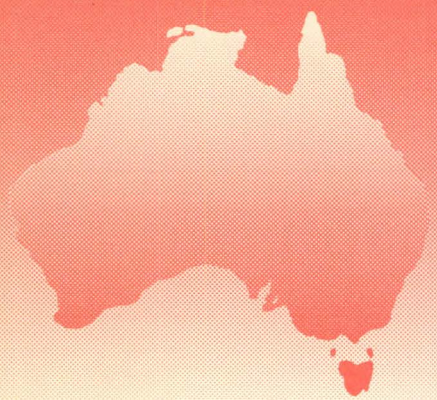

COMMUNICABLE DISEASES INTELLIGENCE

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DEPARTMENT OF HEALTH, HOUSING AND COMMUNITY SERVICES

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

CHILDHOOD IMMUNISATION IN RURAL WESTERN AUSTRALIA: ABORIGINAL CHILDREN DO BETTER IN THE MORE REMOTE AREAS

(Heath Kelly, for the Midwest and Gascoyne Region Community Health Services, Western Australia)

Introduction

Unlike the United Kingdom, Australia does not have a national database to assess immunisation uptake[1]. Immunisation status has therefore been estimated by surveys[2] and by using sentinel schools[3]. As an administrative initiative, a number of Australian States have organised their health service delivery on a regional basis. Regionalisation offers the opportunity of performing a complete survey, rather than a sample survey, of a well defined administrative area. We have taken the opportunity of surveying immunisation uptake in all children in Grade 1 in 1992 in the Midwest and Gascoyne Health Region of Western Australia.

This Health Region covers an area of approximately three quarters of a million square kilometres, which is more than three times the size of the State of Victoria. Despite this land area, the population of the Region in 1990 was only approximately 63,600, of whom 11% were of Aboriginal descent[4]. Approximately half of the population lives within close proximity to the coastal city of Geraldton, the Region's administrative centre. The southern part of the Region consists mainly of wheatbelt towns, while towards the centre and to the north mining and pastoral industries play a significant role in the regional economy. There is also an important coastal fishing industry. Aboriginal people represent a higher proportion of the Region's population in the more remote areas.

This survey was undertaken in order to estimate the immunisation uptake in childhood in one clearly defined health region and to compare the immunisation status of Aboriginal and non-Aboriginal children.

Methods

All schools within the Health Region are the responsibility of at least one community health nurse. For each child in Grade 1 the community health nurse was asked to obtain a detailed history of the child's immunisation uptake up until entry into that grade. Data were obtained from maternal reports, school health records, records held by the child's parents and community health records. Data which did not rely on maternal reports were preferred because it has been suggested that maternal reporting may be inaccurate[5]. For each school a data form on the number of children who had been immunised for each of the scheduled immunisations was completed by the community health nurse who had responsibility for that school. In Western Australia the immunisation schedule up to Grade 1 is: diphtheria, tetanus and pertussis (DTP) and oral polio vaccine (OPV) at 2, 4 and 6 months; measles, mumps and rubella (MMR) at 12 months; DTP at 18 months; combined diphtheria and tetanus vaccine (CDT) and oral polio vaccine at 5 years.

Data were compiled by sex and race. Immunisation status was characterised as complete, complete except for the immunisations scheduled at 5 years of age; complete except for MMR; or incomplete/information unavailable. Comparison of the completeness of scheduled immunisation was performed by the EpiInfo program[6] using the χ^2 distribution with Yates' correction for small numbers as appropriate. Stratification was performed by areas within the Region and a test for trend in immunisation status across areas was performed by the Mantel-Haenszel method.

Results

Data were available for 1008 children from 49 schools. Data were unavailable from two schools, Meekatharra School of the Air and the Pallotine Mission. The number of children in Grade 1 at these two schools was estimated as 15 (1.5% of all Grade 1 children in the Region). Of all children surveyed, there was an almost equal number of boys and girls and 15.7% were of Aboriginal decent.

The Grade 1 school health records were used as the basis for assessing immunisation status and 87% of these records were independently verified by the community health nurse by referring to community health records, by contacting other agencies (usually community health in other areas), or by sighting the immunisation records kept by the parent. Only 13% of records relied either on unverified school health records or maternal reports. The record was considered to be adequately documented by any of the methods.

Overall 86.5% of all children had completed the required schedule up to entry into Grade 1 and had adequate documentation of their immunisation status. A further 7.6% had completed their immunisation except for either MMR (2.1%) or their 5 year CDT and oral polio boosters (5.5%). Only 6.0% of all children had immunisations that were less complete than this or not completely documented. There was no significant difference in immunisations fully complete (or incomplete) by sex, however, there was a significant difference by race, with only 74.7% of Aboriginal children having complete immunisations compared with 88.7% of non-Aboriginal children (χ^2, one degree of freedom = 22.45, p=0.00002).

The Region can be reasonably divided into three separate areas, based on the similarity of the populations served. The first area is that of the city of Geraldton and the immediately surrounding district, the second is that of the wheatbelt towns and the third is the more remote

Table 1. Immunisation uptake in children in Grade 1 in the Midwest and Gascoyne Health Region by race and area within the Region

Area	Aboriginal		Non-Aboriginal		All		p-Value[1]
	N	% Complete	N	% Complete	N	% Complete	
Geraldton and District	43	44.2	478	88.7	521	85.0	$p<10^{-6}$
Wheatbelt	19	78.9	203	91.6	222	90.5	p=0.16
Murchison and Gascoyne	96	87.5	169	85.2	265	86.0	p=0.60
Totals	158	74.7	850	88.7	1008	86.5	p=0.00002

1. P-value based on χ^2 distribution, with Yates' correction if appropriate, comparing Aboriginal with non-Aboriginal children.

part of the Region, the Murchison and Gascoyne, which includes a number of mining towns with a large Aboriginal population and Carnarvon, a coastal town of 9,000 people which also has a large Aboriginal population. About half of all children attended school in the Geraldton area, with approximately equal numbers of the remaining children attending school either in the wheatbelt towns or the Murchison and Gascoyne. There was no significant difference in the immunisation uptake in these areas (two degrees of freedom $\chi^2 = 4.12$, $p = 0.13$), however, when immunisation uptake by race was stratified by area within the Region, an important difference emerged. There was a significant difference in the completion of immunisation by race over the three areas (Mantel-Haenszel summary $\chi^2 = 22.94$, $p = 0.0002$) and this difference was entirely attributable to the decreased immunisation uptake in Aboriginal children in the Geraldton area (Table 1).

Discussion

Immunisation uptake in the Midwest and Gascoyne Health Region of Western Australia can be considered to be satisfactory. More than 94% of all children had had their first four scheduled primary immunisations. About 2% of all children had missed their 12 month measles, mumps and rubella immunisation and a further 5.5% of all children had missed their 5 year old boosters before entry to Grade 1. Only 6% of all children had missed more than two of their scheduled immunisations or had inadequately documented records. This survey examined not only immunisation uptake but documentation of that uptake and it is likely that immunisations have been performed on children for whom there is no adequate documentation. The estimate of immunisation uptake in this study is slightly lower than that obtained from the West Australian Sentinel Schools Surveillance Program[3].

An unexpected finding in this survey was the fact that Aboriginal children were better immunised when they lived in the more remote parts of the Region. This is undoubtedly due to the different practice of the community health nurses in different parts of the Region. In the smaller remote communities, follow-up is consciously more complete and it is easier to track down families in order to maintain high levels of immunisation. In Geraldton, however, more responsibility is placed on families to maintain the immunisation of their own children. This is the attitude generally adopted for non-Aboriginal families throughout the Region, for whom there is no significant local difference in immunisation uptake. If a similar attitude to that pursued in Geraldton is pursued in larger cities which have a substantial Aboriginal population, it is possible that Aboriginal immunisation rates may not be at the high level achieved by the rest of the community. Neither sample surveys nor sentinel school surveys are designed to uncover differences of this nature and indicate the importance of whole population surveys within defined regions.

