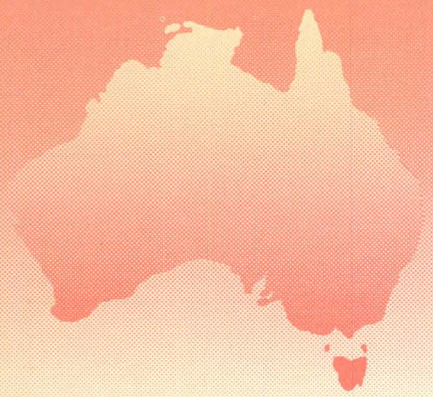

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CONTENTS

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

A CONCURRENT OUTBREAK OF BARMAH FOREST AND ROSS RIVER VIRUS DISEASE IN NHULUNBUY, NORTHERN TERRITORY

(Angela Merianos[1,3], Anne Marie Farland[2], Mohamed Patel[3], Bart Currie[4], Peter Whelan[5], Hartley Dentith[2] and David Smith[6])

The Barmah Forest virus is a little-known mosquito-borne alphavirus first isolated from the mosquito *Culex annulirostris* in northern Victoria in 1974[1]. Human infection was first diagnosed in 1986[2], and the virus was successfully cultured from a symptomatic patient in 1988[3].

On 7 February 1992, a District Medical Officer at the Gove District Hospital notified the Disease Control Centre in Darwin of a cluster of 12 patients presenting with an acute onset of fever, rash, headache, fatigue and lethargy. All were non-Aboriginal residents of Nhulunbuy (Gove) township, a community of approximately 3800 people in the East Arnhem region of the Northern Territory.

By 11 February, 20 cases had presented to the Gove District Hospital. We began a field investigation the following day using a working differential diagnosis of infection with an adenovirus, enterovirus or arbovirus. On February 21, the State Health Laboratory Service in Perth, using immunofluorescence assays, reported that of 37 sera (probable acute specimens) tested, 16 were positive for IgM to Barmah Forest virus, 14 were positive for IgM to Ross River virus, and one was positive for IgM for both viruses.

In collaboration with the Gove District Hospital and the town's private medical practitioners, we are investigating any patient presenting with an acute onset of rash or arthralgia/joint swelling and/or unexplained fever for Barmah Forest or Ross River virus infections. Since 7 February, we have interviewed most patients suspected of an arboviral infection, recording their demographic data, and a description of their symptoms. Some of the earliest patients have also completed a follow-up questionnaire at the time of their recall for convalescent serum collection.

We are attempting to collect acute and convalescent phase sera from all suspected adult cases, and from paediatric cases whenever possible. We have also collected sera on approximately 250 volunteers who do not meet our case definition. They will be recalled in six weeks' time for paired sera collection.

All cases seen at the Gove District Hospital will be followed prospectively until symptoms subside.

The epidemic curve

Through active case finding and an audit of Accident and Emergency Unit presentations at the Gove District Hospital, we have identified approximately 140 cases with probable acute arboviral infection from December 1991 to 3 March 1992. The epidemic curve (Figure 1) represents the first 95 cases, to 20 February 1992.

Case numbers rose abruptly in the first week of February, and continued to rise exponentially until the week ending 18 February. The fall in patient presentations occurring during the following week may herald the tapering off of the outbreak.

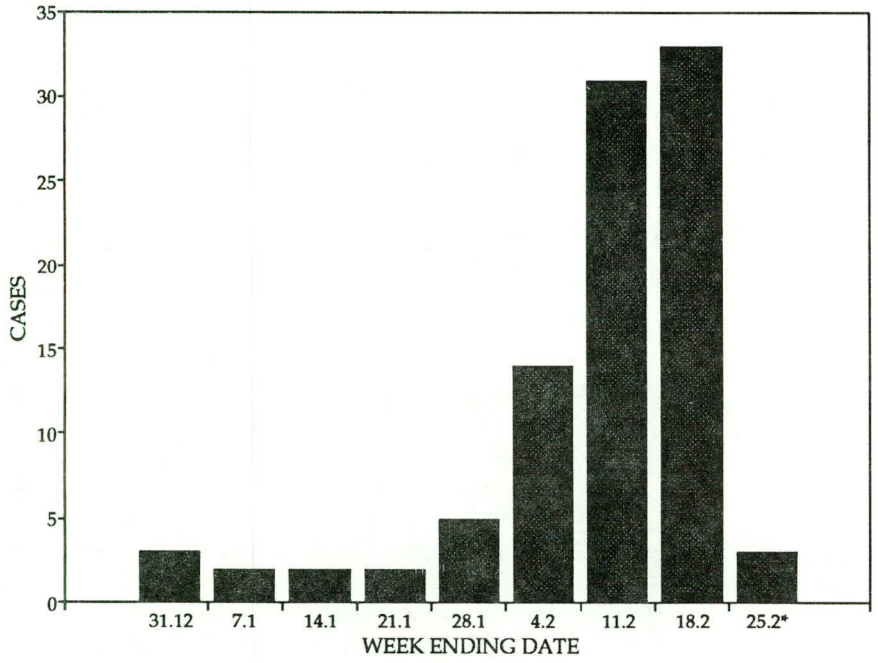
This outbreak followed an explosive increase in mosquito density. The main vectors of Ross River virus transmission in the Northern Territory and the main vectors implicated in Barmah Forest virus infections elsewhere[1,2] are *Aedes vigilax* and *Culex annulirostris*. Mosquito trapping around Nhulunbuy from early December to mid-February showed very few mosquitoes of any species in early December (Figure 2). From 18 December to 10 January, there were low to moderate numbers of *Aedes vigilax*, but after 10 January, there was a steep increase which then continued. Up until 5 February, there were very few mosquitoes of any other species, but by 12 February, the numbers of *Culex annulirostris* had increased to pest levels. These data point to *Aedes vigilax* as the prime suspect as the vector in the beginning of this outbreak. *Culex annulirostris* numbers were so low before 12 February that it is unlikely that this species was involved in transmission before that date.

Mosquito control operations, including larval control measures and fogging, were carried out in Nhulunbuy, and following the rise in mosquito numbers in December fogging frequency and coverage was increased around the outskirts of the residential areas. In addition, media announcements were made encouraging members of the public to take self protection measures against mosquito bites.

1. National Centre for Epidemiology and Population Health, Australian National University
2. Gove District Hospital, Nhulunbuy
3. Disease Control Centre, Northern Territory Department of Health and Community Services, Darwin
4. Royal Darwin Hospital and Menzies School of Health Research
5. Entomology Branch, Northern Territory Department of Health and Community Services, Darwin
6. State Health Laboratory, Perth

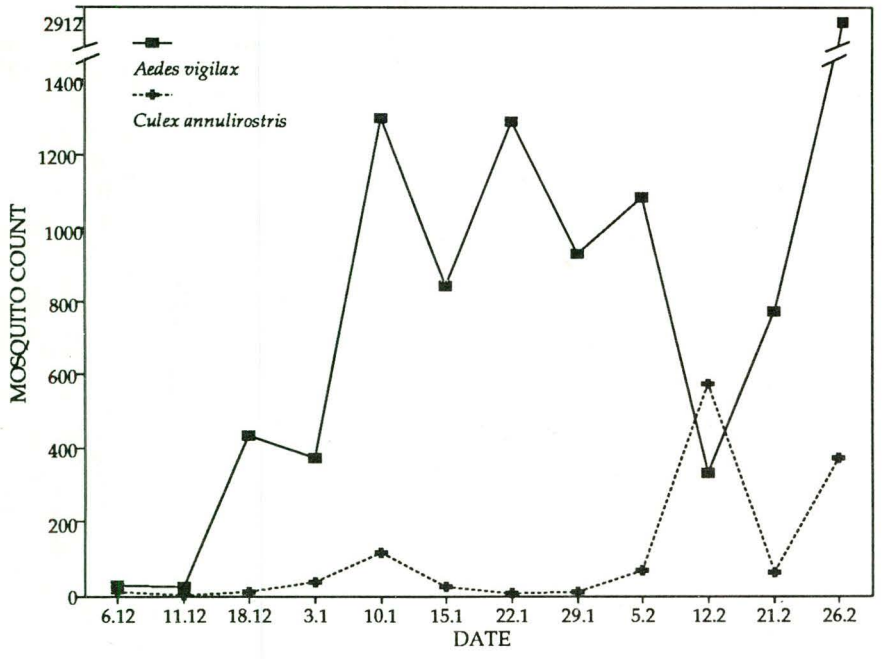
Trapped mosquitoes are being processed to isolate and identify any viruses which they are carrying. Serological studies are being done on Nhulunbuy domestic dogs and wallabies, and on a few small wild mammals and birds.

