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COMMONWEALTH DEPARTMENT OF HUMAN SERVICES AND HEALTH

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

GONOCOCCAL SURVEILLANCE, AUSTRALIA, 1 OCTOBER TO 31 DECEMBER 1993

(Derived from the Australian Gonococcal Surveillance Programme - AGSP; co-ordinator JW Tapsall, The Prince of Wales Hospital, Sydney)

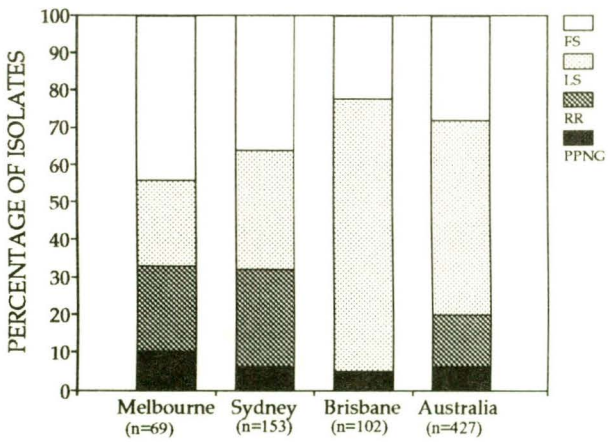
Laboratories contributing to the Australian Gonococcal Surveillance Programme (AGSP) examined 427 isolates of *Neisseria gonorrhoea* for their sensitivity to penicillin in this quarter. The percentage of isolates showing either lactamase production (PPNG) or chromosomal resistance were determined for three centres, Melbourne, Sydney and Brisbane, and for Australia as a whole (Figure 1). This data was compared with that gathered over the same period in 1992 (Figure 2).

Marked differences in regional sensitivity patterns were observed, with most resistance being noted in the larger centres. Data from other smaller centres are not shown separately due to the lower numbers of strains isolated but are included in the totals for Australia. However, patterns of resistance in these regions resembled that seen in Brisbane.

For this quarter a total of 25 Penicillinase-producing *N. gonorrhoea* (PPNG) was found in Australia these isolates being present in Darwin and Adelaide as well as Sydney, Melbourne and Brisbane. The number of PPNG isolated in the corresponding period in 1992 was 44.

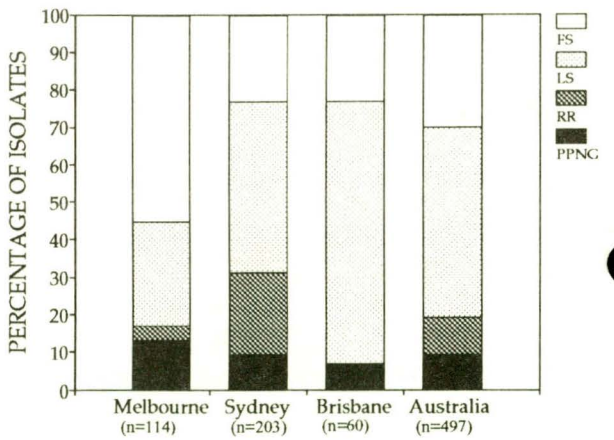
The sensitivity of 359 isolates to other antibiotics used in the therapy of gonorrhoea was also assessed. All strains were sensitive to spectinomycin and ceftriaxone. One isolate from Darwin had high level quinolone resistance (ciprofloxacin MIC, ≥ 1.0 mg/l) and a total of eight isolates (2.2% of those tested) had decreased sensitivity to quinolones (ciprofloxacin MIC's 0.06 - 0.5 mg/l). These strains were isolated in Sydney, Melbourne and Brisbane. High level tetracycline resistance (TRNG) was detected in 10 strains (2.8% of those tested) and these were found in Sydney (five), Brisbane (two) and Adelaide (three).

Figure 1. Proportional penicillin sensitivity of *Neisseria gonorrhoea* isolates, Australia, 1 October to 31 December 1993 by centre



FS Fully sensitive to penicillin, MIC ≤ 0.03mg/L.
LS Less sensitive to penicillin, MIC 0.06-0.5mg/L.
RR Relatively resistant, MIC ≥ 1mg/L.
PPNG Penicillinase producing *Neisseria gonorrhoeae*.

Figure 2. Proportional penicillin sensitivity of *Neisseria gonorrhoea* isolates, Australia, 1 October to 31 December 1992 by centre



FS Fully sensitive to penicillin, MIC ≤ 0.03mg/L.
LS Less sensitive to penicillin, MIC 0.06-0.5mg/L.
RR Relatively resistant, MIC ≥ 1mg/L.
PPNG Penicillinase producing *Neisseria gonorrhoeae*.

Table. Number of gonococcal isolates, Australia, 1 October to 31 December 1993, by sex and participating laboratory

	Melbourne	Sydney	Brisbane	Australia[1]
Male	63 (107)[2]	130 (180)	69 (36)	282 (377)
Female	6 (7)	20 (22)	33 (14)	72 (58)
Male:Female ratio	10:1 (15:1)	6:1 (8:1)	2:1 (2.5:1)	4:1 (6.5:1)

1. Figures from centres with smaller numbers of isolates are not shown separately, but are included in the total national figures.
2. Figures in parenthesis represent data from the corresponding period in 1992.

Figure 3. Number of gonococcal isolates from males, Australia, 1 October to 31 December 1993 by laboratory and anatomical site

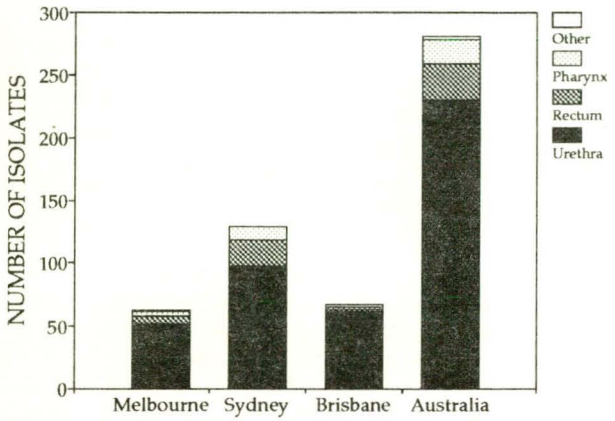
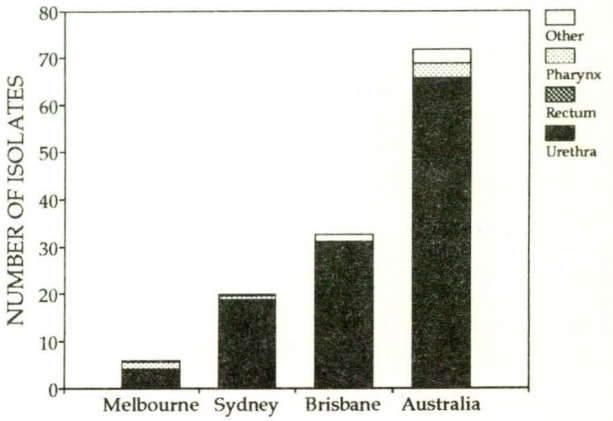


Figure 4. Number of gonococcal isolates from females, Australia, 1 October to 31 December 1993 by laboratory and anatomical site



The total number of strains tested, 427, was less than the 497 tested in the corresponding period in 1992. Data on the site of infection and sex of infected patients has been included (Table, Figures 3 and 4). Pooled national data and a regional analysis for those centres with larger numbers of strains are presented.