Acknowledgments

Data on the immunisation of children in the Midwest and Gascoyne were provided by Janice Cuming, Mary Fegan, Marie Grant, Sharon Lawrence, Grace Ley, Robin McKechnie, Gillian Manuel, Barbara Mellor, Celia Miller, Judy Mogg, Patricia Moore, Deborah O'Donnell, Wendy O'Farrell, David Richardson, Valmar Rogers, Anne Sanders, Heather Schumacher, Theresa Seymour, Norma Stevens and Margaret Watt. The report was reviewed by Dr J Gill of the Health Department of Western Australia.

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AN OUTBREAK OF *MYCOPLASMA PNEUMONIAE* INFECTION IN VICTORIA, 1992

(Raina MacIntyre, Communicable Diseases Network, Australia and Infectious Diseases Unit, Department of Health and Community Services, Victoria; Noreen Lehman, Department of Virology, Fairfield Infectious Diseases Hospital; Jenny Leydon, Department of Virology, Fairfield Infectious Diseases Hospital)

Introduction

Mycoplasma pneumoniae activity in Victoria was high in 1992, with levels well above the expected baseline. The Department of Health and Community Services, Victoria has, in addition, received reports of outbreaks of respiratory illness and atypical pneumonia between 31 December 1992, and 14 January 1993, which are currently being investigated.

Methods

We gathered data from Fairfield Hospital virology laboratory, Dorevitch Pathology, Unipath laboratories, Alfred Hospital laboratory, Monash, Medical Centre laboratory and Royal Children's Hospital laboratory. The other major laboratories in Victoria send specimens for confirmatory IgM assay to Fairfield Hospital. A case was defined as a positive IgM, or rising titres of IgG against *Mycoplasma pneumoniae*.

Table 1. Laboratories reporting *Mycoplasma pneumoniae* cases, Victoria, 1992

Laboratory	Cases, 1992
Fairfield Hospital	269
Royal Children's Hospital	139
Dorevitch Pathology	108
Monash Medical Centre	77
Alfred Hospital	18
Unipath	3
Total	614

Results

In 1992 there were 614 serologically proven cases of *Mycoplasma pneumoniae* infection compared with 227 cases in 1991 (Table 1, Figure 1). This was higher than the number of cases received for any of the previous eight years (Figure 2).

The level of *Mycoplasma* activity has been higher than usual since May 1992, with a peak of 125 cases in December, and continuing high activity since then. There were 121 cases in November and 122 cases in October 1992.

The mean age of patients was 22.3 years, 20.6 years for females and 24.0 years for males. The median age for males was 19.5 years, and females 14.0 years. More than 34% of the cases were younger than 10 years, 50% younger than 17 years, and

Figure 1. *Mycoplasma pneumoniae* laboratory reports, Victoria, 1991 to 1992, by month

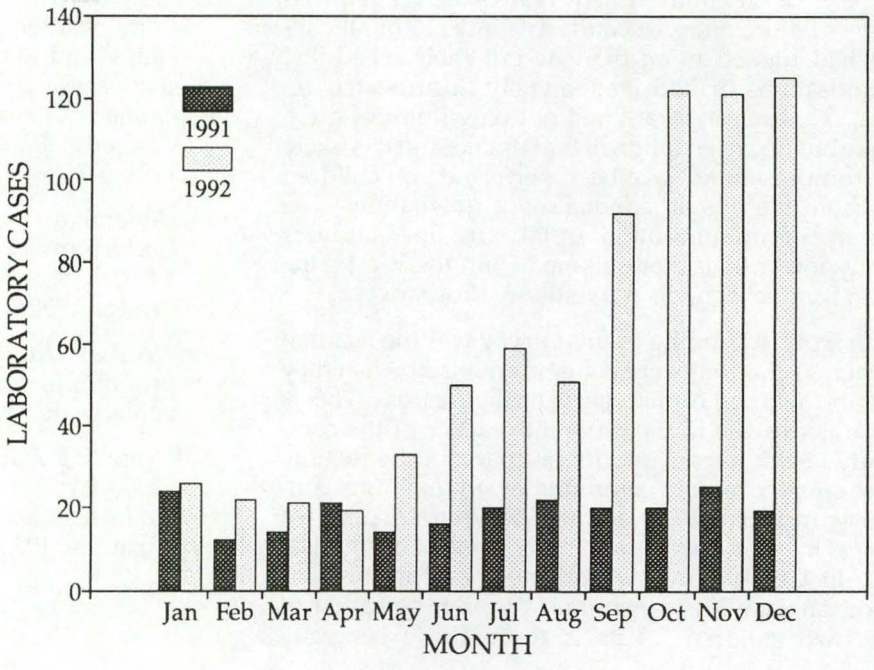
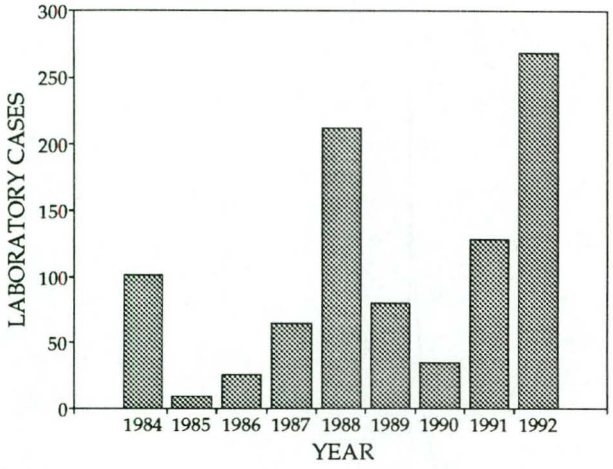


Figure 2. *Mycoplasma pneumoniae* laboratory reports, Fairfield Infectious Diseases Hospital, 1984 to 1992, by year



78% younger than 35 years. The age range was from 0 to 88 years.

There was no sex difference in incidence.

The first cluster of cases was from the Mornington Peninsula area in March 1992, and since then there have been clusters of cases in Ferntree Gully, Dandenong, Belmont, and most recently in Wangaratta, Warragul and the Gippsland region. The highest incidence rate was in the East Central region, followed by the Loddon-Campaspe region (Table 2). The rate in the Melbourne region was lower than the mean Victorian rate.

Discussion

Mycoplasma pneumoniae infection may be sporadic, endemic or, less commonly, epidemic, and causes clinical pneumonia in 3-30% of cases. Erythromycin and tetracycline reduce the period of infectivity, but do not eliminate the organism from the pharynx[1].

There is a current outbreak of *Mycoplasma pneumoniae* infection in Victoria, as outlined by laboratory case finding. A laboratory based case definition excludes a large number of probable cases, but nonetheless, indicates the timing and peak of an outbreak. We were also able to obtain information about the age distribution and location of cases. Almost 80% of cases were under the age of 35 years, a finding which is not surprising.

The level of *Mycoplasma* activity documented by laboratory case finding in 1992 is higher than levels in the past 8 years. This may in part reflect a lower threshold for laboratory testing in 1992 as opposed to previous epidemic years, but 1992 was clearly an epidemic year. The peak of activity in December 1992 warrants continuing close surveillance in the early months of 1993.

Table 2. Laboratory confirmed cases of *Mycoplasma pneumoniae* infection, rate per 100,000 population, by Statistical Division, Victoria, 1992

Statistical Division	Rate per 100,000 population
Barwon	7.09
Central Gippsland	7.87
Central Highlands	4.34
East Central	20.60
Goulburn	4.59
Loddon-Campaspe	15.19
Melbourne	10.48
North Eastern	13.18
Northern Mallee	5.12
South Western	0.95
Wimmera	3.71
Victoria	10.9

Reference

1. Benenson AS. editor. *Control of Communicable Diseases in Man.* 15th edition. Washington: American Public Health Association, 1990.