Figure 1. Cases of arbovirus-like disease by date of onset of symptoms, Nhulunbuy, Northern Territory, 25 December 1991 to 20 February 1992, by week



* 19 and 20 February only.

Figure 2. Numbers of *Aedes vigilax* and Culex annulirostris females per carbon dioxide trap per night: totals for 4 sites at Nhulunbuy, December 1991 to February 1992



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CDI Editorial Comment

Barmah Forest virus has been reported to the *CDI* Laboratory reporting schemes since 1989, when a specific assay was developed for it. There were 6 reports in 1989, 10 in 1990 and 36 in 1991. Thirty-one reports have been from Queensland and 5 have been from New South Wales. None have been known to have been from the Northern Territory. There has been no apparent seasonal trends in the cases reported so far, and no outbreaks are known to have occurred.

Similar numbers of cases have been reported in males (25) and females (27). Most cases (43 of the total of 52) occurred in adults over the age of 24 years. Muscle/joint symptoms have been the most commonly reported (16 cases), and for 6 cases, general malaise/mild fever was reported.

NORTHERN TERRITORY POLYARTHRITIS EPIDEMIC, 1990-91

(KS Tai, Menzies School of Health Research; P Whelan and Mohamed Patel, Northern Territory Department of Health and Community Services; Bart Currie, Menzies School of Health Research and Northern Territory Department of Health and Community Services)

From July 1990 to June 1991, the Northern Territory's largest recorded epidemic of symptomatic Ross River virus infection occurred. Comprehensive details were available on 364 confirmed cases; in the previous 11 years, the mean had been 28.8 cases annually. In the earlier years, the number of confirmed cases would have been under-estimated because there was a less sensitive notification system.

The first case was infected in September 1990. The epidemic peaked in January 1991 with 149 cases and tailed off in early May. The duration of the epidemic was therefore 33 weeks (Figure).

The age range of cases was from 7 to 77 years with a mean of 33.7 years. The highest number of cases was in the 30 to 34 year age group but the highest attack rate was in the 40 to 50 year age group. Children (under 15 years) and adults over 55 years had the lowest attack rates.

The sex ratio was 97 men to 100 women.

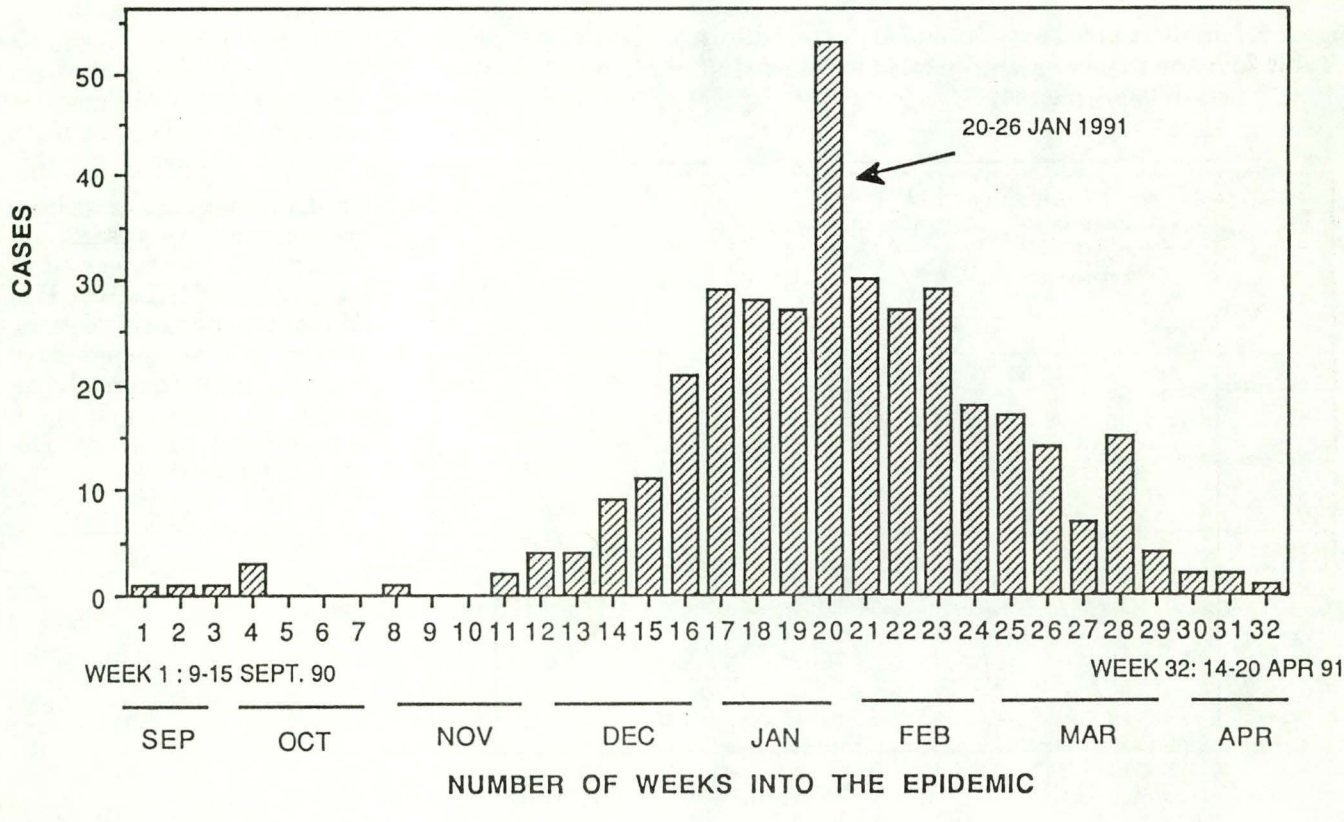
Although urban Darwin had the highest number of cases, the small towns and rural areas of Jabiru, Katherine, Litchfield Shire and Palmerston had the highest attack rates. Cases were also reported from Bathurst Island and the Tanami Desert area, but most were from the Top End of the Northern Territory.

The most frequently reported symptoms were joint pains, rash, fever and tiredness. Some cases reported severe headaches, profuse perspiration and depression. More than half the reported cases sought medical advice within one week of onset of symptoms, although in ten cases , more than 12 weeks elapsed before they had a blood test.

Only 10% of cases remembered the time of day when they were bitten by mosquitoes (mostly in the evenings), although more than 50% could remember their location when they were bitten.

At least three vectors are involved in Ross River virus transmission in the Northern Territory. *Culex annulirostris*, the common banded mosquito, is the major vector in all areas. *Aedes vigilax*, the salt marsh mosquito, was a vector in Nhulunbuy and Darwin during the early wet season. *Ae normanensis* is the probable vector in inland areas between Katherine and Tennant Creek.

Figure. Notifications of epidemic polyarthritis, Northern Territory, 9 September 1990 to 20 April 1991, by week



AUSTRALIAN HIV SURVEILLANCE REPORT, VOLUME 7 NUMBER 12 (31 DECEMBER 1991)

The National Centre in HIV Epidemilogy and Clinical Research reports that as of 30 November 1991, a total of 15,458 diagnoses of HIV infection and 3,068 cases of AIDS had been reported in Australia. For the period 1 November to 30 November 1991, 22 new cases of AIDS and 56 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 November to 30 November 1991, and cumulative to 30 November 1991, by sex and State/Territory in which the diagnosis was made*

State/ Territory	November 1991		Cumulative to 30 November 1991					
	Total Cases[1]	Total Deaths[1]	Cases			Deaths		
			Male	Female	Total	Male	Female	Total
ACT[2]	1	2	36	2	38	25	1	26
NSW[3]	8	11	1802	56	1860	1149	36	1185
NT	1	0	10	0	10	3	0	3
Qld	2	0	234	9	243	151	7	158
SA	1	0	117	5	122	59	1	60
Tas	0	0	15	1	16	10	1	11
Vic[4]	8	1	623	13	637	393	6	399
WA	1	0	134	8	142	80	3	83
Total	22	14	2971	94	3068	1870	55	1925

1. All males unless otherwise specified.
2. The new case in the ACT was a female.
3. Cumulative cases of AIDS for NSW includes 2 persons whose sex was reported as transsexual. The new cases in NSW included one female.
4. Cumulative cases of AIDS for Victoria includes 1 person whose sex was reported as transsexual.