WORLD HEALTH ORGANIZATION WESTERN PACIFIC REGION GONOCOCCAL SURVEILLANCE, 1993 ANNUAL REPORT

Adapted with permission from the 1993 Annual Report of the WHO/WPRO Gonococcal Antibiotic Susceptibility Programme; co-ordinator JW Tapsall, Prince of Wales Hospital, Sydney, New South Wales

Introduction

This programme was expanded in 1992 as part of a previously existing World Health Organization (WHO) Western Pacific Region (WPRO) project on the surveillance of antimicrobial resistance of *Neisseria gonorrhoea* in the region. A regional reference centre is located in the Microbiology Department, Prince of Wales Hospital, Sydney, New South Wales. The centre co-ordinates the work of nominated focal points throughout the region and provides technical guidelines and support including the distribution of reference and quality control cultures.

This report summarises the results for 1993.

Results

The number of participating centres increased in 1993 with additional data obtained from two new focal points, Papua New Guinea and Solomon Islands. While no information was available from the Philippines in 1993 it is expected that data will again be available in 1994.

The number of strains examined in this period - approximately 7100 - was greater than for 1992 when about 5700 isolates were tested.

Table 1. Penicillin resistance in gonococci, WHO Western Pacific Region, 1993

Country	Strains tested	Lactamase mediated resistance (PPNG%)	Chromosomal resistance (CMRNG%)	All penicillin resistance (PP+CMRNG%)
Australia	1780	7.7	9.4	17.1
Brunei	40	42	0	42
China	511	0	44	44
Fiji	593	9.8	1.7	11.5
Hong Kong	2074	14.5	59	73.5
Japan	44	4.5	15.9	20.4
Korea	225	71.1	19.1	90.2
Malaysia	439	47.1	17	64.1
New Caledonia	18	0	0	0
New Zealand	85	1.1	15.3	16.4
Papua New Guinea	40	12.5	0	12.5
Singapore	1016	36.7	7.9	44.6
Solomon Islands	15	46.6	0	46.6
Tonga	40[1]	20		
Vanuatu	70	1.4	0	1.4
Vietnam	158	64.6	0	64.6

1. Isolates tested for PPNG resistance only.

Table 2. Spectinomycin resistance in gonococci, WHO Western Pacific Region, 1993

Country	Strains tested	Resistant (%)
Australia	1570	0
Brunei	40	0
China	638	1.4
Hong Kong	1041	0
Japan	10	0
Malaysia	280	0
New Caledonia	18	5.5
Papua New Guinea	30	3.3
Singapore	568	0
Solomon Islands	15	0
Vietnam	58	0

As in 1992, not all centres determined the sensitivity of all isolates to all antibiotics. The Tables therefore provide details of the resistance to each of the nominated 'core' antimicrobials in the contributing centres and the number of strains examined for sensitivity to each antibiotic in each centre.

Some centres performed additional investigations on the sensitivity of gonococci to agents in use in their region and these results are also included.

For clarity of presentation, only aggregated data for the twelve month period is presented. It is recognised that patterns of sensitivity may fluctuate over the time frame of this report and that patterns of resistance may also vary between centres in the same country.

Some additional data on the further subdivision of strains by antibiotic category has been omitted eg those data on strains with decreased sensitivity to the penicillins are not shown. Where interest in the emergence of resistance to a particular antimicrobial is high - as is the case with quinolone antibiotics - these additional data have been included.

Penicillins

Resistance to the penicillins remained high in most parts of the region and has if anything increased in 1993 (Table 1). Rates of both chromosomally mediated resistance (CMRNG) and plasmid mediated beta-lactamase producing strains (PPNG) were high, but not uniformly so throughout the region.

In some of the Pacific islands, Tonga, Fiji, Papua New Guinea and the Solomons, and also in Brunei and Vietnam, a high proportion of strains were PPNG but few if any strains were CMRNG. This has implications for the successful use of those treatment regimens which combine a beta-lactamase inhibitor with a penicillin. In other centres, the high levels of CMRNG recorded would suggest that such regimens would not be effective. A high proportion of CMRNG were present in strains from Hong Kong and China.

The aggregated data for Australia mask the regional variations in penicillin sensitivity that occur here. Most of the penicillin resistance is present in strains isolated in major cities on the eastern and southern coasts whereas in rural, northern and western Australia various forms of penicillin continue to be the basis of effective therapy.

Table 3. Ceftriaxone resistance in gonococci, WHO Western Pacific Region, 1993

Country	Strains tested	Resistant (%)
Australia	1570	0
Brunei	40	0
Fiji	24	0
Hong Kong	1041	0
Korea	225	0
Japan	36	0
Malaysia	280	0
Papua New Guinea	40	0
Singapore	568	0
Solomon Islands	15	0
Vietnam	115	0

Table 4. Quinolone resistance in gonococci, WHO Western Pacific Region, 1993

Country	Strains tested	Resistant (%)	Less sensitive (%)
Australia	1570	0.001	2.7
Brunei	40	0	6.6
Fiji	24	0	0
Korea	225	0	12
Japan	32	0	46.8
Malaysia	280	0	0.1
New Caledonia	18	0	0
New Zealand	85	0	1.1
Papua New Guinea	40	0	12.5
Singapore	611	0.33	2.8
Solomon Islands	15	0	0
Vietnam	116	0	2.6

Table 5. High level tetracycline resistance (TRNG) in gonococci, WHO Western Pacific Region, 1993

Country	Strains tested	TRNG (%)
Australia	1570	2.7
Fiji	593	0.3
Japan	25	4
Korea	225	8
Malaysia	280	38.9
New Caledonia	18	0
New Zealand	85	0
Papua New Guinea	40	7.5
Singapore	769	38.1
Solomon Islands	15	0
Vietnam	157	17.1

Spectinomycin

Over 4200 strains were examined for Spectinomycin resistance (Table 2). A small proportion of strains in China, New Caledonia and Papua New Guinea were spectinomycin resistant. In 1992 a number of spectinomycin resistant strains were found in China.