Acknowledgments

We wish to thank the laboratories which contributed data: Fairfield Hospital, Dorevitch Pathology, Royal Children's Hospital, Unipath, The Alfred Hospital and Monash Medical Centre.

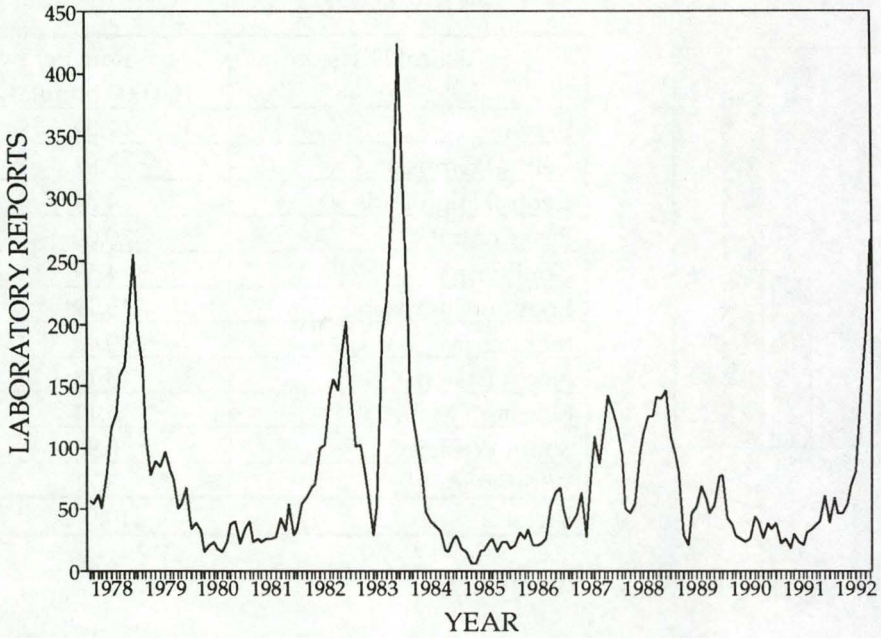
Specifically, Debbie Echert (Unipath), Tony Field (Monash Medical Centre), Geoff Hogg (Royal Children's Hospital), Stephen Locarnini (Fairfield Hospital), Mike Norriss (Dorevitch Pathology), Bruce Ross (Royal Children's Hospital) and Jennifer Williams (The Alfred Hospital).

CDI Editorial Comment

Reports of *Mycoplasma pneumoniae* infection made to the *CDI* Laboratory Reporting Schemes are both seasonal (peaking each spring) and cyclical (two-year periods of increased activity every five years, the last in 1987-88) (Figure 3). For 1992, 1,538 reports of *Mycoplasma pneumoniae* have been received so far, the highest number since 1983. The number of reports increased throughout the year, especially as reported by laboratories in New South Wales, Queensland, South Australia, Victoria and Western Australia. Almost equal numbers of males (747 reports) and females (778 reports) were affected. The median age for males was 12 years, for females 14 years, and overall, 12 years.

If the pattern of the past is repeated, it would be expected that the number of reports of this organism will be high again this year, before declining in 1994.

Figure 3. *Mycoplasma pneumoniae* laboratory reports, *CDI* Laboratory Reporting Schemes, 1978 to 1992, by month of specimen colletion



CHOLERA FROM BALI

(Margaret Ashwell, Epidemiology Registrar, and Jag Gill, Director of Disease Control, Health Department of Western Australia)

Two cases of cholera have been notified to the Health Department of Western Australia (HDWA) in the last two months. Both cases were infected with *Vibrio cholerae* serogroup O1 biotype El Tor, in Bali.

A total of nine imported cases of cholera have been notified to the HDWA since 1950. There was one case in the five-year period, 1975-9, four in the five-year period, 1985-89, 2 in 1990 and one each in 1992 and 1993.

Of the last five cases notified from 1989 to 1993, 4 were acquired in Indonesia and 1 in India or Thailand. There were 4 males and 1 female. Except for the 1992 case they were young, with an age range of 15 to 28 years. There are no details available for the earlier cases.

Both recent cases had stayed in hotels near or at Kuta Beach, Bali just prior to their illnesses. The 69 year old man, who was notified in November 1992 had stayed at a hotel about half a kilometre from Kuta Beach. He had only eaten cooked food and drunk boiled water supplied by the hotel in which he was staying, though he did use unboiled water when brushing his teeth. Further details of this case were published in *CDI* 1993;**17**:17.

The second case was in a 28 year old female who developed diarrhoea and abdominal pain upon returning from Bali. She had changed planes in Perth to fly to a country region. She presented to the casualty department of the country hospital with a five day history of diarrhoea. The patient's condition was felt to be reasonable so she was treated with plenty of fluids as an outpatient.

Three days later both *Vibrio cholerae* O1 and a *Campylobacter* species were isolated from her stool. On receipt of the laboratory result she was treated with doxycycline and advised to stay in the area until given clearance. Though still weak she is responding well to medication.

The local Environmental Health Officer investigated the West Australian water holes she had frequented before diagnosis, and followed up any contacts in the area. Her travelling companions were all contacted and found not to have developed diarrhoea.

While in Bali she had stayed in a hotel at one end of Kuta Beach and spent most of her time with 3 fellow Australian travellers in a hotel at the other end of Kuta Beach. She only ate food in the hotel or in reasonable restaurants along the beach. She drank bottled water or water supplied by the hotel in the fridge. She used tap water to brush her teeth but rinsed her mouth out with the water in the refrigerator.

Patients with cholera present with sudden onset of profuse painless watery stools and occasionally vomiting. Rapid dehydration results in acidosis and circulatory collapse. Death may occur within a few hours of onset. Asymptomatic infection is more com-

mon than clinical illness and mild cases also occur. Microscopy and serology only give a presumptive diagnosis[1]. Diagnosis may be confirmed in three days by culturing *Vibrio cholerae* serogroup O1 from the faeces.

Transmission is through ingestion of water which has been contaminated with the faeces or vomitus of the patient or faeces of a carrier, or through the ingestion of unrefrigerated food which has been contaminated by such water, cholera containing faeces, soiled hands or perhaps by flies[1].

Recommended precautions for travellers to areas with poor hygiene are:

- always wash hands with soap and water before eating and after using the toilet
- only drink bottled, boiled or treated water or bottled beverages
- avoid ice as it is often made from unsafe water supplies or is handled poorly after preparation.
- avoid uncooked foods especially salads and seafood
- only eat raw vegetables or fruits with skins that one peels oneself
- the safest habit is to eat only freshly cooked hot food.

It is unlikely that cholera will spread under Australia's present standards of hygiene. The Health Department of Western Australia recommends that all cases be treated in hospital. Australian hospitals are well able to cope with the small number of cases and this would prevent the likelihood of rapid dehydration and development of acute renal failure especially in the elderly traveller. Hospitalisation would also prevent the possible spread through close contact.

Reference

1. Benenson, A S. editor. *Control of Communicable Diseases in Man.* 15th edition. Washington: American Public Health Association, 1990.

CDI Editorial Comment

Two other cases of cholera have been notified in Australia in the past 12 months. One, a 56 year old male who was diagnosed in Adelaide (*CDI* 1992;**16**:193-194), had also travelled to Bali. The other case was a 44 year old male who was diagnosed in Queensland and who had been to Nepal (*CDI* 1992;**16**:367).

The World Health Organization maintains a list of countries which are considered to be wholly or partly cholera-infected. The list as at 30 October 1992 was published in *CDI* 1992;**16**:501. All or parts of Guyana and Zimbabwe have become cholera-infected since then.