Table 2. Number of new diagnoses of HIV infection in the period 1 November to 30 November 1991, and cumulative diagnoses since the introduction of HIV antibody testing to 30 November 1991, by sex and State/Territory

State/ Territory	November 1991 Total[1]	Cumulative to 30 November 1991			
		Male	Female	Sex not reported	Total
ACT	0	19	0	97	116
NSW[2]	-	7962	407	1992	10361
NT	1	58	6	0	64
Qld[3]	17	1123	47	0	1170
SA[4]	0	338	28	0	366
Tas	0	52	3	0	55
Vic[5]	35	2508	96	74	2678
WA	3	616	32	0	648
Total[6]	56	12676	619	2163	15458

1. All males unless otherwise specified.
2. Counts for NSW were unavailable for the period. Cumulative total for NSW is to 31 October 1991.
3. One new diagnosis in Queensland in November was a female.
4. Cumulative total for SA does not include new diagnoses during the period 18 May 1990 to 9 September 1991.
5. Total for Victoria for November includes 1 person whose sex was not reported, and 4 females.
6. Total for Australia for November incudes 5 females and 1 person whose sex was not reported. Cumulative total for persons whose sex was not reported includes 10 persons whose sex was reported as transsexual.

HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 IN SYDNEY

(Reprinted with acknowledgment from Australian HIV Surveillance Report, Volume 8, Supplement 1, January 1992)

HIV-2, the second of the human immunodeficiency viruses to be discovered, is endemic in West Africa, and has been documented in Europe, the USA and India. The virus causes the same spectrum of disease as HIV-1, but appears to be associated with a lower rate of progression.

In December 1991, HIV-2 infection in a West African man resident in Sydney was diagnosed at Westmead Hospital by serological testing. The man was completely asymptomatic at the time of testing. He reported no homosexual contact or intravenous injections of any kind, including transfusions, but he had received incisions from practitioners of traditional medicine in his country of origin, and had had several female sexual partners.

The routine testing strategy for HIV antibody at Westmead uses two different ELISA assays, one a recombinant ELISA (Abbott) and the other, a lysate ELISA (Genetic Systems). On testing, the man's serum was repeatedly positive by the Genetic Systems ELISA and borderline by the Abbott ELISA. Further testing by Western Blot for HIV-1 Showed an indeterminate pattern with weak reactivity to HIV-1 envelope band and moderate to strong reactivity to one "core" band and one "pol" band. However, the serum reacted with only the HIV-2 synthetic peptide spot on the Genetic Systems Genic test and to all HIV-2 specific bands on the Diagnostic Biotechnology HIV-2 Western Blot strip. Seropositivity and specifically for HIV-2 were confirmed at the National HIV Reference Laboratory in Melbourne.

This case appears to be the first diagnosis of HIV-2 infection in a resident of Australia. It is likely that the man contracted the infection in West Africa, where HIV-2 is endemic. The unsuspected presence of HIV-2 infection in a person who has been resident in Sydney raises the possibility of other undetected cases. Since some of the highly sensitive test kits for HIV-1 antibody have only a 60-70% sensitivity for HIV-2, it is possible that a blood donor with HIV-2 who is not excluded by the donor declaration may not be detected by the currently available HIV-1 screening assays. The costs and benefits of routine HIV-2 screening should be carefully monitored. HIV-2 screening is scheduled to begin within a month at metropolitan blood transfusion centres in New South Wales.

Reported by JC Downie and AL Cunningham, Virology Department, Centre for Infectious Diseases and Microbiology, ICPMR, Westmead Hospital; and M Levy, Epidemiology and Health Services Evaluation Branch, New South Wales Health Department.

MEASLES OUTBREAK IN CANBERRA

(David Cheah, Epidemiology Registrar, Communicable Diseases Section, Commonwealth Department of Health, Housing and Community Services; Robert Scott, Chief Health Officer, ACT Board of Health; and Irene Passaris, Communicable and Environmental Disease Control Section, ACT Board of Health)

Introduction

An outbreak of 82 cases of measles occurred in Canberra from late October to late December 1991. An increase in the number of cases notified by medical practitioners in November led to a field investigation. On 24 November, once the outbreak was confirmed, a media release was issued by the Chief Health Officer, asking parents to check the immunisation status of their children, and to have them vaccinated if necessary. In addition, as schools were affected, school principals received a fact sheet.

Methods

We devised a standardised questionnaire to study the outbreak. Data obtained included demographic characteristics, clinical details, school data and vaccination status. These were entered into Epi Info for analysis.

The case definition was derived from the *Canadian Communicable Disease Surveillance System* [1]:

- a "confirmed" case was one with a 4-fold rise in serum antibody titre or the presence of measles specific IgM,
- a "clinical" case had to have: fever greater than 38.3°C, cough, coryza or conjunctivitis, followed by a generalised maculopapular rash for at least three days,
- "confirmed" cases must be linked to other cases in cluster outbreaks.

A recent outbreak of rubella had occurred in Canberra schools, so case definitions for this outbreak were meticulously used to exclude possible cases of rubella.

We sought to identify all the cases in the outbreak by active case finding. We identified contacts of reported cases, contacted general practitioners in suburbs where cases occurred, interviewed principals of primary and secondary schools where cases occurred, and interviewed cases or their families, as appropriate. The media release issued on 24 November advised new

cases to contact the Communicable and Environmental Disease Control Section of the ACT Board of Health. We questioned students and their parents about their immunisation history, accepting their history without further documentation. Considerable publicity about school immunisation records made us feel that most patients or their families knew their immunisation status.

Results

Eighty two patients fulfilled the case definition. Sixty-four cases (78%) fulfilled the clinical criteria, and eighteen (22%) were confirmed cases with positive serology. We excluded eight notified cases from analysis because they did not conform to the case definition, or because they were suspected of having other types of viral illnesses. Ten further cases could not be contacted despite vigorous attempts.

The outbreak is known to have occurred from October to the end of December 1991 (Figure 1), when case ascertainment ceased. Eight cases occurred in October, fifty in November, and twenty-four in December. Approximately four generations of transmission of the disease seem apparent in the outbreak curve. The school holidays provided a natural break to the transmission of the disease, but sporadic cases continued to occur over the school holidays, with seven cases notified in January 1992.

Teenage high school students accounted for 84% of all cases (Figure 2). Females predominated in the ten to fourteen year age group (57%) whilst males predominate in the fifteen to nineteen age group (80%). In the under ten age group, male and female cases were roughly equal. Overall, males (56%) accounted for more cases than females (44%).

Twenty four cases (30%) occurred in nine primary schools and fifty two cases (59%) were from ten secondary schools. Five cases were preschoolers. The primary schools were located all over Canberra whilst all the high schools were from the north side of the city. Among the 52 high school children, eleven patients were in Year 9. One of the six high schools had twenty three cases (28% of the total) and an overall attack rate of 28 per 1000, with the highest in Year 9 (Table 1). Confirmed cases were identified in four of the six high schools with the most cases.

We could not identify a definite index case. The first few cases occurred in a primary school, two weeks after a school camp. The first few secondary school cases occurred in three schools within three days of each other, in early November. Secondary spread from primary to secondary schools, and to other schools presumably occurred through family clusters with children in multiple schools.