Ceftriaxone

Approximately 4000 strains were tested for resistance to ceftriaxone in 11 countries (Table 3). No resistant strains were found.

Ceftriaxone is the third generation injectible cephalosporin most used in the treatment of gonorrhoea and data on sensitivity to this antibiotic is used to infer sensitivity to other similar injectable antimicrobials.

Oral formulations of third generation cephalosporins are now available for the treatment of gonorrhoea. There are currently no plans to separately test the sensitivity of gonococci to these agents. Rather, it is suggested that data on ceftriaxone sensitivity be extrapolated to these agents for the time being.

Quinolones

About 3000 strains were tested for sensitivity to quinolone antibiotics in 12 countries (Table 4). Low level resistance was found in 9 of the 12 centres, usually in a small proportion of strains only, but in higher numbers in Japan, Korea and Papua New Guinea. This level of resistance is seen in strains causing infections which fail to respond to 250 mg dose regimens of ciprofloxacin or equivalent doses of other quinolones.

Higher level resistance was present in a small number of strains in Singapore and Australia. Strains with this level of resistance cause infections which fail to respond to 500 mg dose regimens of ciprofloxacin or equivalent doses of other quinolones.

In 1992 low level resistance was present in a small number of strains from three centres and high level resistance in a few isolates from Australia.

High level tetracycline resistance (TRNG)

About 4000 strains were examined for high level tetracycline resistance in 11 countries in 1993 (Table 5). A high proportion of TRNG were present in strains examined in Malaysia, Singapore and Vietnam and in a lower percentage of isolates in five other centres. This pattern did not differ significantly from that observed in 1992.

Table 6. Resistance to other antimicrobials in gonococci, WHO Western Pacific Region, 1993

Antimicrobial	Country	Strains tested	Resistant (%)
Kanamycin	Malaysia	280	1.8
Cefuroxime	Malaysia	280	0
Cefaclor	Papua New Guinea	40	0
Chloramphenicol	Fiji	593	0
	New Caledonia	18	0
	Vietnam	158	17.1
Spiramycin	New Caledonia	18	0
Augmentin	Fiji	593	1.7

Other antimicrobials

Five centres also tested the sensitivity of their isolates to other agents. Of note is the proportion of chloramphenicol resistant strains in Vietnam. Resistance to this antibiotic was not detected in Fiji or New Caledonia. A small number of isolates in Malaysia were kanamycin resistant.

Comments

The results and data reported for 1993 extend considerably the information gathered in the previous year. Not only is the amount of data greatly expanded, but perhaps more importantly there is now continuity of data collection in the region so that trends in antimicrobial resistance can be discerned.

Of particular relevance in this regard is the increase in the proportion of strains showing decreased susceptibility to quinolone antibiotics and their emergence in a much larger number of centres. Similarly, trends in cephalosporin susceptibility will require continual monitoring.

THE FREQUENT ISOLATION OF TOXIGENIC AND NON-TOXIGENIC *CORYNEBACTERIUM DIPHTHERIAE* AT ALICE SPRINGS HOSPITAL

M Patel[1,2], *F Morey*[1], *A Butcher*[3], *C Moore*[3], *R Brennan*[1], *L Mollison*[1]

C. diphtheriae isolates from the skin and throat of patients attending the Alice Springs Hospital have been described previously[1]. This report summarises the experience at the hospital since 1985.

Methods

All pharyngeal swabs taken from patients attending Alice Springs Hospital from June 1985 to June 1992 were cultured on tellurite medium selective for *C. diphtheriae*. Swabs of cutaneous lesions collected June 1985 to June 1989 were cultured in the same way if the initial gram stain revealed organisms morphologically resembling *C. diphtheriae*. Toxigenic testing on cultures from some, but not all swabs was conducted at the Institute of Medical and Veterinary Science, Adelaide (IMVS). Until March 1992, testing for toxin was by the Elek plate method alone, and thereafter included the Polymerase Chain Reaction (PCR) for the *tox* gene.

Results

The number of toxigenic and non-toxigenic *C. diphtheriae* isolates from skin swabs, and pharyngeal swabs by aboriginality of patients is shown in the table.

Two patients with pharyngeal isolates had signs suggestive of faucial diphtheria; one of these patients also had signs of systemic toxicity and responded to treatment with diphtheria antitoxin and penicillin.

Most of the cases with pharyngeal isolates presented to the Accident and Emergency Department with a sore throat, and responded to antibiotic treatment as out-patients. Beta haemolytic streptococci were also frequently cultured from the swabs.

Typical diphtheritic skin lesions, and signs of toxicity were not described in any of the cases with cutaneous isolates.

1. Northern Territory Department of Health and Community Services
2. National Centre for Epidemiology and Population Health
3. Institute of Medical and Veterinary Sciences (IMVS), Adelaide

Table. Number of toxigenic and non-toxigenic *C. diphtheriae* isolates, Alice Springs Hospital by specimen site and aboriginality of patient

	Skin swabs[1]		Throat swabs[2]		
	Aboriginal	Other	Aboriginal	Other	Total
Number of isolates	174	11	29	13	227
Toxigenic strains/number tested	15/27	2/3	6/26[3]	1/7	24/63

1. June 1985 to June 1989.
2. June 1985 to June 1992.
3. Two isolates were confirmed toxigenic by PCR.

Discussion

As this was a hospital-based study and we did not collect data on the total number of skin or pharyngeal swabs taken for culture we cannot draw conclusions as to the extent of the prevalence of the organism in the community. However, consistent isolation confirms that toxigenic and non-toxigenic strains of *C. diphtheriae* are endemic in central Australia. The low incidence of toxic disease is attributable to high uptake rates of immunisation and to naturally acquired immunity. It is unlikely that the organism can be eradicated from population groups with poor living conditions.

Toxigenic *C. diphtheria* was isolated from a foot ulcer in a traveller who returned to Melbourne from Bali[2]. She had been immunised with diphtheria toxoid as a child, and had no evidence of toxicity. Toxigenic and non-toxigenic cutaneous isolates have also been reported in travellers returning to the UK[3].

