uncharacterised)		1						1	1.2	39
Poliovirus type 3 (uncharacterised)						1		1	1.5	27
Rhinovirus (all types)		5	7			4		16	21.2	471
Enterovirus type 71 (BCR)	1							1	.5	16
Enterovirus not typed/pending		5	10	1			3	19	18.7	675
ORTHO/PARAMYXOVIRUSES										
Influenza A virus		7	31	24		3	3	68	7.3	988
Influenza A virus H_1N_1			1					1	.2	7
Influenza A virus H_3N_2			5					5	6.5	170
Influenza B virus		4	3	1		2	5	15	24.8	112
Influenza virus - typing pending			1					1	.5	1
Parainfluenza virus type 1			1				2	3	3.7	280
Parainfluenza virus type 2			1	1				2	3.8	58
Parainfluenza virus type 3			11	3			20	34	16.5	365
Parainfluenza virus typing pending							1	1	2.8	79
Respiratory syncytial virus	8	23	24	43	41	9	10	158	232.7	3,403
OTHER RNA VIRUSES										
HIV-1							1	1	2.8	22
HTLV-1							1	1	.3	2
Rotavirus		107	33	61	9		24	234	212.0	1,397
Astrovirus		1						1	2.7	11
Coronavirus		1						1	.8	28
Small virus (like) particle		1						1	3.0	47
OTHER										
Chlamydia trachomatis - A-K			1					1	2.8	9
Chlamydia trachomatis not typed	3	13	43	19		13	13	104	127.2	1,978
Chlamydia psittaci		1	1			4		6	2.3	83
Mycoplasma pneumoniae		59	46	9		17		131	16.3	825
Coxiella burnetti (Q fever)		6	10					16	11.0	199
Streptococcus species			7					7	.0	16

Table 6. Laboratory reports by State or Territory of reporting laboratory for the reporting period 9 to 22 September 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			
Yersinia enterocolitica			2					2	.0	4
Bordetella species			1					1	.0	6
Legionella longbeachae			1					1	.0	1
Cryptococcus species			2					2	.0	6
Leptospira australis			1					1	.0	1
Treponema pallidum		6	20					26	.0	102
Toxoplasma gondii			3					3	.0	15
Echinococcus granulosus			1					1	.0	3
TOTAL	52	454	715	339	71	198	252	2,081	1,441.8	28,714

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 9 to 22 September 1992

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus								10				2	12
Mumps virus												1	1
Rubella virus								19		2		18	39
HEPATITIS VIRUSES													
Hepatitis A virus							14					7	21
Hepatitis B virus					1	1	48	1				64	115
Hepatitis C virus							82					92	174
Hepatitis D virus							3						3
ARBOVIRUSES													
Ross River virus		1						1		7		8	17
Barmah Forest virus								1		7		3	11
Dengue type 2										1		24	25
Dengue type 3												2	2
Dengue not typed												3	3
Kunjin virus												1	1
Flavivirus (unspecified)												2	2
ADENOVIRUSES													
Adenovirus type 1					3	3						1	7
Adenovirus type 2					3	2							5
Adenovirus type 3					2	1			3			1	7
Adenovirus type 4					1							1	2
Adenovirus type 8									5				5
Adenovirus type 11						1						1	2

Table 7. Laboratory reports by clinical information for the reporting period 9 to 22 September 1992, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Adenovirus type 37									1				1
Adenovirus not typed/pending	2		1		16	18			1			10	48
HERPES VIRUSES													
Herpes simplex virus type 1					20			123	2		36	11	192
Herpes simplex virus type 2					1			104	1		152	8	266
Herpes simplex not typed/pending	2	1			2	1	1	25			7	14	53
Cytomegalovirus	1			1	23	3	4		1			45	78
Varicella-zoster virus	1				2			18				12	33
Epstein-Barr virus					2	1	2	6				47	58
Herpes virus group - not typed								1					1
OTHER DNA VIRUSES													
Contagious pustular dermatitis (Orf virus)								1					1
Parvovirus								1		1		5	7
PICORNA VIRUS FAMILY													
Coxsackievirus A9					1								1
Coxsackievirus B1					1								1
Echovirus type 4		3										4	7
Echovirus type 6		1										3	4
Echovirus type 7		1											1
Echovirus type 9		4											4
Echovirus type 11						1							1
Echovirus type 17						1							1
Poliovirus type 1 (uncharacterised)						1						1	2
Poliovirus type 2 (uncharacterised)						1							1
Poliovirus type 3 (uncharacterised)												1	1
Rhinovirus (all types)					13				1			2	16
Enterovirus type 71 (BCR)		1											1
Enterovirus not typed/pending					8	3		1				7	19
ORTHO/PARAMYXOVIRUSES													
Influenza A virus	1		1		42							24	68
Influenza A virus H_1N_1					1								1
Influenza A virus H_3N_2					5								5
Influenza B virus	1				9							5	15
Influenza virus - typing pending					1								1
Parainfluenza virus type 1					3								3
Parainfluenza virus type 2					1							1	2
Parainfluenza virus type 3					31							3	34
Parainfluenza virus typing pending					1								1
Respiratory syncytial virus					142			1				15	158
OTHER RNA VIRUSES													
HIV-1												1	1
HTLV-1												1	1
Rotavirus					1	221						12	234
Astrovirus						1							1

Table 7. Laboratory reports by clinical information for the reporting period 9 to 22 September 1992,

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Coronavirus						1							1
Small virus (like) particle						1							1
OTHER													
Chlamydia trachomatis - A-K											1		1
Chlamydia trachomatis not typed					1				2		79	22	104
Chlamydia psittaci					6								6
Mycoplasma pneumoniae	1				81	1						48	131
Coxiella burnetti (Q fever)					1		1					14	16
Streptococcus species					3							4	7
Yersinia enterocolitica												2	2
Bordetella species												1	1
Legionella longbeachae					1								1
Cryptococcus species												2	2
Leptospira australis					1								1
Treponema pallidum								1				25	26
Toxoplasma gondii					1							2	3
Echinococcus granulosus												1	1
TOTAL	9	12	2	1	431	263	155	314	17	18	275	584	2081

Table 8. Laboratory reports by contributing laboratories for the reporting period 9 to 22 September 1992

STATE	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	52
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	165
	Prince Henry/Prince of Wales Hospitals, Sydney	202
	Royal Alexandra Hospital for Children, Camperdown	23
	South West Area Pathology Service, Liverpool	64
Queensland	Dr TB Lynch, Pathologist, Rockhampton	80
	Queensland Medical Laboratory, West End	311
	State Health Laboratory, Brisbane	324
South Australia	Institute of Medical & Veterinary Science, Adelaide	339
Tasmania	Royal Hobart Hospital, Hobart	71
Victoria	Fairfield Hospital, Melbourne	186
	Microbiological Diagnostic Unit, University of Melbourne	12
Western Australia	Princess Margaret Hospital, Perth	71
	State Health Laboratory Services, Perth	181
TOTAL		2081