Thirty-nine cases belonged to fifteen family clusters and four of these families had virologically confirmed

Figure 1. Measles cases in the Canberra outbreak, October 1991 to December 1991, by day of onset of symptoms

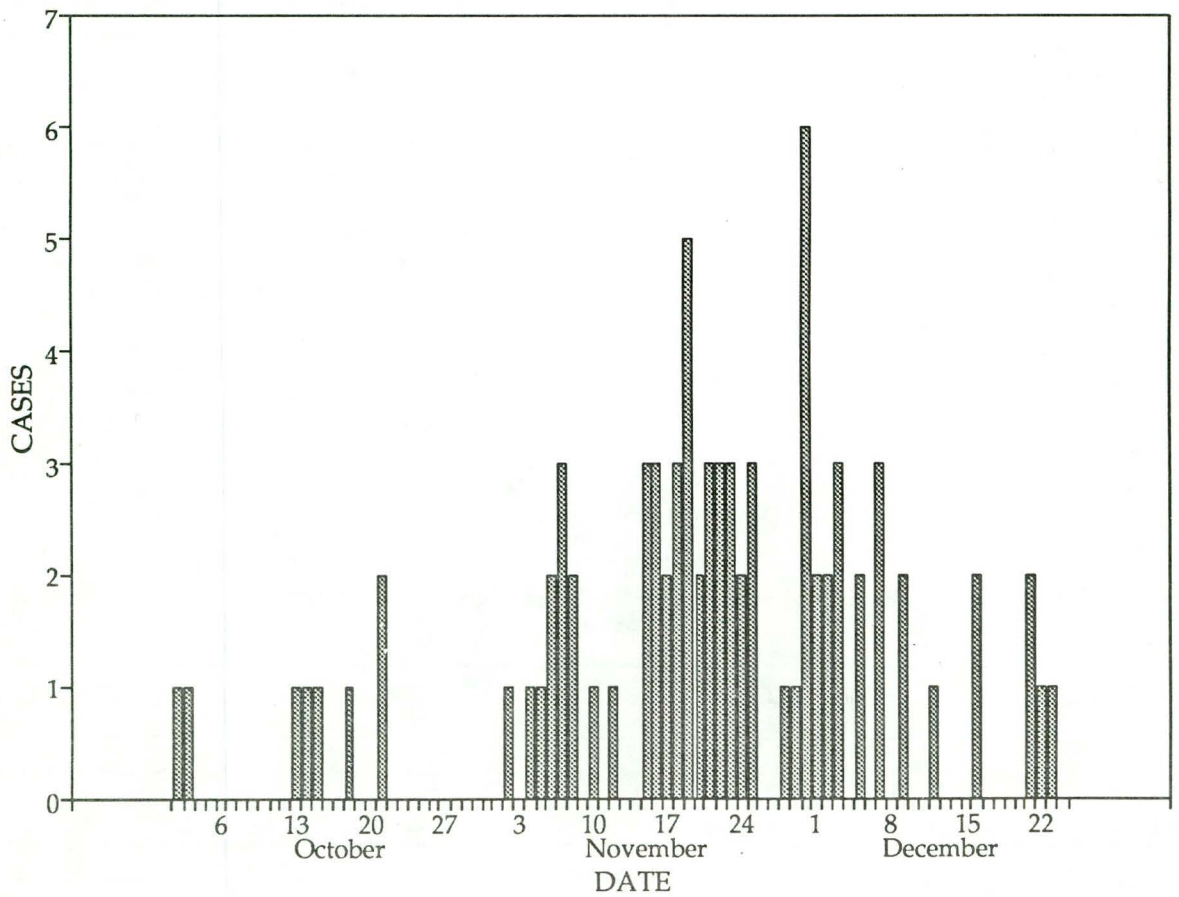
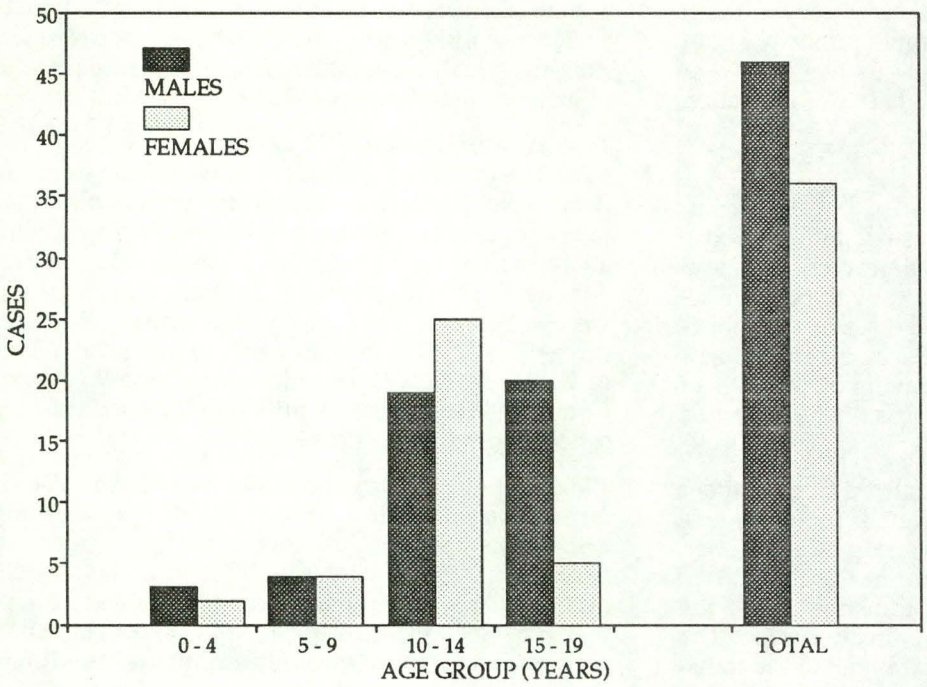


Figure 2. Measles cases in the Canberra outbreak, by age group and sex



cases within the family. Three suburbs in Canberra, where the high schools were located, accounted for 43% of cases.

The disease was diagnosed mainly by general practitioners on clinical grounds alone (65%), and in six cases by the parents of the affected children (7%). Four of these children belonged to one family cluster; the other two were contacts of cases in a high school .

Symptoms reported included fever, cough and maculopapular rash (Table 2). Three cases were hospitalised due to complications of the disease: one with pneumonia, one with asthma and one with dehydration. A further three cases were referred to a hospital for treatment but were not hospitalised. Thirty-nine of the patients were given antibiotics by their general practitioners.

Thirty-nine per cent of all cases gave a history of previous vaccination (Table 3) as did 55% of confirmed cases.

In those patients who had the disease before the onset of school holidays, an average of seven days was lost from school attendance.

Discussion

This is the first known significant outbreak of measles in school children in Canberra since 1990[2]. Other Australian outbreaks have recently occurred in New South Wales, South Australia, and Western Australia[3,4,5]. In most of these outbreaks, school children were involved and preventive measures taken by medical authorities were necessary for control.

Early reporting of the disease by medical practitioners is critical as the control of a measles outbreak depends on the rapid immunisation of susceptible children. In this outbreak, a media release was issued, both in the print and electronic media, as soon as the outbreak was confirmed. The National Health and Medical Research Council recommends that the following measures be taken in outbreaks[6]:

1. The spread of measles can be contained by the vaccination, within 72 hours, of susceptible children who have been in contact with an infected case,
2. If there is doubt about a child's measles immunity, the vaccine should be given since there are no ill effects from vaccinating those who are already seropositive,
3. Normal immunoglobulin is available for those with contraindications to the vaccine. Children under the age of one year, immunocompromised persons and non-immune pregnant women should receive immunoglobulin, preferably within six days of exposure, using a dosage of 0.2 mL/kg for normal children, and 0.5mL/kg for immunocompromised persons (maximum dose 15 mL).

It is further recommended that cases should be excluded from school for at least 5 days from the appearance of the rash or until a medical certificate of recovery is produced[7].

Table 1. Measles attack rates by school year in one Canberra high school, October to December 1991

School year	Number of cases (%)	Population	Attack rate/1000
Year 7	3 (13)	194	15
Year 8	8 (35)	207	39
Year 9	9 (39)	208	43
Year 10	3 (13)	209	28
Total	23 (100)	818	28

Table 2. Symptoms reported for the 82 affected children in the measles outbreak, Canberra, October to December 1991

Symptoms	Number of cases (%)
Fever	80 (98)
Cough	79 (96)
Runny nose	57 (70)
Conjunctivitis	54 (66)
Maculopapular rash	82 (100)

As a follow up to the investigation of the outbreak, a vaccine efficacy study is now underway in the most affected high school. This will provide valuable insights into the cause of the outbreak, and will help to document the vaccine efficacy in older children who were immunised as preschoolers.

Acknowledgments:

The authors of this article would like to acknowledge the help provided by the following people and organisations:

The ACT Education Department,
Ray Gunn, Principal of the investigated high school,
General practitioners of the ACT,
The Accident and Emergency Department, Calvary Hospital.

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Table 3. Vaccination status of the 82 affected children in the measles outbreak, Canberra, October to December 1991, by sex

Sex	Vaccination Status			Total
	Number vaccinated (%)	Number not vaccinated (%)	Number unknown (%)	
Male	17 (37)	29 (63)	0 (0)	46
Female	15 (42)	18 (50)	3 (8)	36
Total	32 (39)	47 (57)	3 (4)	82

OVERSEAS BRIEFS

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

Cholera Update

The cholera epidemic has now spread to **Suriname**. Ten cases were reported on 6 March and the Marowijne District has been declared infected.