Non-toxigenic strains of C. diphtheria were responsible for seven cases of infective endocarditis in residents of NSW over a 12 month period[4]. Two of the 3 patients tested had positive pharyngeal cultures, and the authors postulated that in one patient (an IV drug user), the portal of entry was the skin.

Cutaneous isolates, and non-toxigenic strains from the throat are not notifiable, nor are they included in any other national surveillance scheme. We have received anecdotal reports of such isolates from colleagues in other states. The relative lack of published reports on *C. diphtheriae* isolates in Australia reflects one or more of the following:

a. low prevalence of the organism;

b. reporting of the organism only for patients with clinically diagnosed diphtheria, an unusual occurrence in Australia;

c. laboratory practice whereby the organism is sought only when clinically indicated.

The images of diphtheria epidemics of the pre-vaccine era are easily forgotten. The organism is still prevalent in Australia, and has the potential to cause severe disease.

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Editorial comment

The National Health and Medical Research Council's surveillance case definition for diphtheria is the isolation of toxigenic *Corynebacterium diphtheriae* and EITHER pharyngitis and/or laryngitis (with or without membrane) OR toxic (cardiac or neurological) symptoms.

Twenty three notifications of diphtheria have been received by the National Notifiable Diseases System for the year to date. In 1992 and 1993 14 and 39 cases were reported respectively. Diphtheria is notifiable in all of the States and Territories.

HOSPITAL-ACQUIRED HEPATITIS A

J Hanna, Tropical Public Health Unit, Cairns, Queensland

Although hospital-acquired hepatitis A is uncommon, three health care workers recently became infected during a large (and ongoing) community-wide outbreak of hepatitis A in north Queensland (Figure).

Episode 1: In February two registered nurses working in a 48-bed district hospital became unwell within 10 days of each other. Both proved to have acute hepatitis A. Neither nurse had children or any contact with a child-care facility, neither had been abroad recently, and neither had any known contact with a recent case of hepatitis A except through their work.

The nurses had cared for a 20 year old, mildly intellectually disabled man who had been hospitalised with hepatitis A in mid January. However upon review it was considered that he was unlikely to have been the index case. His personal hygiene was reported as good, and one of the nurses had only minimal contact with the man at a time during his convalescence when he was no longer likely to have been infectious.

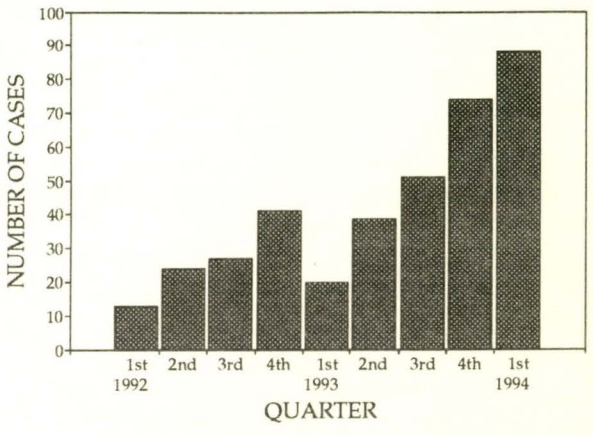
When interviewed both nurses recalled caring for a 22 month old Aboriginal child who was an inpatient during the time when the nurses would have been infected. The child had profuse diarrhoea, and on one occasion one of the nurse's uniforms had been grossly soiled with the child's faeces, and the other nurse had assisted with the clean up. The child's discharge diagnosis was 'acute gastroenteritis'; she had no bilirubin in her admission-urine wardtest, and she was never jaundiced. With her mother's consent, the child was recalled and bled; she was confirmed hepatitis A IgM positive. It is assumed that she was the source of infection for the two nurses.

Episode 2: In late January an elderly woman was hospitalised with vomiting and abdominal pain; she had a past history of biliary tract disease. She was not jaundiced and although her transaminases were slightly elevated, the serum bilirubin was normal. Four days after admission she had an uneventful endoscopic retrograde cholangiopancreatogram (ERCP). Eleven days later she had liver function test abnormalities consistent with acute hepatitis A, which was serologically confirmed soon after.

Five weeks after the ERCP the doctor who performed the procedure was diagnosed as having hepatitis A. He had not travelled abroad within the incubation period, did not have any preschool aged children or contact with a child-care facility, and had no other known contact with a recent case of hepatitis A.

It was reported that the duodenoscope used for the ERCP tended to either leak or 'spray' droplets of biliary and/or duodenal fluid from a rubber bung in the biopsy channel inlet situated near the operator's eyepiece. The leakage was apparently more marked towards the end of an endoscopy session; the woman was the third of four patients endoscoped on that morning's list. The nurse who assisted with the ERCP had a past history of hepatitis A and was therefore already immune at the time of the procedure.

Figure. Hepatitis A cases in Cape York Peninsula and Torres Strait Region, 1992 to 1994, by quarter



The doctor stated that he not infrequently noted fluid droplets on his spectacles and fluid on his gloves after performing an ERCP. However his spectacles did not completely shield his eyes, he usually wore only one glove and he did not routinely wear a theatre gown. It is assumed that he was infected by the woman either via droplets splashing on to his eyes or via his hands; the hepatitis A virus is excreted in bile[1].

Comment

Three patterns of hospital-acquired hepatitis A have been described: foodborne[2], via blood transfusion[3] and faecal-oral spread from an infected patient to susceptible health care worker(s).

In the latter situation, the index case is usually a child with some of the following characteristics: usually young and still wearing nappies, perhaps intellectually disabled, hospitalised with another diagnosis, usually asymptomatic or very mild symptoms of hepatitis A, and perhaps diarrhoea at the time when likely to have been excreting the hepatitis A virus[4,5]. The child in the first episode was asymptomatic and remained undiagnosed until well after the transmission had occurred; her diarrhoea undoubtedly facilitated transmission of the infection.

An adult index patient may have some of the following characteristics: either an underlying illness or an initial diagnosis unrelated to hepatitis A, perhaps some disability (and therefore requiring health care worker assistance), a considerable time in hospital before the diagnosis of hepatitis A is made, and often diarrhoea

or faecal incontinence at the time of maximal virus excretion[6]. The index patient in the second episode had an unrelated illness (biliary tract pathology) which led to the procedure (ERCP) at a time of maximal virus excretion[7]; it was nearly two weeks after admission that the diagnosis of hepatitis A was made. This episode was remarkably similar to another reported episode of transmission of hepatitis A virus occurring during upper gastrointestinal endoscopy procedures[6].