AN ISOLATION OF *HAEMOPHILUS DUCREYI* AT THE BRISBANE STD CLINIC, 1992

(Jane B Carlisle and David J Jardine, Brisbane Special Clinic, Queensland Health)

On 29 October 1992, a 37 year old caucasian male presented with a painful sore of three weeks duration on his penis. The patient had worked intermittently in Indonesia for a number of years. He last had sex five weeks earlier in Indonesia, with a known female, without using a condom.

On examination, there was a single discrete ulcer (2cm x 1.5cm) proximal to the coronal sulcus, with a 1cm non-tender right inguinal node.

A presumptive diagnosis of primary syphilis was made as the patient was returning to Indonesia the following week. He was allergic to penicillin so was administered doxycycline 300mg daily for 30 days.

Laboratory examination by darkground microscopy of the lesion exudate revealed no treponemes, and the patient's syphilis serology was negative. Cultures for *N. gonorrhoeae*, *Streptococcus* sp, *Staphylococcus* sp, and herpes virus were also negative. Punch biopsy of the lesion showed non-specific penile ulceration with special stains proving negative.

Isolation of *Haemophilus ducreyi* was on modified Thayer Martin Medium (with no antibiotics) incubated at 33°C with 5% CO_2, atmosphere and 92% relative humidity. After six days incubation, cream coloured sticky colonies approximately 1mm in size appeared. The colonies could be pushed over the surface of the agar and remain intact. A gram stain of the colonies demonstrated gram negative coccobacilli in clumps.

The isolate was oxidase positive, catalase negative, alkaline phosphatase positive, porphyrin negative, and reduced nitrate. The isolate was a penicillinase producing strain. The β-lactamase test is an identification marker in regions of high isolation of penicillinase producing strains. All of these test results satisfy the criteria for *H.ducreyi* as set down by the United States' Centers for Disease Control, Atlanta.

Antimicrobial susceptibility tests were performed using the E Test method. The Minimum Inhibitory Concentrations (MIC) for the isolate were:- penicillin >32ug/L, tetracyline 8ug/L, erythromycin 0.047ug/L.

The laboratory identification of *H. ducreyi* caused a change of diagnosis to chancroid. Subsequent treatment with erythromycin 500mg four times a day for 12.5 days resulted in rapid healing of the lesion.

CDI Editorial Comment

Chancroid is only rarely notified in Australia, although it is notifiable in all States and Territories except New South Wales, South Australia and Tasmania. A total of 73 cases were notified for the decade 1983 to 1992, including five in 1992. One of the 1992 cases was a female aged 23 years; the remainder were males aged 20 years, 26 years, 36 years and 50 years.

OVERSEAS BRIEFS

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

Cholera Update

Argentina is once again experiencing a summer outbreak of cholera. Cases have mainly been reported from the northern Provinces of Jujuy and Salta, but there have been a few cases in Buenos Aires. Authorities are strictly controllong traffic and migration across the Bolivian border in an effort to stop the advance of the disease.

The outbreak of cholera in **Zimbabwe** is continuing, with 2,039 cases and 105 deaths reported to 8 January. It is concentrated in refugee camps in Eastern Zimbabwe, along the border with Mozambique. There have been 2 cases in Harare, both in persons infected in the eastern areas. Measures are being taken to prevent further cases being imported into the city.

Other newly infected areas are Region II (Pomeroon/Supenaam) of Guyana, and Kermanshahan Province in Iran.

Cases have been reported for November, December and January from Argentina, Belize, Bolivia, Brazil, Colombia, El Salvador, Guatemala, Guyana, Honduras, Iran, Iraq, Mexico, Mozambique, Nicaragua, Panama, Zambia and Zimbabwe.

Influenza in the Northern Hemisphere

In the United States, influenza is spreading. Influenza B is dominating, but influenza A H_1N_1 and H_3N_2 have been detected.

Influenza B is also more common in Europe, where there has been only sporadic cases or foci of influenza-like illness. Influenza B has been detected in Belgium, Czechoslovakia, France, Netherlands, Norway, Portugal, Romania, Russia and Sweden. Influenza A H_3N_2 has been detected in France, Netherlands, Russia and Sweden, and influenza A H_1N_1 has been reported by the Netherlands. Several countries have reported no influenza activity (Germany, Greece, Hungary, Italy, Switzerland, United Kingdom).

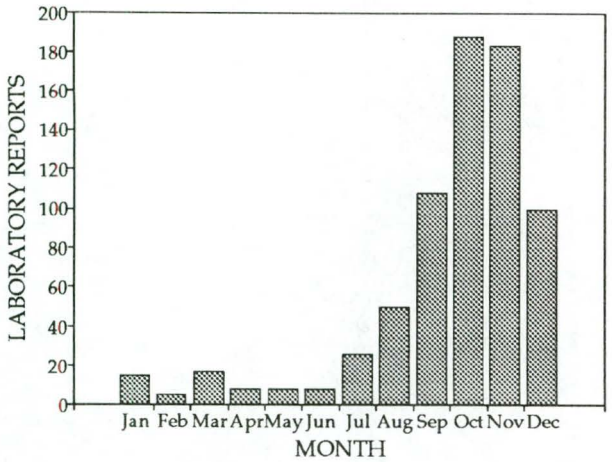
COMMUNICABLE DISEASES SURVEILLANCE

Laboratory Reporting Schemes

There were 2,011 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 9, 10 and 11), and 908 reports of isolates from normally sterile sites (LabDOSS, Table 5). More reports from the Virology and Serology Reporting Scheme are included than usual because there were altered deadlines over the Christmas period; data for some contributing laboratories is for a four week period rather than the usual fortnight.

- There were 25 reports of **measles**, bringing the total for 1992 to 196. Increased numbers of measles cases have been reported from South Australia, Queensland and New South Wales over recent months.
- There were 63 **rubella** reports. The number of reports of rubella, which usually peaks in spring, seems to be beginning to decline (Figure 1). There were 12 reports in females in the age group 15 to 44 years, including a 26 year old who was 18 weeks pregnant. Meningitis was the reported symptom for one 11 year old male, another 11 year old patient's mother was in the early stages of pregnancy, and an 8 year old male patient had also been in contact with a pregnant woman. Other patients included a 52 year old heart transplant patient, and a 8 year old female with diabetes.
- **Ross River virus** infection was reported for 30 patients (one four-fold change from Casuarina, Northern Territory, the remainder IgM). Three were from Western Australia, 5 from South Australia, 2 from the Northern Territory and 20 were from Queensland. Specimen collection dates were in November for 8 patients, December for 14 patients, and earlier for the others.
- There were 13 reports of **echovirus type 7** infection. This virus is usually rare in Australia; there have now been 27 reports of it since August, mainly from

Figure 1. Rubella laboratory reports, 1992, by month of specimen collection



Victoria. A CSF isolate or meningitis was reported for 10 of this fortnight's patients. Three patients were under two weeks of age and 3 others were under one year old.

- Other rare echoviruses reported this fortnight included **echovirus type 5**, isolated from a postmortem bowel specimen from a 2 month old male who had suffered SIDS, **echovirus type 30** isolated from a nasophyngeal specimen from a one year old male, and **echovirus type 19**, isolated from the CSF of a 5 year old male with meningitis. It was the first report of echovirus type 19 since September 1990.
- There were 5 reports of untyped **influenza A** (all single high titres). Two were in female patients over the age of 65 years.
- ***Mycoplasma pneumoniae*** infection was reported for 119 patients. They included a 17 year old female and a 12 year old male with meningitis, and a 26 year old male for whom encephalitis was reported.
- There were 20 laboratory reports of **Q fever** this fortnight, 4 females (age range 21 to 42 years) and 16 males (age range 16 to 73 years). Five patients were described as meat workers.
- ***Bordetella pertussis*** or ***Bordetella*** species infection was reported for 25 patients. Included were 14 infants under the age of one year, and 4 aged three months or less. Laboratory reports of serological or immunofluoresence identifications of these organisms have been increasing over the last few months in parallel with the increase in pertussis notifications.
- ***Toxoplasma gondii*** infection was reported for 2 patients. One was a pregnant female.