The Norte de Santander Department of **Colombia** has recently been declared infected. A total of 2158 cases and 23 deaths were reported from Colombia from 1 January to 8 February.

In Africa, Rivers State of **Nigeria** has recently begun reporting cases. There were 150 cases and 40 deaths reported from the country in January.

Cases have also been reported for **India** for January, and for **Bolivia, Mozambique** and **Peru** for February.

Influenza in the Northern Hemisphere Update

Influenza activity is now decreasing in the countries where epidemics started during January. In Europe, activity is now very low and all indicators are under the epidemic thresholds. The influenza A epidemic, which was mainly associated with influenza A (H2N3), is over. It affected mainly the young with less impact among the elderly; the number of deaths related to influenza was lower then in the H3N2 epidemic in 1989-90.

Since 1 October 1991, influenza viruses have been isolated in 39 countries from all continents. Influenza A (H3N2) was reported in 30 countries, influenza A (H1N1) in 15 countries and influenza B in 12 countries.

COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

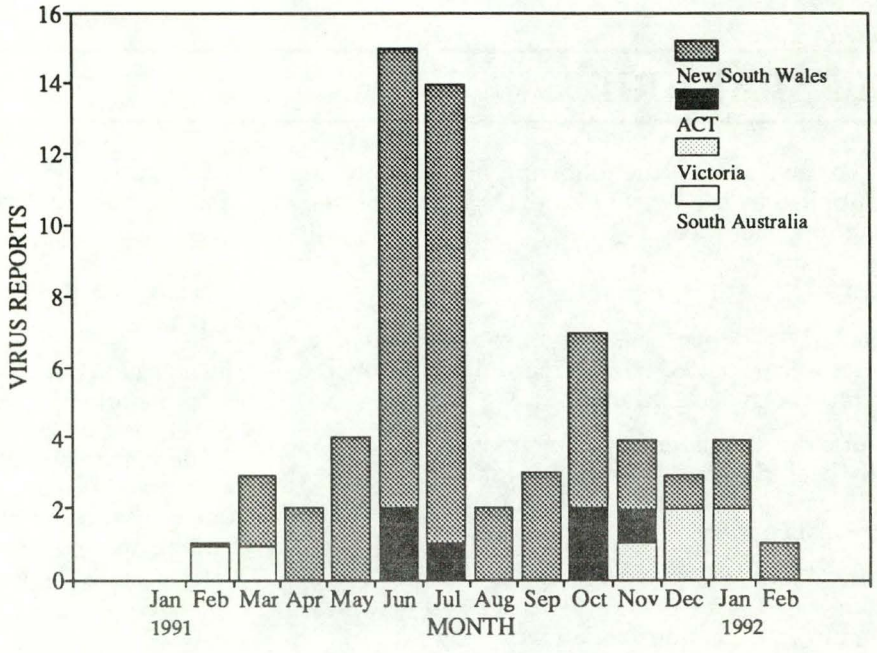
There were 1136 reports received in the *CDI* 'viruses' reporting scheme this fortnight (Tables 5, 6 and 7), and 135 reports received through the LabDOSS (Laboratory Database of Organisms from Sterile Sites) pilot scheme for February (Table 8). The 863 reports received through the 'non-viral pathogens' reporting scheme for sample collection dates July to September 1991 are also included in this issue of *CDI* (Tables 9, 10 and 11).

'Viruses' Reporting Scheme

- There were 34 reports of **Ross River virus** infection. Seventeen were from Western Australia (Armadale, Bridgetown, Bullsbrook, Busselton, Kelmscott, Kununurra, Manjimup, Metropolitan, Parkerville and Walpole), there were 11 from the Rockhampton area of Queensland and one from Gladstone, and 5 from New South Wales (Collombatti, Coolongolook and Deniliquin). It continues to be a quiet season for this virus, based on the reports received so far.
- **Parainfluenza type 1** was reported 9 times this fortnight, with 3 reports from Perth and 5 from a Sydney laboratory.
- There were 5 reports of **influenza A** received this fortnight, bringing the total reported with 1992 sample collection dates to 12, more than usual for this time of year. There have also been 5 reports of **influenza B** with sample collection dates this year. This fortnight, the influenza A reports included 3 in males aged over 65 years.
- Three cases of **echovirus type 9** infection have been reported: two from the Sydney area and one from the Central coast of New South Wales. The virus was isolated from CSF samples of a one month old male with meningitis and skin symptoms and of a 6 year old female with meningitis, and from post-mortem respiratory tract tissue of a male who had suffered SIDS. This brings to 6 the number of reports of this usually rare virus since November.

  This virus has been causing a more than usual number of cases in New Zealand recently. Twenty-three laboratory confirmed cases have been reported from the northern half of the North Island since November. Most of the cases have been in children and most have had meningitis as the reported syndrome.
- Three further reports of **echovirus type 17** were received, bringing the total for this outbreak to 63. The patients were a 4 year old female from Victoria and a 2 week old male and a 5 month old male from New South Wales
- Three further reports of **coxsackievirus type B5** were received, with two from Victoria and one from Western Australia. Meningitis was the reported syndrome for males aged 22 years and 8 years, and severe fever was reported for a 2 month old female.
- The 3 reports of **rubella** were all in females of reproductive age: one was 38 years old and the other 2 were in the 15 to 24 year age group.
- There were 8 reports of **mumps**, with 7 from New South Wales. Cardiac symptoms were reported for

Figure 1. Echovirus type 17 reports, 1991-92, by month of specimen collection and State and Territory



a 21 year old male from Wagga Wagga, meningitis was reported for a 12 year old male, and meningitis and encephalitis was reported for a 46 year old male.

- Encephalitis was the reported syndrome for a 6 year old male with **varicella-zoster virus** infection. There was a total of 25 reports of this virus this fortnight.
- **Cytomegalovirus** infection was reported for 71 patients. Included were a 16 weeks pregnant female, a premature infant with chronic lung changes, and a male (age group 45 to 64 years) with encephalitis.
- The 159 reports of **herpes simplex type 1** infection this fortnight included a case of meningitis in a female (age group 1 to 4 years) and a 63 year old male with encephalitis.
- **Hepatitis C** was reported for 120 patients. Included were 2 with a history of injecting drug use, a husband of a HCV-positive female, an eight year old male haemophiliac and a 10 year old male with Thalassaemia major.
- There were 10 reports of **Q fever** this fortnight. Three were from Victoria and 7 were from New South Wales. Included were three meat workers and a 49 year old male for whom the reported symptom was haematuria.

'Non-viral Pathogens' Reporting Scheme

For July to September 1991, the 'pathogens' reporting scheme included 97 reports of **malaria** (67 *Plasmodium vivax*, 27 *P. falciparum*, 2 mixed *P. falciparum-P.vivax*, and one *P. ovale*). This was fewer than the 122 reports received for the second quarter of 1991, but more than the 82 reports for the corresponding period of 1990.

There were 5 reports of **hydatids** (compared to 8 last quarter and 1 in the third quarter of 1990), 9 reports of ***Haemophilus influenzae*** infection (10 in the previous quarter and 1 in the third quarter of 1990), 4 reports of ***Legionella*** infection (7 reports in the previous quarter and 3 in the third quarter of 1990) and 4 reports of ***Neisseria meningitidis*** infection (1 in the previous quarter and 1 in the third quarter of 1990).

LabDOSS (Laboratory Database of Organisms from Sterile Sites)

The data are from the three Sydney laboratories in the pilot scheme. Since so many types of organisms are reported each month, the tables of blood isolates and CSF/Meningitis reports will include only organisms which have been reported 5 or more times from now on. Other isolates will be briefly mentioned in text.

The format of the blood isolates table has been changed by grouping the risk factors and clinical information categories. The details of these data, and other data such as age, sex and postcode, will be presented periodically, and is available to those who are interested.

The response to the invitation for laboratories to join LabDOSS has been very positive; 12 laboratories in 3 capital cities have indicated their interest in joining the scheme. Further information on the scheme was included in *CDI* 16:80-81, and enquiries are welcome on (06) 289 7217.

Interesting isolates reported for February were a ***Gemella haemolysans*** isolated from blood samples of a patient with a central IV line, a ***Corynebacterium aquaticum*** from the blood of an immunocompromised patient, a ***Staphylococcus epidermidis*** from the CSF of a 17 year old neurological surgery patient, a ***Yersinia enterocolitica*** from blood of a pregnant woman and ***Salmonella typhi*** from blood of two patients who had travelled overseas (India and the Philippines).