Hospital-acquired hepatitis A is not common; indeed it is not mentioned in recent national guidelines for the control of infectious disease hazards in health care establishments[8]. However it is well recognised that rigorous handwashing and the routine wearing of gloves when appropriate (ie. when contact with faeces is anticipated or possible) are fundamental to the prevention of hospital-acquired hepatitis A[9].

Registered nurses, particularly those working on paediatric wards, appear to be at the greatest risk of infection[9]. Failure to wear gloves routinely, and eating snacks or drinking beverages on the ward are risk factors for the transmission of hepatitis A to nurses[3,10]. Thus pre-existing suboptimal hygiene practices can lead to contamination of hands with the virus, which may then be passed via food/beverages into the mouth. There is good evidence that 'human hands and environmental surfaces may serve as sources of hepatitis A virus dissemination, especially in institutionalised populations'[11]. Both nurses in the first episode acknowledge that they did not wear gloves upon every possible occasion of exposure to patients' faeces, and they also admitted to occasionally eating snacks (chocolates) on the ward.

Finally, it should be recognised that hepatitis A is a ubiquitous, usually subclinical, infection in many Aboriginal communities throughout Australia. Nurses in paediatric wards with a predominant Aboriginal clientele must pay particular attention to handwashing and the routine wearing of gloves; indeed consideration should be given to offering them the inactivated hepatitis A vaccine[12].

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CDI editorial comment

The Gastroenterological Society of Australia recommends the routine use of appropriate barrier precautions to prevent skin and mucous membrane exposure when in contact with body fluids[1]. They recommend the wearing of protective eyewear, masks and gowns where procedures are likely to generate splashes, and the wearing of gloves by all endoscopists and assistants. Although the National Health and Medical Research Council and the Australin National Council on AIDS[2] do not mention hepatitis A specifically, the application of Universal Precautions advocates the use of protective eyewear, masks and protective apparel (gowns or aprons) for all invasive medical procedures and the wearing of gloves.

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OVERSEAS BRIEFS

In the last two weeks, the following information has been supplied by the Communicable Disease Centre, New Zealand and the World Health Organization (WHO).

New Zealand

To the 10 June 45 cases of meningococcal disease had been reported for the year, including four deaths (for the same period last year 64 cases and four deaths had been reported) . To the end of May 1994 of the cases for which an isolate was identified 68% were serogroup B and 32% serogroup C.

For the week 4 to 10 June 217 cases of influenza were reported, a rate of 0.63 per 1000 consultations. Two influenza A isolates were reported for the period, both type H3N2.

Yellow fever in Kenya

The World Health Organisation reports that the Ministry of Health in Kenya has declared all areas free from yellow fever, and the country has been removed from the WHO's infected area list.

Polio eradication, WHO Western Pacific Region

The World Health Organisation's Western Pacific Region has reported a historic low of 1214 cases of poliomyelitis for 1993 (provisional). There has been a steady decline from 5963 cases recorded in1990. An annual average of more than 10,000 cases were reported prior to the start of the Expanded Programme on Immunization. Only five countries in the region are still reporting poliomyelitis cases, Cambodia, China, Laos, the Philippines and Viet Nam. The Region 's goal is to eradicate poliomyelitis by 1995, five years before the WHO's global eradication target.

COMMUNICABLE DISEASES SURVEILLANCE

Virology and Serology Reporting Scheme

There were 1240 reports received in the *CDI* Virology and Serology Reporting Scheme this fortnight (Tables 9, 10 and 11).

- Nine reports of **measles** were received this period, 4 males and 5 females all in the age range 11 months to 39 years.
- **Mumps** was reported for 4 patients this fortnight, 3 females aged 19 to 29 years and one male aged 38 who had had enlarged glands for over 4 weeks. All diagnoses were by viral IgM detection.
- **Rubella** was reported for 2 patients this fortnight, both males, one aged 6 years the other age not stated. Both diagnoses were by viral IgM detection.
- Seven reports of **hepatitis A** were received, 3 males and 4 females, all in the age range 7 to 39 years. Included were 2 injecting drug users.
- Positive **hepatitis B** serology was reported for 87 patients this fortnight, 46 males and 38 females (3 sex not stated). Forty-seven patients were in the 25 to 44 year age group, and 22 in the 15 to 24 year age group. Included were 3 injecting drug users.
- Positive **hepatitis C** serology was reported for 189 patients this fortnight, 114 males and 71 females (4 sex not stated). One hundred and forty-four reports were for the 25 to 44 year age group. Included were 53 injecting drug users, and two haemophiliacs aged 12 and 16 years. This virus was also reported for a 32 year old male who was the source person in a blood contamination incident, a 66 year old female with suspected hepatocellular carcinoma and a 31 year old HIV positive male.
- Thirty reports of **adenovirus** were received this fortnight, 30 virus isolations and 9 antigen detections. Fourteen patients reported respiratory tract infection, 13 gastrointestinal disease and 5 eye disease.
- **Herpes simplex virus type 1** was reported for 105 patients this fortnight, 98 isolations and 7 antigen detections. Included was virus detection by immunofluorescence in the nasopharynx of an 8 day old febrile male with oral ulceration whose mother had primary oral herpes at the time of delivery.
- One hundred and seventy-eight reports of **herpes simplex virus type 2** were recieved this period, all diagnosed by virus isolation. Included was isolation from a vulval swab from a 21 year old pregnant female at 20 weeks gestation.
- There were 49 reports of **cytomegalovirus** this fortnight, 38 virus isolates, 4 antigen detections 3 IgM detections and 4 single high titres. Included was one HIV / AIDS patient (isolation from lung biopsy) and 4 transplant recipients (including virus isolation from a post-mortem lung specimen from a 23 year old heart-lung recipient). This virus was also isolated from the nasopharynx of a 5 month old female with pneumonia and from the nasopharynx of a 15 month old female with pneumonia for

whom parainfluenza virus type 3 was also diagnosed.