Australian Sentinel Practice Research Network 1993

There are currently 71 recorders in the Australian Sentinel Practice Research Network (ASPREN) (Table 1, Figure 2), monitoring about 7,000 patients each week.

Twelve conditions are being monitored for 1993, including influenza, measles, rubella, pertussis, genital herpes, gastroenteritis, solar keratoses, naevi, and asthma, continued from last year. Case definitions for these conditions were published in *CDI* 1991;**15**:107-109 and *CDI* 1992;**16**:59-60. New conditions for 1993 are sexually transmitted disease, hormone replacement therapy and diabetes mellitus. The case definitions for these are as follows:

Sexually transmitted disease

Consultation involving assessment of risk of sexually transmitted disease (either patient or doctor initiated).

Hormone replacement therapy

Each attendance at which treatment with hormone replacement therapy for the management of symptoms or long term effects of menopause is discussed, or prescribed. Not to include contraception, or dysfunctional uterine bleeding.

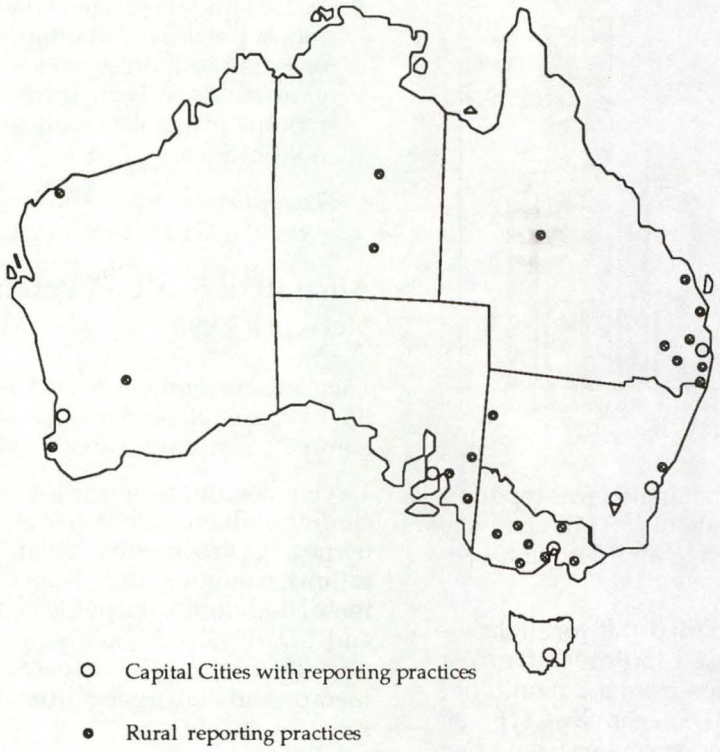
Diabetes mellitus

Record each attendance for patients with diabetes mellitus.

Table 1. Geographical locations of ASPREN recorders, January 1993

State or Territory	Recorders in the Capital City	Recorders in Rural Areas	Total
Australian Capital Territory	1	0	1
New South Wales	11	2	13
Victoria	6	7	13
Queensland	7	8	15
South Australia	14	3	17
Western Australia	3	3	6
Tasmania	4	0	4
Northern Territory	0	2	2
Total	46	25	71

Figure 2. Geographical locations for ASPREN recorders, 1993



CDI will continue to publish weekly counts for influenza, measles, rubella, pertussis, genital herpes and gastroenteritis. Monitoring of mumps has been discontinued.

ASPREN invites general practitioners to become recorders in the Network. Each participating practitioner is allocated a unique code number, and identifying information is held in confidence by the ASPREN Management Committee. Data are recorded on a weekly basis. An easy to use form is employed to record the patient's age group and sex, for the 12 conditions being monitored. The time required is less than 30 seconds for each patient seen with one of the surveillance conditions being monitored. At the end of each week, the total number of patients seen for that week is also recorded. There is no financial cost for recorders. Participating practitioners receive *CDI* fortnightly, and three-month summaries of their own results and anonymous comparative total data for the network. Further information and application forms are available from the Research and Health Promotion Unit of the Royal Australian College of General Practitioners, 136 Payneham Road, Stepney, South Australia, 5069, phone and fax (08) 362 9954.

The Australian Sentinel Practice Research Network collected data from 6,038 patient encounters in Week 2 and from 4,642 patient encounters in Week 3 (Table 1). Rubella reports continue at a higher rate than usual, in parallel with recent notifications and laboratory reports of this disease.

Table 2. Australian Sentinel Practice Research Network, Weeks 2 and 3 1993

Condition	Week 2, to 10 January 1993		Week 3, to 17 January 1993	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	12	2.0	5	1.1
Measles	0	0	0	0
Rubella	4	0.7	2	0.4
Pertussis	0	0	0	0
Genital herpes	4	0.7	2	0.4
Gastroenteritis	50	8.3	39	8.4

Australian Encephalitis: Sentinel Chicken Surveillance Programme - Serological Results for November and December 1992

Sentinel chicken serology was undertaken for 24 flocks in the Kimberley and Pilbara regions of Western Australia in November and December 1992, but there was no evidence of flavivirus activity during this period.

Sentinel chicken sera from the six Northern Territory sites collected from October to December was also tested. There were no new seroconversions in October but there were three new seroconversions at Howard Springs in November/December 1992, one to Murray Valley encephalitis virus and two to Kunjin virus.

New South Wales and Victoria recommenced the bleeding of their sentinel chicken flocks in November. There were no seroconverions to flaviviruses in November and December 1992. The Queensland State Health Laboratories in Brisbane have also started testing sera from a number of sentinel chicken flocks throughout the State. The location of the flocks and the results will be included in future reports.

Information on the location of sentinel chicken flocks was presented in *CDI* 1992;**16**:55-57 and *CDI* 1992;**16**:169.

(AK Broom, Department of Microbiology, The University of Western Australia; L Hueston, Virology Department, Westmead Hospital, New South Wales; JS Mackenzie, Department of Microbiology, The University of Western Australia and J Whitehead, Victorian Institute of Animal Science)

HIV and AIDS Surveillance

From this issue of *CDI*, data which was previously published in the monthly *Australian HIV Surveillance Report* will be published in the *Communicable Diseases Surveillance* section of *CDI*. The *Australian HIV Surveillance Report* will now be published quarterly, and include the data which were previously published in the quarterly Supplement to the *Report*.

The data which will be published in *CDI* are compiled by the National Centre in HIV Epidemiology and Clinical Research (NCHECR) from data supplied to the National HIV Database and the National AIDS Registry, which are maintained by the NCHECR on behalf of the States and Territories.