Other reports not included in the Table were 3 *Streptococcus pneumoniae*, 1 *Streptococcus* Group A, 2 *Streptococcus* Group B, 1 *Streptococcus* Group G, 1 *Streptococcus sanguis*, 1 *Streptococcus milleri*, 1 *Streptococcus mitis*, 2 *Enterococcus faecalis*, 1 *Enterococcus* sp, 1 *Corynebacterium* JK, 1 *Bacillus cereus*, 1 *Morganella morganii*, 1 *Citrobacter freundii*, 1 *Enterobacter cloacae*, 4 *Enterobacter* sp, 1 *Serratia* sp, 1 *Pseudomonas cepacia*, 2 *Pseudomonas* sp, 2 *Xanthomonas maltophila*, 2 *Aeromonas hydrophilia*, 1 *Neisseria meningitidis* group C, 1 *Acetinobacter* sp, 1 *Acetinobacter calcoaceticus*, 2 *Bacteroides fragilis*, 1 *Propionibacterium avidium*, 1 *Candida albicans*, 1 *Mycobacterium* sp, 1 *Klebsiella* sp (from CSF of a 22 year old), and 1 *Staphylococcus aureus* and 1 *Staphylococcus epidermidis* from peritoneal dialysates.

Measles in Cairns

At least 35 cases of measles have occurred in the Cairns district since early February, with 16 cases occurring in the first two weeks of March. Only 3 of the 22 age-eligible cases (about whom immunisation status is known), have a history of previous measles immunisation.

(Jeffrey Hanna, Tropical Centre for Disease Control, Cairns)

Table 1. Australian Sentinel Practice Research Network, Weeks 10 and 11, 1992

Condition	Week 10, to 8 March 1992		Week 11, to 15 March 1992	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	44	5.49	29	4.66
Measles	0	0	1	0.16
Mumps	1	0.12	0	0
Rubella	3	0.37	21	0.32
Pertussis	0	0	1	0.16
Genital herpes	8	1.0	5	0.80
Gastroenteritis	1	0.12	1	0.16

Australian Sentinel Practice Research Network

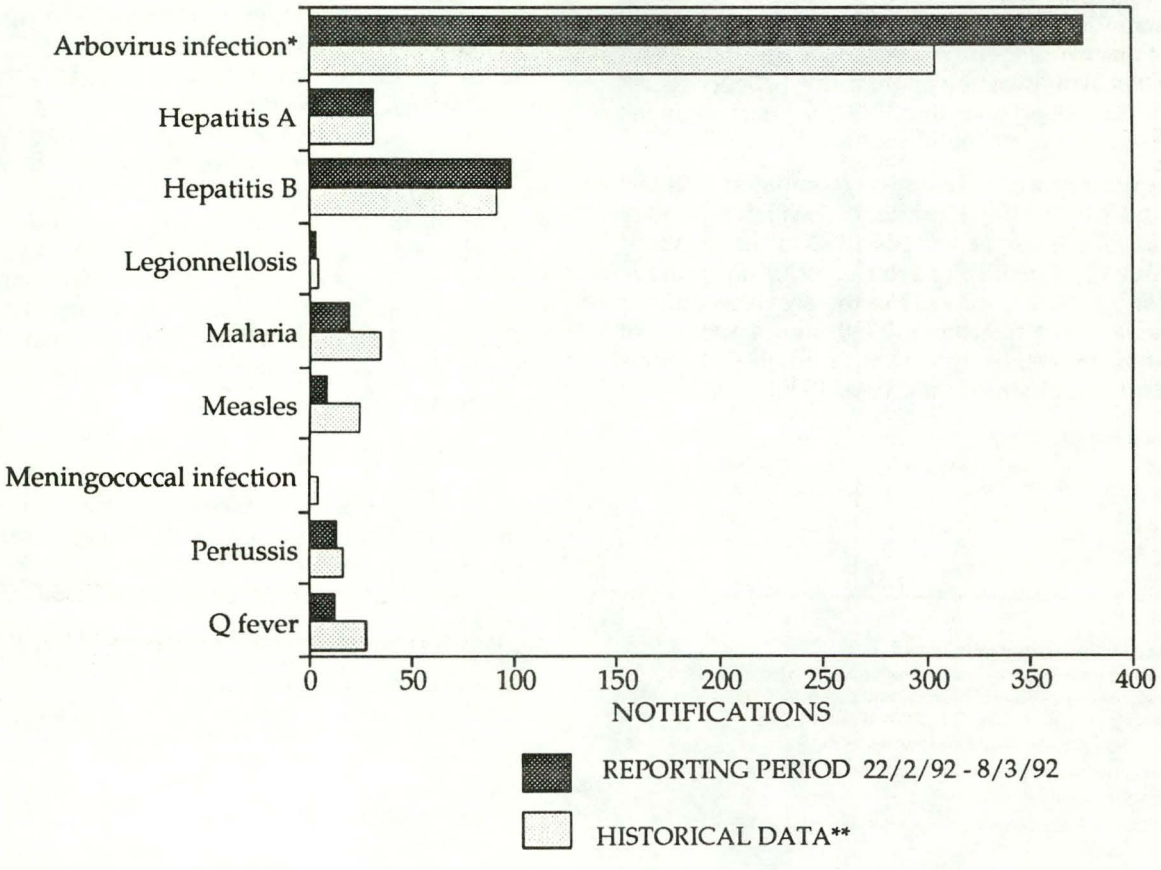
The Australian Sentinel Practice Research Network collected data from 8013 patient encounters in Week 10 and 6218 patient encounters in Week 11. Gastroenteritis has been reported through ASPREN during this period for the third and fourth times. Week 10 had the peak incidence this year of influenza reports, with 44 cases reported. Only 2 weeks of data are presented because the reporting delay has been reduced to 8 days.

National Notifiable Diseases Reports, 23 February to 7 March 1992

A total of 1529 notifications were reported this fortnight (Figure 1, Tables 2, 3 and 4). Notifications from Tasmania were not available at the time of publication.

Notifications of Ross River virus infection are at very low levels from all States and Territories, in agreement with the *CDI* laboratory reporting schemes data. The exception is the 316 cases reported from Queensland. (The laboratory data do not reflect such a level of activity, but this may be due to delays in reporting from one of the major Queensland serology laboratories.)

Figure 2. National Notifiable Diseases Reports, 23 February to 7 March 1992, and historical data**



*Includes Ross River virus and Dengue

**The Historical data are the averages of the number of notifications in 6 previous 4-week reporting periods: the corresponding periods of the last 2 years and the periods immediately preceding and following those.

Table 2. Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 23 February to 7 March 1992

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
									This Period 1992	This Period 1991	Year to Date 1992[1]	Year to Date 1991
Diphtheria	0	0	0	0	0		0	0	0	0	2	2
Measles	2	3	0	3	1		2	0	11	54	164	169
Mumps	NN	0	NN	NN	NN	NN	0	NN	0	NN	0	NN
Pertussis	NN	3	0	8	1		4	1	17	17	88	86
Poliomyelitis	0	0	0	0	0		0	0	0	0	0	0
Rubella[2]	0	0	0	6	2		4	0	12	3	76	60
Tetanus	0	0	0	NN	0		0	1	1	1	4	2

1. 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 3. Other Notifiable Diseases[1], for the reporting period 23 February to 9 March 1992

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA			
									This Period 1992	This Period 1991	Year to Date 1992[2]	Year to Date 1991
Arbovirus infection (NEC)[3]	0	0	NN	1	0		0	0	1	19	18	107
Ross River virus infection	NN	2	19	316	0	NN	10	28	375	271	947	905
Dengue	NN	0	1	0	-	NN	1	NN	2	1	3	31
Campylobacteriosis[4]	NN	-	6	148	28		63	15	260	233	1551	1096
Chlamydial infection (NEC)[5]	4	NN	15	87	0		26	0	132	132	853	652
Donovanosis	0	NN	1	0	NN	NN	0	0	1	0	8	8
Gonococcal infection[6]	0	2	9	23	0		4	0	38	79	340	352
Haemophilus influenzae type b[7]	NN	2	NN	1	1		5	NN	9	7	86	32
Hepatitis A	4	28	2	12	3		10	1	60	31	345	165
Hepatitis B	2	36	2	51	0		36	8	135	100	952	543
Hepatitis C	NN	36	NN	52	NN		14	NN	102	34	1224	282
Hepatitis (NEC)	NN	0	0	0	0		0	NN	0	4	3	12
HIV infection[8]	1	0	0	0	0		0	1	2	3	17	7
Legionellosis	NN	0	0	1	0		1	1	3	4	20	17
Leptospirosis	0	0	0	0	0		3	0	3	6	31	24
Listeriosis	NN	0	NN	1	NN		0	0	1	1	4	7
Malaria	1	5	0	10	0		9	0	25	26	131	134
Meningococcal infection	0	1	0	0	0		0	1	2	1	29	37
Ornithosis	1	NN	0	0	0		5	0	6	0	25	6
Q fever	0	6	0	8	0		5	0	19	14	61	118
Salmonellosis (NEC)	3	5	17	112	11		25	21	194	223	1068	1048
Shigellosis[4]	1	-	4	0	7		4	2	18	48	104	173
Syphilis	1	14	11	31	0		1	0	58	40	350	374
Tuberculosis	0	0	0	1	2		2	1	6	10	76	70
Typhoid[9]	0	0	0	0	1		0	1	2	5	14	11
Yersiniosis[4]	NN	-	0	24	9		0	0	33	24	138	87