- **Varicella zoster** was reported for 24 patients this fortnight, 9 virus isolations, 11 antigen detections, and 4 IgM detections. Included was detection by immunofluorescence in a skin swab from a pregnant female at 6 weeks gestation who had clinical chicken pox.
- **Papovavirus** was isolated from the urine of a 43 year old bone marrow transplant recipient (identified by electron microscopy).
- A single report of **parvovirus** was recieved this fortnight for a 30 year old Victorian female, diagnosed by IgM detection.
- **Coxsackievirus type A16** was reported for 5 patients this period, 4 males and one female all in the age range 2 months to 35 years. Included was isolation from the nasopharynx and skin of a 36 year old mother with hand, foot and mouth disease whose 22 month old twins also had this disease.
- Three reports of **coxsackievirus type B2** were received including a 5 month old female and 2 and 6 year old males.
- **Coxsackievirus type B4** was reported for 3 patients this period including virus isolation from the CSF of a 9 year old New South Wales male.
- Twelve reports of **echovirus type 30** were received this fortnight, 5 males and 7 females. Ten patients were reported as having meningitis. The number of reports received declined in April and May. (Figure 1).
- Forty-three untyped **enterovirus** reports were received this period. Included was virus isolation from the nasopharynx of a 6 month old male with recurrent haemoptysis.
- **Rhinovirus** was reported for 31 patients this fortnight, 28 under the age of 4 years. Included was isolation from the nasopharynx of a 6 month old female and a 9 month old male, both with a diagnosis of pneumonia.
- **Influenza A** was reported for 3 patients this fortnight, including a 2 year old Victorian male and a one year old female with pneumonia from New South Wales (detected by immunofluorescence in nasopharyngeal specimens). This virus was also diagnosed by single high titre for a 36 year old Victorian male.
- One report of **influenza B** was received, diagnosed by positive immunofluorescence on a nasopharygeal specimen from an 11 month old Victorian male.
- **Parainfluenza virus type 1** was reported for 58 patients this period 47 of whom were under the age of 4 years. Thirty-three diagnoses were by virus isolation and 25 by antigen detection.
- Seventeen reports of **parainfluenza virus type 3** were received this fortnight, 16 under the age of 4 years. Diagnosis was by virus isolation (7) and antigen detection (10). An increased number of reports was received for the month of May though the number of reports remain average for the time of year (Figure 2).
- One hundred and sixty-seven reports of **respiratory syncytial virus (RSV)** were received this fortnight, 112 for patients under one year of age and a total of 158 under the age of 4 years. Diagnosis was by virus isolation (64), antigen detection (102) and single high titre (one). Included was a 2 month old male with suspected pertussis and 9 month old twins.
- **Rotavirus** was reported for 50 patients this period, 27 males and 22 females (one sex not stated). Forty four patients were under 4 years of age.

Figure 1. Echovirus type 30 laboratory reports, 1993 to 1994, by month of specimen collection

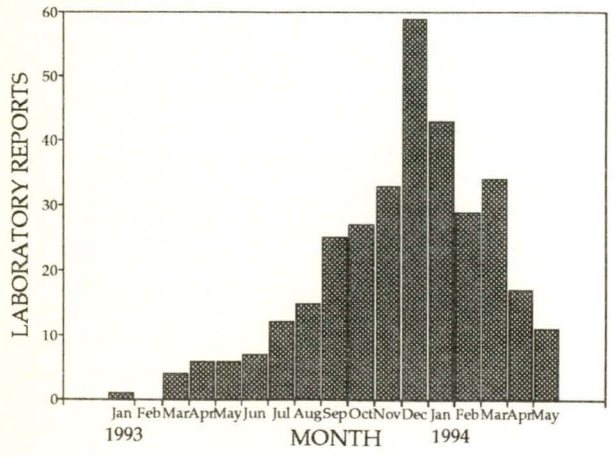
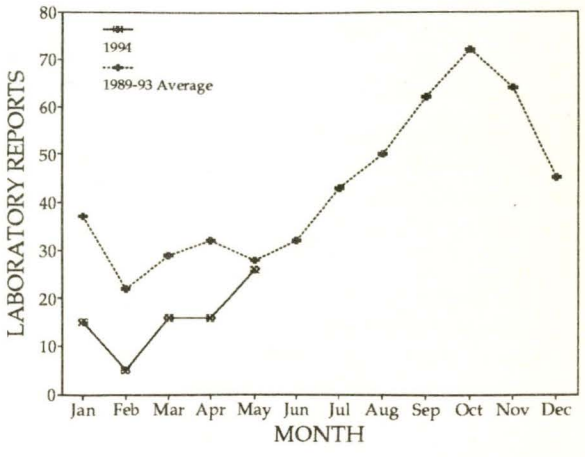


Figure 2. Parainfluenza virus type 3 laboratory reports, 1989-93 average and 1994, by month of specimen collection

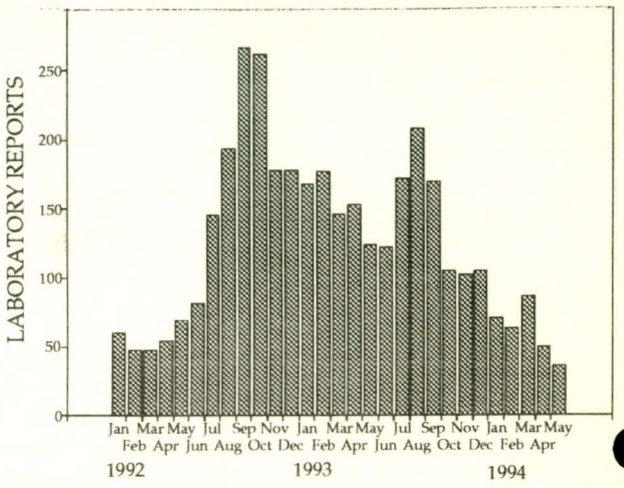


- Thirty-four reports of ***Chlamydia trachomatis*** were received this fortnight, 19 females and 14 males (1 sex not stated). Twenty patients were in the 15 to 24 year age group. Diagnosis was by culture (26), and antigen detection (8). Included was detection by immunofluorescence in the eyes of a 7 day old male.
- **Psittacosis** was reported for 4 patients this period, including a 49 year old female pet shop owner with pneumonia and a 50 year old male. Diagnosis was by IgM detection (one), fourfold rise in titre (2) and single high titre (one).
- Seven reports of **Mycoplasma pneumoniae** were received, 4 males and 3 females all in the age range 5 to 64 years. The number of reports received for the month of May was the lowest for any month over the past 2 years (Figure 3).
- Twenty-five reports of **Bordetella pertussis** were recieved this fortnight for patients aged 1 month to 64 years, 10 males and 13 females (2 sex not stated). Diagnosis was by IgA detection (19), isolation (3), and antigen detection (3).
- Positive **syphilis** serology was reported for 21 patients this period including a 27 year old pregnant female.
- ***Toxoplasma gondii*** was reported for 10 patients this fortnight including a 36 year old female who had a lymph node biopsy suggestive of toxoplasmosis.
- Positive **hydatid** serology was reported for an 18 year old New South Wales male.