Table 3. New diagnoses of HIV infection, new diagnoses of AIDS and deaths from AIDS occurring in the period 1 to 30 September 1992, by sex and State or Territory in which diagnoses was made

										TOTALS FOR AUSTRALIA			
		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	This Period 1992	This Period 1991	Year to Date 1992	Year to Date 1991
HIV diagnoses	Female	0	1	0	0	1	0	1	2	5	5	69	61
	Male	1	36	0	9	2	2	28	4	82	96	860	961
	Total	1	37	0	9	3	2	29	6	87	108	951	1083
AIDS diagnoses	Female	0	0	0	0	0	0	0	0	0	0	4	6
	Male	0	1	0	1	1	0	0	0	3	4	283	233
	Total	0	1	0	1	1	0	0	0	3	4	587	240
AIDS deaths	Female	0	0	0	0	0	0	0	0	0	0	10	8
	Male	1	11	0	3	1	0	10	3	29	23	354	343
	Total	1	11	0	3	1	0	10	3	29	23	366	351

Table 4. Cumulative diagnoses of HIV infection, AIDS and deaths from AIDS since the introduction of HIV antibody testing to 30 September 1992, by sex and State or Territory

		ACT	NSW[1]	NT	Qld[2]	SA	Tas	Vic[3]	WA[4]	AUSTRALIA[5]
HIV diagnoses	Female	7	445	6	58	34	3	112	35	700
	Male	133	8587	62	1099	471	64	2704	586	13706
	Total	140	11062	68	1165	505	67	2887	622	16516
AIDS diagnoses	Female	2	63	0	9	7	1	14	8	104
	Male	39	2006	12	300	140	19	739	159	3414
	Total	41	2071	12	310	147	20	755	167	3523
AIDS deaths	Female	1	41	0	8	2	1	9	3	65
	Male	32	1357	6	199	81	13	522	103	2313
	Total	33	1399	6	208	83	14	532	106	2381

1. Total for NSW includes 5 persons whose sex was reported as transsexual and 2025 persons whose sex was not reported.
2. Total for QLD includes 3 persons whose sex was reported as transsexual and 5 persons whose sex was not reported.
3. Total for VIC includes 7 persons whose sex was reported as transsexual and 64 persons whose sex was not reported.
4. Total for WA includes 1 person whose sex was reported as transsexual.
5. Total for Australia includes 16 persons whose sex was reported as transsexual and 2094 people whose sex was not reported.

Because of reporting delays, data for recent months previously published from these databases were generally incomplete and required substantial subsequent revision. From now, data published in both *CDI* and the *Australian HIV Surveillance Report* will be for the month about four months before the publication date. The result will be a small decrease in timeliness, offset by a larger increase in accuracy. Revised data for September 1992 are included in this issue of *CDI* (Tables 3 and 4), in the same format as other notifiable diseases (Tables 6 and 7). These tables will be updated monthly to begin with, and fortnightly in the near future.

Sterile Sites Surveillance (LabDOSS)

Additional data received in the last fortnight for specimens collected in November and December 1992 have been provided by six laboratories. A total of 203 records have been included (6 Royal Hobart Hospital, 115 ICPMR Westmead, 39 Royal Prince Alfred Hospital, 38 Royal North Shore Hospital, 4 Nambour Hospital, 1 Dr T B Lynch Pathologist, Rockhampton).

A total of 705 records were provided by ICPMR Westmead for the period May to October 1992. These retrospective data have been included in the total year database; a report of 1992 LabDOSS data will be published in the near future.

Organisms reported 5 or more times from blood are detailed in Table 2. Other blood isolates not included in Table 2 were:

Gram positive: 1 *Streptococcus* Group A, 3 *Streptococcus Group* B, 1 *Streptococcus* Group G, 2 *Streptococcus* 'milleri', 2 *Streptococcus pneumoniae*, 1 *Streptococcus sanguis*, 1 *Streptococcus* species, 2 *Corynebacterium* JK, 4 *Enterococcus* species, 1 *Bacillus cereus*.

Gram negative: 1 *Serratia* species, 1 *Serratia marcescens*, 1 *Citrobacter freundii*, 4 *Haemophilus influenzae* (3 type B) 1 *Neisseria meningitidis* serogroup C (5 months old), 2 *Xanthomonas maltophilia*, 1 *Flavobacterium* species.

Anaerobes: 1 *Bacteroides corporis*.

Fungi: 4 *Candida* species (3 *C. albicans*).

CSF Isolates and Meningitis Reports

Fourteen reports of meningitis were received: 2 *Haemophilus influenzae* type b (males aged 7 months and 1 year), 1 *Listeria monocytogenes* (76 year old female), 1 *Neisseria meningitidis* serogroup B (16 year old female), 3 *Streptococcus pneumoniae* (ages 1 month, 8 years, and 57 years), 1 *Cryptococcus neoformans* (23 year old immunocompromised male), 1 *Corynebacterium* species (65 year old male - shunt), 1 *Staphylococcus aureus* (51 year old male), 1 *Streptococcus* group A (5 year old female), 1 *Xanthomonas maltophilia* (11 year old male - shunt), 1 *Streptococcus* 'milleri' (52 year old male).

Isolates from Sites other than Blood or CSF

Peritoneal dialysate: 1 *Candida albicans*, 1 *Corynebacterium* species, 1 *Bacteroides corporis*, 1 *Klebsiella pneumoniae*, 2 *Eschericia coli*.

Joint fluid: 3 *Staphylococcus aureus*.

Table 5. LabDOSS reports of blood isolates

Organism	Total[1]	Clinical Information						Risk Factors				
		Lower respiratory	Endocarditis	Gastrointestinal	Urinary Tract	Bone/Joint	Skin	Surgery	Immunosuppressed	IV line	Perinatal	Neonatal
Acinetobacter sp	5			1		1		2	2	1		
Enterobacter sp	15[2]				1		1	4	4	2		
Eschericia coli	31			3	13		1	3	9	1		1
Klebsiella sp	14[3]			3	2				7	1		3
Pseudomonas sp	11[4]			1			2	3	5			
Staphylococcus aureus	21	2		1	1	1	8	5	7	4		
Staphylococcus coagulase negative	22[5]		1				2	5	5	4		4
Streptococcus 'viridans'	5		2				1		3			1

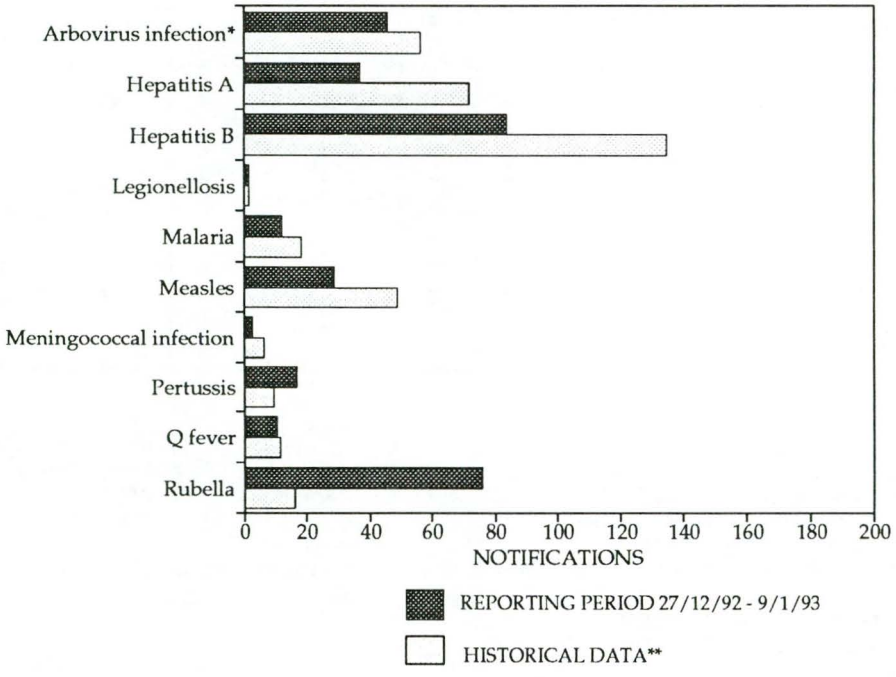
1. Only organisms with 5 or more reports are included in this table.
2. 1 *E. aerogenes*, 6 *E. cloacae*, 4 *E. faecalis*.
3. 2 *K. oxytoca*, 7 *K. pneumoniae*.
4. 9 *Pseudomonas aeruginosa*.
5. 7 *Staphylococcus epidermidis*.