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

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 4. Rarely Notified Diseases[1]

DISEASES	Total this period	Reporting States or Territories	Total for 1992 to Date
Botulism			0
Brucellosis	1	Qld	2
Cholera			0
Chancroid			0
Hydatid infection			0
Leprosy			3
Lymphogranuloma venereum			1
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 5. Laboratory reports by State or Territory of reporting laboratory for the reporting period 26 February to 10 March 1992, historical data[1] and total reports for the year

	STATE OR TERRITORY OF REPORTING LABORATORY							Total This Period	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA										
Mumps virus		7				1		8	1.5	17
Rubella virus			2			1		3	23.2	56
HEPATITIS VIRUSES										
Hepatitis A virus	1	7		3		11	3	25	11.5	94
Hepatitis B virus		37	10	5	2	17	23	94	89.7	535
Hepatitis C virus	3	2	2	79	2		32	120	5.5	458
ARBOVIRUSES										
Ross River virus		5	12				17	34	51.0	135
ADENOVIRUSES										
Adenovirus type 2		1						1	1.5	28
Adenovirus type 3		2						2	3.7	12
Adenovirus not typed/pending		13	1	15		2	3	34	25.3	227
HERPES VIRUSES										
Herpes simplex virus type 1		19	28	62	1	37	12	159	87.2	921
Herpes simplex virus type 2	2	27	29	49	1	27	32	167	113.5	1,057
Herpes simplex not typed/pending	1	28	3	1				33	54.8	198
Cytomegalovirus		13	15	12	3	27	1	71	56.3	493
Varicella-zoster virus		8		10		1	6	25	13.0	168
Epstein-Barr virus		2	29	36		5	9	81	50.5	398
Herpes virus group - not typed						1	1	2	5.0	23
OTHER DNA VIRUSES										
Papovavirus group		1						1	.0	7
Parvovirus						3		3	.0	36
PICORNA VIRUS FAMILY										
Coxsackievirus B4							1	1	.3	6
Coxsackievirus B5						2	1	3	.3	18
Echovirus type 9		3						3	.2	6
Echovirus type 17		2				1		3	.2	15
Enterovirus type 71 (BCR)		2						2	.2	4
Enterovirus not typed/pending		5	5	1			2	13	25.8	199

Table 5. Laboratory reports by State or Territory of reporting laboratory for the reporting period 26 February to 10 March 1992, historical data[1] and total reports for the year , continued

	STATE OR TERRITORY OF REPORTING LABORATORY							Total This Period	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
Poliovirus type 1 (uncharacterised)		1						1	1.2	11
Rhinovirus (all types)		4	8			1		13	14.0	157
ORTHO/PARAMYXOVIRUSES										
Influenza A virus				4			1	5	3.3	25
Influenza B virus				1			1	2	6.5	28
Parainfluenza virus type 1		5		1			3	9	4.5	43
Parainfluenza virus type 2				1			2	3	1.5	19
Parainfluenza virus type 3		3		2				5	13.8	109
Respiratory syncytial virus		7	7	3	9		1	27	8.2	127
OTHER RNA VIRUSES										
Rotavirus		3	14	9		1	1	28	13.5	266
Small virus (like) particle		3						3	.7	10
OTHER										
Chlamydia trachomatis (unspecified)	2	14	5	59	2	8	27	117	111.7	701
Chlamydia psittaci (ornithosis)				1		3		4	5.0	38
Mycoplasma pneumoniae		6	1	7		3	4	21	14.0	164
Coxiella burnetii (Q fever)		7				3		10	11.7	55
TOTAL	9	237	171	361	20	155	183	1,136	829.7	6,864

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 6. Laboratory reports by clinical information for the reporting period 26 February to 10 March 1992

	Encepalitis	Menigitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/Unknown	Total
MEASLES, MUMPS, RUBELLA													
Mumps virus		2										6	8
Rubella virus								2				1	3
HEPATITIS VIRUSES													
Hepatitis A virus							12					13	25
Hepatitis B virus							20					74	94
Hepatitis C virus							6					114	120
ARBOVIRUSES													
Ross River virus								5		18		11	34
ADENOVIRUSES													
Adenovirus type 2						1							1
Adenovirus type 3					1				1				2
Adenovirus not typed/pending					6	24			2			2	34
HERPES VIRUSES													
Herpes simplex virus type 1	1	2			13	1		83	11		40	8	159
Herpes simplex virus type 2			1		1			60	1		101	3	167
Herpes simplex not typed/pending					1			17			4	11	33

Table 6. Laboratory reports by clinical information for the reporting period 26 February to 10 March 1992, continued

	Encepalitis	Menigitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/Unknown	Total
Cytomegalovirus	1			2	17	1	4		2			44	71
Varicella-zoster virus	1				1		1	19				3	25
Epstein-Barr virus					8		3	1				69	81
Herpes virus group - not typed								1			1		2
OTHER DNA VIRUSES													
Papovavirus group												1	1
Parvovirus								2		1			3
PICORNA VIRUS FAMILY													
Coxsackievirus B4												1	1
Coxsackievirus B5		2										1	3
Echovirus type 9		2										1	3
Echovirus type 17					1	1		1					3
Enterovirus type 71 (BCR)						1		1					2
Enterovirus not typed/pending		2			4	5		2					13
Poliovirus type 1 (uncharacterised)												1	1
Rhinovirus (all types)					12							1	13
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					5								5
Influenza B virus					2								2
Parainfluenza virus type 1					9								9
Parainfluenza virus type 2					2							1	3
Parainfluenza virus type 3					4							1	5
Respiratory syncytial virus					26							1	27
OTHER RNA VIRUSES													
Rotavirus						21						7	28
Small virus (like) particle						3							3
OTHER													
Chlamydia trachomatis (unspecified)					2				3		104	8	117
Chlamydia psittaci (ornithosis)					4								4
Mycoplasma pneumoniae					13			1				7	21
Coxiella burnetii (Q fever)												10	10
TOTAL	3	10	1	2	132	58	46	195	20	19	250	400	1,136

Table 7. Laboratory reports by contributing laboratories for the reporting period 26 February to 10 March 1992

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Garran	9
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	162
	Prince Henry/Prince of Wales Hospitals, Sydney	45
	Royal Alexandra Hospital for Children, Camperdown	30
Queensland	Dr TB Lynch, Pathologist, Rockhampton	64
	State Health Laboratory, Brisbane	105
	Toowoomba Pathology Laboratory	2
South Australia	Institute of Medical & Veterinary Science, Adelaide	361
Tasmania	Royal Hobart Hospital	20
Victoria	Fairfield Hospital, Melbourne	147
	Microbiological Diagnostic Unit, University of Melbourne	8
Western Australia	Princess Margaret Hospital, Perth	9
	State Health Laboratory Services, Perth	174
TOTAL		1,136

Table 8. LabDOSS reports of blood isolates for February 1992[1]

		Risk Factors							Clinical Information						
Organism	Total[1]	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal	Nosocomial	Overseas Travel	Lower respiratory	Meningitis	Endocarditis	Gastrointestinal	Urinary Tract	Bone/Joint	Skin
Staphylococcus aureus[2]	22	2	5	4										1	1
Staphylococcus epidermidis	24	1	3	4		2	2					3			
Staphylococcus - coagulase neg	7		2									1			
Escherichia coli	21		3		1	2			2			4	2		
Klebsiella spp[3]	8		1	1								1			
Pseudomonas aeruginosa	7	1	4	1									1		

1. Only organisms with 5 or more isolations are included in this Table.
2. Includes 3 MRSA (Methicillin-Resistant S. aureus).
3. Includes 2 K. pneumoniae and 1 K. oxytoca.