Australian Sentinel Practice Research Network

Data for weeks 22 and 23 are included in this issue of *CDI* (Table 1). There were 1092 consultations for week 22 and 9760 for week 23. Chicken pox continues to be reported at higher rates than those reported earlier in the year.

Figure 3. Mycoplasma pneumoniae laboratory reports, 1992 to 1994, by month of specimen collection



HIV and AIDS Surveillance

Methodological note

National surveillance for HIV disease is coordinated by the National Centre in HIV Epidemiology and Clinical Research (NCHECR), in collaboration with State and Territory health authorities and the Commonwealth of Australia. Cases of HIV infection are notified to the National HIV Database on the first occasion of diagnosis in Australia, by either the diagnosing laboratory (ACT, New South Wales, Tasmania, Victoria) or by a combination of laboratory and doctor sources (Northern Territory, Queensland, South Australia, Western Australia). Cases of AIDS are notified through the State and Territory health authorities to the National AIDS Registry. Diagnoses of both HIV infection and AIDS are notified with the person's date of birth and name code, to minimise duplicate notifications while maintaining confidentiality.

Table 1. Australian Sentinel Practice Research Network, week 22

Condition	Week 22, to 5 June 1994		Week 23, to 12 June 1994	
	Reports	Rate per 1000 encounters	Reports	Rate per 1000 encounters
Influenza	131	12	118	12.1
Measles	6	0.6	2	0.2
Chickenpox	15	1.4	26	2.7
Pertussis	2	0.2	1	0.1
Gastroenteritis	163	15	126	12.9

Table 2. New diagnoses of HIV infection, new diagnoses of AIDS and deaths from AIDS occurring in the period 1 to 31 January 1994, by sex and State or Territory of diagnosis

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA This period 1994	TOTALS FOR AUSTRALIA This period 1993
HIV diagnoses	Female	0	1	0	1	0	0	2	0	4	9
	Male	0	20	0	17	2	0	18	6	63	82
	Sex not reported	0	0	0	0	0	0	0	0	0	1
	Total[1]	0	21	0	18	2	0	20	6	67	92
AIDS diagnoses	Female	0	0	0	0	0	0	0	0	0	0
	Male	0	21	0	3	3	0	10	0	37	32
	Total[1]	0	21	0	3	3	0	10	0	37	32
AIDS deaths	Female	0	0	0	0	1	0	2	0	3	1
	Male	1	16	0	7	3	1	13	0	41	18
	Total[1]	1	16	0	7	4	1	15	0	44	19

1. Persons whose sex was reported as transsexual are included in the totals.

Table 3. Cumulative diagnoses of HIV infection, diagnoses of AIDS and deaths from AIDS since the introduction of HIV antibody testing to 31 January 1994, by sex and State or Territory of diagnosis

		ACT	NSW	NT	Qld	SA	Tas	Vic	WA	AUSTRALIA
HIV diagnoses	Female	10	493	4	76	39	3	137	44	806
	Male	138	9177	71	1313	498	68	2988	648	14901
	Sex not reported	0	2031	0	2	0	0	44	0	2077
	Total[1]	148	11709	75	1394	537	71	3176	693	17803
AIDS diagnoses	Female	2	98	0	21	12	2	29	10	174
	Male	54	2721	20	429	199	25	985	208	4641
	Total[1]	56	2824	20	452	211	27	1019	218	4827
AIDS deaths	Female	2	56	0	13	7	1	14	3	96
	Male	36	1804	14	292	120	19	723	134	3142
	Total[1]	38	1865	14	306	127	20	740	137	3247

1. Persons whose sex was reported as transsexual are included in the totals.

Tabulations of diagnoses of HIV infection and AIDS are based on data available three months after the end of the reporting interval indicated, to allow for reporting delay and to incorporate newly available information. More detailed information on diagnoses of HIV infection and AIDS is published in the quarterly *Australian HIV Surveillance Report*, available from the National Centre in HIV Epidemiology and Clinical Research, 376 Victoria Street, Darlinghurst NSW 2010. Telephone: (02) 332 4648 Facsimile: (02) 332 1837.

HIV and AIDS diagnoses and AIDS deaths reported for January 1994, as reported to 30 April 1994, are included in this issue of *CDI* (Tables 2 and 3).

National Influenza Surveillance 1994

Australian Capital Territory Department of Health; Australian Defence Force; Australian Sentinel Practice Research Network; Communicable Diseases Intelligence Virology and Serology Reporting Scheme Contributing Laboratories; New South Wales Department of Health; Telecom Australia; Victorian Department of Health and Community Services; World Health Organization (WHO) Collaborating Centre for Influenza Reference and Research, Melbourne

Overall this fortnight reports of influenza-like illness from sentinel practitioners continue to rise at a steady rate. Rates of absenteeism show no apparent overall pattern. Laboratory diagnoses of influenza virus remain low.

Sentinel General Practitioner Surveillance (Figure 4)

- **Australian Sentinel Practice Research Network** (ASPREN) reports have been received this fortnight for weeks 22 (ending 5 June) and 23 (ending 12 June). There were 131 reports of influenza in week 22 (12.0 per 1000 encounters) and 118 reports in week 22 (12.1 per 1000 encounters). The rate continues to rise.
- Results from the **New South Wales Sentinel General Practitioner Surveillance Scheme** were received for the weeks ending 29 May to 5 June. The number of influenza cases (and the number of cases per 1000 consulations) each week were 273 (19.3) and 224 (15.8). The rate of influenza reporting for this scheme remains high compared to that observed earlier in the year.