National Notifiable Diseases Surveillance System, 27 December 1992 to 9 January 1993

A total of 953 reports were received for this period (Tables 6, 7 and 8, Figure 3). Reports were not available for Victoria.

- Forty-two reports were received of notifications of **Ross River virus infection**. Of these, 19 were males and 23 were females. Reported ages ranged from the 10-14 to the 70-74 years age groups. Onset dates were recorded as January in 4 reports, December in 31, November in 6 and October in 1. Reports were for cases in statistical divisions on the Queensland coast, in southern Western Australia, the Murray Valley and coast in South Australia and north coastal New South Wales.
- There were 38 notifications of **gonococcal infection** received. Twenty-seven were for males and 11 for females.
- Three reports of ***Haemophilus influenzae* type b infection** notifications were received. There were 2 males (1 year old and in the 30-34 years age group) and 1 female (less than 1 year old).
- There were 37 notifications of **hepatitis A** received. Sex was recorded as male for 13 cases, female for 23 and was not recorded for 1. Ages ranged from the 0-4 to the 95-99 years age groups with 16 cases aged less than 15 years.
- Two reports of **legionellosis** were received, both in males, in the 35-39 and 65-69 years age groups.
- A single case of **listeriosis** was reported in a male in the 60-64 years age group.
- Twenty-nine cases of **measles** were notified. Eleven were males and 18 were females. In 5 cases the age was recorded as less than 1 year, and the mean age was 9.9 years. There were 2 apparent clusters in 2 separate postcode areas with 2 cases each. The intervals between onset dates for these apparent clusters ranged from 2 to 6 days.
- Three cases of **meningococcal infection** were notified this period, 2 males and 1 female. Ages ranged from the 10-14 to the 45-49 years age groups. There was no apparent clustering of cases.
- There were 17 reports of **pertussis** notification. Eight were for males and 9 for females. One case was aged less than 1 year and 3 were less than 5 years.
- Eleven notifications of **Q fever** were reported this period. Of these, 8 were for males and 3 for females. Ages ranged between the 15-19 years and the 60-64 years age groups.
- There were 76 reports of **rubella**. Sex was recorded as male for 50 and female for 26. Four cases were recorded as being aged less than 1 year. The mean age of cases notified was 21.3 years. There were 19 reports for females in the 15-44 years age group.
- There were 29 notifications of **syphilis** received. Fifteen were for males, 13 for females, and sex unknown for 1. The age was recorded as less than 1 year in 1 case.

Figure 3. 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 6. Diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation for the reporting period 27 December 1992 to 9 January 1993

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
Diphtheria	0	0	0	0	0	0		0	0	0	0	0
Measles	1	13	0	1	13	0		1	29	49	18	26
Mumps	0	0	NN	NN	NN	NN		NN	0	1	0	1
Pertussis	0	0	0	8	6	3		0	76	11	11	10
Poliomyelitis	0	0	0	0	0	0		0	0	0	0	0
Rubella[2]	7	8	0	50	11	0		0	76	5	64	5
Tetanus	0	0	0	NN	0	0		0	0	0	0	0

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 7. Other Notifiable Diseases[1], for the reporting period 27 December 1992 to 9 January 1993

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This Period 1993	This Period 1992	Year to Date 1993	Year to Date 1992
Arbovirus infection (NEC)[3]	0	0	1	3	0	0		0	4	3	4	3
Ross River virus infection	0	2	4	15	16	NN		5	42	36	29	33
Dengue	0	-	0	0	-	NN		NN	0	1	0	1
Campylobacteriosis[4]	0	-	9	66	133	17		20	245	272	160	225
Chlamydial infection (NEC)	0	NN	12	47	0	9		0	68	167	64	152
Donovanosis	0	NN	1	0	NN	NN		0	1	0	1	0
Gonococcal infection[5]	0	5	18	15	0	0		0	38	60	35	41
Haemophilus influenzae type b[6]	0	1	NN	1	1	0		NN	3	14	3	13
Hepatitis A	0	5	10	13	6	0		3	37	28	24	24
Hepatitis B	0	22	1	55	0	0		6	84	74	70	63
Hepatitis C	0	44	4	54	NN	3		NN	105	289	73	269
Hepatitis (NEC)	0	0	0	0	0	0		NN	0	0	0	0
Legionellosis	0	0	0	0	1	0		1	2	1	2	0
Leptospirosis	0	0	0	0	0	0		0	0	1	0	1
Listeriosis	0	0	NN	0	1	0		0	1	0	1	0
Malaria	0	0	0	8	0	2		1	11	18	10	15
Meningococcal infection	0	0	0	1	2	0		0	3	7	2	5
Ornithosis	0	NN	0	1	0	0		0	1	1	1	0
Q fever	0	4	0	7	0	0		0	11	4	11	4
Salmonellosis (NEC)	0	14	18	33	17	6		20	108	156	96	133
Shigellosis[4]	0	-	6	5	2	0		4	17	16	16	13
Syphilis	0	7	8	14	0	0		0	29	83	29	63
Tuberculosis	0	5	0	0	0	1		0	6	8	2	4
Typhoid[7]	0	0	0	0	0	0		0	0	1	0	1
Yersiniosis (NEC)[4]	0	-	0	9	5	0		0	14	11	10	9

1. For rarely notified diseases, see Table 8.
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 infection 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. NSW and Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 8. Rarely Notified Diseases[1] for the reporting period 27 December 1992 to 9 January 1993

DISEASES	Total this period	Reporting States or Territories	Year to date 1993
Botulism			0
Brucellosis			0
Cholera			0
Chancroid			0
Hydatid infection			0
Leprosy			0
Lymphogranuloma venereum			0
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 9. Laboratory reports by State or Territory of reporting laboratory for the reporting period 31 December 1992 to 13 January 1993, 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		2	5	15		2	1	25	17.0	44
Mumps virus						3	3	6	3.2	6
Rubella virus	1		27	4		24	7	63	11.5	205
HEPATITIS VIRUSES										
Hepatitis A virus		1	14	13		2	9	39	18.8	62
Hepatitis B virus		20	54	4		28	24	130	107.2	232
Hepatitis C virus	8	2	27	66	5		53	161	42.7	324
ARBOVIRUSES										
Ross River virus			21	5			4	30	13.5	68
Barmah Forest virus			4					4	.3	10
Dengue type 1			2					2	.3	2
Dengue type 2			4					4	.0	4
Dengue type 3			1					1	.2	1
Dengue not typed							1	1	.3	5
Kunjin virus			3					3	.0	3
Flavivirus (unspecified)			3			4		7	.2	8
ADENOVIRUSES										
Adenovirus type 1		3		3		4		10	5.2	16
Adenovirus type 2		1		1		3		5	5.3	11
Adenovirus type 3		5		1		5		11	3.8	17
Adenovirus type 4				10				10	1.3	20
Adenovirus type 5		2		1				3	1.3	6
Adenovirus type 7				1				1	.7	1
Adenovirus type 8						2		2	4.3	3
Adenovirus type 11						1		1	2.7	1
Adenovirus not typed/pending	1	5	30	20		12	22	90	42.7	149

Table 9. Laboratory reports by State or Territory of reporting laboratory for the reporting period 31 December 1992 to 13 January 1993, historical data[1], and total reports for the year, continued