Table 9. 'Non-viral' pathogen identifications by contributing laboratory, for specimen collection dates July to September 1991

019 - Fairfield Hospital, Melbourne (Vic)
112 - Institute of Clinical Pathology & Medical Research, Westmead (NSW)
115 - State Health Laboratory, Brisbane (Qld)
270 - Tamworth Laboratory, New England Pathology (NSW)
400 - Dr TB Lynch, Pathologist, Rockhampton (Qld)
420 - Nambour General Hospital (Qld)
HOB - Hobart Pathology Laboratory (Tas)
RHH - Royal Hobart Hospital (Tas)
TPL - Toowoomba Pathology Laboratory (Qld)

Organism	019	112	115	270	400	420	HOB	RHH	TPL	TOTAL
Aeromonas hydrophila					8					8
Aeromonas sobria					3					3
Aeromonas species					11					11
Ancylostoma duodenale								1		1
Ascaris lumbricoides								3		3
Aspergillus species			2				2			4

Table 9. 'Non-viral' pathogen identifications by contributing laboratory, for specimen collection dates July to September 1991, continued

Organism	019	112	115	270	400	420	HOB	RHH	TPL	TOTAL
Bacteroides species						1				1
Blastocystis hominis					1					1
Bordetella pertussis		1			8				3	12
Brucella abortus			2							2
Campylobacter coli									1	1
Campylobacter jejuni								11	2	13
Campylobacter species					27		55			82
Candida albicans						1				1
Candida species		1	123							124
Clostridium species					1					1
Cryptococcus species		2								2
Cryptosporidium species					1			1		2
Echinococcus granulosus			5							5
Eikenella corrodens					1					1
Entamoeba histolytica			3					1		4
Enterobacter aerogenes									1	1
Enterobacter species						1				1
Enterobius vermicularis					5					5
Epidermidophyton species			1		5					6
Escherichia coli		1			10	3	1	7	7	29
Giardia lamblia					28		7	1		36
Haemophilus influenzae		1		2		2		2	2	9
Helicobacter pylori					3					3
Klebsiella species						2		2	1	5
Legionella pneumophila		4								4
Legionella species			3							3
Leptospira australis			3							3
Leptospira autumnalis			6							6
Leptospira hardjo		3	3							6
Leptospira pomona			1							1
Leptospira species			6							6
Malassezia furfur					2					2
Microsporum species					9		9			18
Morganella morganii									1	1
Necator americanus								1		1
Neisseria gonorrhoeae					4		3		4	11
Neisseria meningitidis				2		1		1		4
Pasteurella multocida					1		1			2
Phthirus pubis					1					1
Plasmodium falciparum			27							27
Plasmodium falciparum/vivax (mixed)			2							2
Plasmodium ovale			1							1
Plasmodium vivax			66		1					67
Proteus mirabliis				1						1
Proteus species									2	2
Pseudomonas species					1	1	1	2		5
Salmonella species					20		9	5	4	38
Serratia species								1		1
Shigella species					1					1

Table 9. 'Non-viral' pathogen identifications by contributing laboratory, for specimen collection dates July to September 1991, continued

Organism	019	112	115	270	400	420	HOB	RHH	TPL	TOTAL
Staphylococcus aureus				1	1	4			9	15
Staphylococcus species		3			1		1	21		26
Streptococcus Group A						1				1
Streptococcus pneumoniae				3		3			3	9
Streptococcus species		1						11		12
Toxoplasma gondii	4	6	12		4			1		27
Treponema pallidum			105		5			2	3	115
Trichomonas vaginale			3		8		5			16
Trichophyton mentagrophytes					5					5
Trichophyton rubrum					2					2
Trichophyton species			7		15		11			33
Trichuris trichiura								4		4
Vincent's organisms					3					3
Yersinia enterocolitica					3				1	4
TOTAL	4	23	381	9	199	20	105	78	44	863

Table 10. 'Non-viral' pathogen identifications, by source specimen, for specimen collection dates July to September 1991, part 1

BL - Whole blood; BR - Bronchial washings or aspirate; CS - Cerebrospinal fluid; EY - Eye; FA - Faeces; GE - Genital; LE - Leukocytes; NA - Nasopharyngeal swab; PD - Peritoneal dialysis fluid; PF - Pericardial, Pleural or joint fluid; PU - Pus; SK - Skin; SM - Serum.

Organism	BL	BR	CS	FA	GE	LE	NA	PD	PF	PU	SK	SM	TOTAL
Aeromonas hydrophila				7							1		8
Aeromonas sobria				2							1		3
Aeromonas species				9						1			10
Ancylostoma duodenale				1									1
Ascaris lumbricoides				3									3
Aspergillus species											2		2
Bacteroides species	1												1
Blastocystis hominis				1									1
Bordetella pertussis							2					10	12
Brucella abortus												2	2
Campylobacter coli	1												1
Campylobacter jejuni				12				1					13
Campylobacter species				82									82
Candida albicans	1												1
Candida species		3		1	107	2					2		115
Clostridium species										1			1
Cryptococcus species			1									1	2
Cryptosporidium species				2									2
Echinococcus granulosus												5	5
Eikenella corrodens										1			1
Entamoeba histolytica				1								3	4
Enterobacter aerogenes	1												1
Enterobacter species	1												1
Enterobius vermicularis				2									2
Epidermidophyton species											1		1
Escherichia coli	20		1	7									28

Table 10. 'Non-viral' pathogen identifications, by source specimen, for specimen collection dates July to September 1991, part 1, continued

Organism	BL	BR	CS	FA	GE	LE	NA	PD	PF	PU	SK	SM	TOTAL
Giardia lamblia				36									36
Haemophilus influenzae	6		3										9
Klebsiella species	5												5
Legionella pneumophila												4	4
Legionella species												3	3
Leptospira australis												3	3
Leptospira autumnalis												6	6
Leptospira hardjo												6	6
Leptospira pomona												1	1
Leptospira species												6	6
Microsporum species											10		10
Morganella morganii	1												1
Necator americanus				1									1
Neisseria gonorrhoeae					11								11
Neisseria meningitidis	2		2										4
Pasteurella multocida										2			2
Plasmodium falciparum	27												27
Plasmodium falciparum/vivax (mixed)	2												2
Plasmodium ovale	1												1
Plasmodium vivax	67												67
Proteus mirabliis	1												1
Proteus species	2												2
Pseudomonas species	5												5
Salmonella species	2			36									38
Serratia species	1												1
Shigella species				1									1
Staphylococcus aureus	12		1							2			15
Staphylococcus species	22								3				25
Streptococcus Group A	1												1
Streptococcus pneumoniae	8									1			9
Streptococcus species	11												11
Toxoplasma gondii												26	26
Treponema pallidum												115	115
Trichomonas vaginale					14								14
Trichophyton species											18		18
Trichuris trichiura				4									4
Vincent's organisms							1						1
Yersinia enterocolitica				3								1	4
TOTAL	201	3	8	211	132	2	3	1	3	8	35	192	799

Table 11. 'Non-viral' pathogen identifications, by source specimen, for specimen collection dates July to September 1991, part 2

SP - Sputum; SS - Skin scrapings; TH - Throat; OT - Other non-biopsy or non-postmortem source.
POSTMORTEM OR BIOPSY SPECIMENS: MD - Upper digestive tract; MR - Respiratory tract; MS - Spleen, lymph nodes; MO - Other postmortem/biospy specimen; MI- Upper digestive tract.

Organism	SP	SS	TH	OT	MD	MS	MO	MI	TOTAL
Aeromonas species				1					1
Aspergillus species				2					2
Candida species	7			1		1			9
Enterobius vermicularis								3	3
Epidermidophyton species		5							5
Escherichia coli				1					1
Helicobacter pylori					3				3
Malassezia furfur		2							2
Microsporum species		7		1					8
Phthirus pubis				1					1
Staphylococcus species							1		1
Streptococcus species							1		1
Toxoplasma gondii							1		1
Trichomonas vaginale				2					2
Trichophyton mentagrophytes		5							5
Trichophyton rubrum		2							2
Trichophyton species		15							15
Vincent's organisms			2						2
TOTAL	7	36	2	9	3	1	3	3	64