	STATE OR TERRITORY OF REPORTING LABORATORY							Total this fortnight	Historical data[1]	Total reported this year
	ACT	NSW	Qld	SA	Tas	Vic	WA			
HERPES VIRUSES										
Herpes simplex virus type 1		4	87	43	1	77	36	248	178.7	401
Herpes simplex virus type 2		7	86	25	3	57	71	249	209.7	507
Herpes simplex not typed/pending	10	14	1			7	2	34	40.2	57
Cytomegalovirus		2	40	2		25	7	76	89.8	164
Varicella-zoster virus		4	12	2		12	12	42	29.2	93
Epstein-Barr virus		2	28	11		9	29	79	77.2	231
Herpes virus group - not typed						1		1	7.2	3
OTHER DNA VIRUSES										
Contagious pustular dermatitis (Orf virus)							1	1	.2	1
Parvovirus		1				13		14	3.7	25
PICORNA VIRUS FAMILY										
Coxsackievirus A9		1						1	2.0	4
Coxsackievirus A16						1	1	2	1.0	4
Coxsackievirus B1				1	1	6		8	.2	13
Coxsackievirus B5		2				2	4	8	3.0	11
Coxsackievirus B6				1				1	.3	1
Echovirus type 5				1				1	1.2	1
Echovirus type 7		1				12		13	.0	16
Echovirus type 9				1		2		3	.7	10
Echovirus type 14		1						1	.3	2
Echovirus type 17				1				1	1.5	3
Echovirus type 19				1				1	.0	1
Echovirus type 22						1	2	3	.5	4
Echovirus type 25		1						1	.0	3
Echovirus type 30						1		1	.0	1
Poliovirus type 1 (uncharacterised)		3		1	1			5	2.5	7
Poliovirus type 3 (uncharacterised)		1						1	1.5	2
Rhinovirus (all types)		2	8			16	6	32	28.5	79
Enterovirus not typed/pending		4	47			15	8	74	35.0	102
ORTHO/PARAMYXOVIRUSES										
Influenza A virus			3	1			1	5	4.7	15
Parainfluenza virus type 2				2				2	3.5	2
Parainfluenza virus type 3			20	3		22	2	47	31.5	79
Parainfluenza virus typing pending		1				1		2	2.8	2
Respiratory syncytial virus		1	2	1	1	2	3	10	19.2	22
OTHER RNA VIRUSES										
HIV-1							4	4	2.2	7
HTLV-1							1	1	.3	1
Rotavirus		2	6	5	1	12	14	40	62.8	150
Small virus (like) particle		1						1	2.2	6
OTHER										
Chlamydia trachomatis not typed	4	12	67	20		23	35	161	115.5	268
Chlamydia psittaci						11		11	5.5	13
Chlamydia spp typing pending							1	1	.0	1
Mycoplasma pneumoniae		10	35	19		50	5	119	25.8	229
Coxiella burnetti (Q fever)		3	15				2	20	9.3	30

Table 9. Laboratory reports by State or Territory of reporting laboratory for the reporting period 31 December 1992 to 13 January 1993, 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			
Streptococcus group A			18					18	.0	31
Brucella abortus			2					2	.0	2
Brucella species			1					1	.0	3
Bordetella pertussis			2			2		4	.0	6
Bordetella species			21					21	.0	42
Legionella species			1					1	.0	1
Cryptococcus species			1					1	.0	2
Leptospira hardjo			1					1	.0	1
Treponema pallidum			26					26	.0	47
Toxoplasma gondii			1			1		2	.0	6
TOTAL	24	121	726	285	13	471	371	2,011	1,281.7	3,910

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 10. Laboratory reports by clinical information for the reporting period 31 December 1992 to 13 January 1993

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus								15		1		9	25
Mumps virus					1							5	6
Rubella virus		1			1	1		25		3		32	63
HEPATITIS VIRUSES													
Hepatitis A virus						2	18					19	39
Hepatitis B virus							27			1		102	130
Hepatitis C virus							26	1			1	133	161
ARBOVIRUSES													
Ross River virus					1					12		17	30
Barmah Forest virus										1		3	4
Dengue type 1												2	2
Dengue type 2												4	4
Dengue type 3												1	1
Dengue not typed												1	1
Kunjin virus			1		1							1	3
Flavivirus (unspecified)			1					2		1		3	7
ADENOVIRUSES													
Adenovirus type 1					8						1	1	10
Adenovirus type 2					4							1	5
Adenovirus type 3					2	4			4			1	11
Adenovirus type 4					2	1			7				10
Adenovirus type 5						1		1				1	3

Table 10. Laboratory reports by clinical information for the reporting period 31 December 1992 to 13 January 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
Adenovirus type 7					1								1
Adenovirus type 8									2				2
Adenovirus type 11												1	1
Adenovirus not typed/pending	1				36	29			10			14	90
HERPES VIRUSES													
Herpes simplex virus type 1		1	1		14			138	20		62	12	248
Herpes simplex virus type 2								116			122	11	249
Herpes simplex not typed/pending	2			1	1			13	2		2	13	34
Cytomegalovirus	1			7	20	1	3	1	1	1		41	76
Varicella-zoster virus	1				1			32				8	42
Epstein-Barr virus					10		1	2		1		65	79
Herpes virus group - not typed								1					1
OTHER DNA VIRUSES													
Contagious pustular dermatitis (Orf virus)								1					1
Parvovirus								5		3		6	14
PICORNA VIRUS FAMILY													
Coxsackievirus A9						1							1
Coxsackievirus A16								1				1	2
Coxsackievirus B1		1			3							4	8
Coxsackievirus B5		3			1	1			1			2	8
Coxsackievirus B6						1							1
Echovirus type 5												1	1
Echovirus type 7		10			1							2	13
Echovirus type 9		1			1							1	3
Echovirus type 14		1											1
Echovirus type 17		1											1
Echovirus type 19		1											1
Echovirus type 22					2							1	3
Echovirus type 25						1							1
Echovirus type 30												1	1
Poliovirus type 1 (uncharacterised)					2	1						2	5
Poliovirus type 3 (uncharacterised)						1							1
Rhinovirus (all types)					31			1					32
Enterovirus not typed/pending		7	2	1	33	15		2				14	74
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					2	1						2	5
Parainfluenza virus type 2					2								2
Parainfluenza virus type 3					46				1				47
Parainfluenza virus typing pending					2								2
Respiratory syncytial virus					10								10
OTHER RNA VIRUSES													
HIV-1												4	4
HTLV-1												1	1
Rotavirus						40							40
Small virus (like) particle						1							1

Table 10. Laboratory reports by clinical information for the reporting period 31 December 1992 to 13 January 1993, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
OTHER													
Chlamydia trachomatis not typed									2		132	27	161
Chlamydia psittaci					9							2	11
Chlamydia spp typing pending									1				1
Mycoplasma pneumoniae	1	2			74			6		2		34	119
Coxiella burnetti (Q fever)							1	1		1		17	20
Streptococcus group A					6			1		3		8	18
Brucella abortus							1					1	2
Brucella species												1	1
Bordetella pertussis					4								4
Bordetella species					9							12	21
Legionella species												1	1
Cryptococcus species												1	1
Leptospira hardjo												1	1
Treponema pallidum					1		1	1			4	19	26
Toxoplasma gondii												2	2
TOTAL	6	29	5	9	342	102	78	366	51	30	324	669	2,011

Table 11. Laboratory reports by contributing laboratories for the reporting period 31 December 1992 to 13 January 1993

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	24
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	83
	Prince Henry/Prince of Wales Hospitals, Sydney	12
	Royal Alexandra Hospital for Children, Camperdown	26
Queensland	Dr TB Lynch, Pathologist, Rockhampton	61
	Queensland Medical Laboratory, West End	303
	State Health Laboratory, Brisbane	362
South Australia	Institute of Medical & Veterinary Science, Adelaide	285
Tasmania	Royal Hobart Hospital, Hobart	13
Victoria	Fairfield Hospital, Melbourne	336
	Microbiological Diagnostic Unit, University of Melbourne	21
	Royal Children's Hospital, Melbourne	114
Western Australia	Princess Margaret Hospital, Perth	43
	State Health Laboratory Services, Perth	328
TOTAL		2,011