Figure 4. Sentinel general practitioner influenza cases per 1000 encounters, by week and scheme

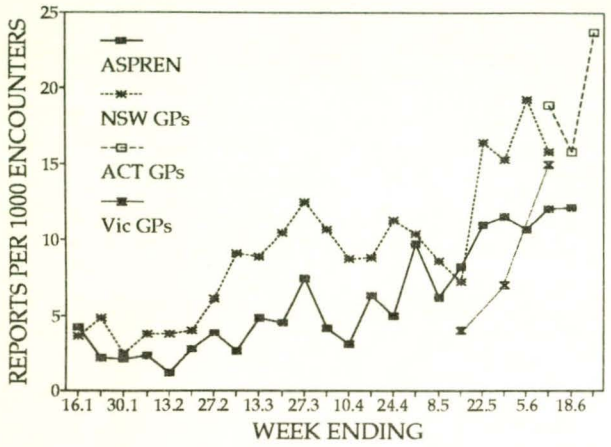


Figure 5. Absenteeism rates per 100 employees or students, by week and scheme

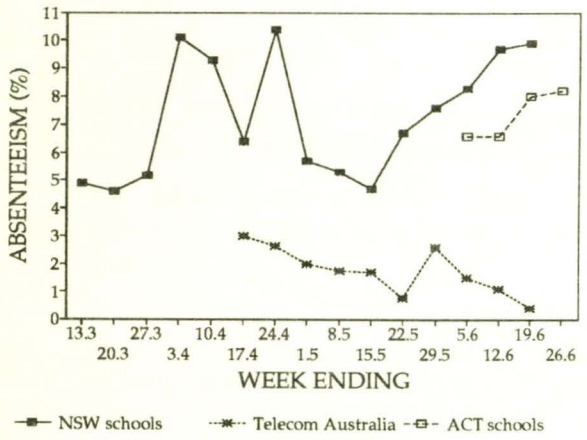
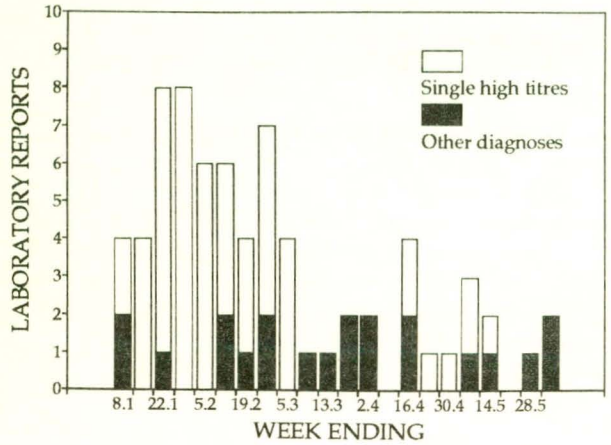


Figure 6. Influenza A laboratory reports, 1994, by method of diagnosis and week of specimen collection



- **The Australian Capital Territory Sentinel General Practitioner Scheme** reported 18 cases of influenza for the week ending 12 June (15.8 cases per 1000 consultations) and 23 cases for the week ending 19 June (23.7 per 1000 consultations).
- **The Victorian Sentinel Practitioner Scheme** reported 68 cases of influenza in the fortnight ending 12 Jun, 15 cases per 1000 patient encounters.

Absenteeism Surveillance (Figure 5)

- **Telecom Australia absenteeism surveillance** reported absenteeism rates of 1.1% on 8 June and 0.4% on 15 June .
- **New South Wales schools absenteeism surveillance** data has been received for the weeks ending 5 June, 12 June and 19 June. The average student absenteeism rates per week were 8.3%, 9.7% and 9.9 % respectively.
- **Australian Capital Territory schools absenteeism surveillance** reported absenteeism rates of 8% for the 14 June and 8.2% for the 21 June.

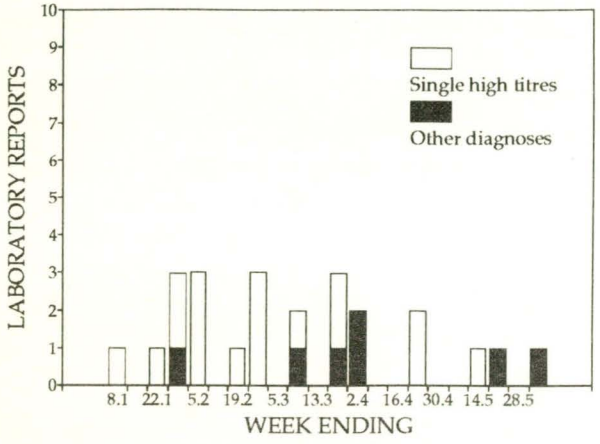
Other Surveillance

- **Victorian total deaths surveillance:** there were 1359 deaths reported in Victoria in the fortnight ending 12 June, a rate of 3 per 10,000 population.
- **Victorian hospital admissions**: there were 18 admissions for influenza and/or pneumonia in one Victorian hospital in the fortnight ending 12 June, a rate of 0.8 per 100 admissions. Two hospitals were unable to provide data this fortnight.

Laboratory Surveillance

- So far this year the *CDI* **Virology and Serology Reporting Scheme** has received 71 reports of **influenza A** including 21 other than single high titre diagnoses (ie. diagnosis by virus isolation, antigen detection or fourfold rise in titre) (Figure 6).
- **Influenza A** was reported for 3 patients this fortnight, including a 2 year old Victorian male and a one year old female with pneumonia from New South Wales (detected by immunofluorescence in nasopharyngeal specimens). This virus was also diagnosed by single high titre for a 36 year old Victorian male.
- There have been 24 reports of **influenza B** for the year to date, including 7 other than single high titre diagnoses (Figure 7).
- One report of **influenza B** was received this fortnight, diagnosed by positive immunofluorescence on a nasopharygeal specimen from an 11 month old Victorian male.

Figure 7. Influenza B laboratory reports, 1994, by method of diagnosis and week of specimen collection



Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 10 laboratories. *CDI* welcomes John Hunter Hospital, New South Wales to the LabDOSS scheme. There were 217 reports of recent sepsis: John Hunter Hospital, New South Wales 77; Royal North Shore Hospital, New South Wales 39; IMVS, South Australia 36; Ipswich General Hospital, Queensland 7; Sullivan Nicolaides, Queensland 15; Northern Tasmanian Pathology Service, Tasmania 9; Central Queensland Pathology Laboratory, Mackay, Queensland 2; Toowoomba Pathology Laboratory, Queensland 20; Sir Charles Gairdner Hospital, Western Australia 10; Princess Margaret Hospital for Children, Western Australia 2. John Hunter Hospital also supplied 300 records of significant sepsis from January to May 1994. These data have been included in the annual LabDOSS file.

Organisms reported 5 or more times from blood are detailed in Table 4. Other blood isolates not included in Table 4 were:

Gram positive: 1 *Corynebacterium jekeium*, 2 *Corynebacterium* species, 2 Group A *Streptococcus*, 3 Group B *Streptococcus*, 1 Group G *Streptococcus*, 1 *Streptococcus intermedius*, 1 *Streptococcus* 'milleri', 2 *Streptococcus sanguis*, 2 *Streptococcus* 'viridans', 3 *Streptococcus* species.

Gram negative: 1 *Neisseria gonorrhoea* (73 year old female), 1 *Salmonella typhimurium* (66 year old in WA), 2

Figure 8. LabDOSS reports of blood isolates, by age group

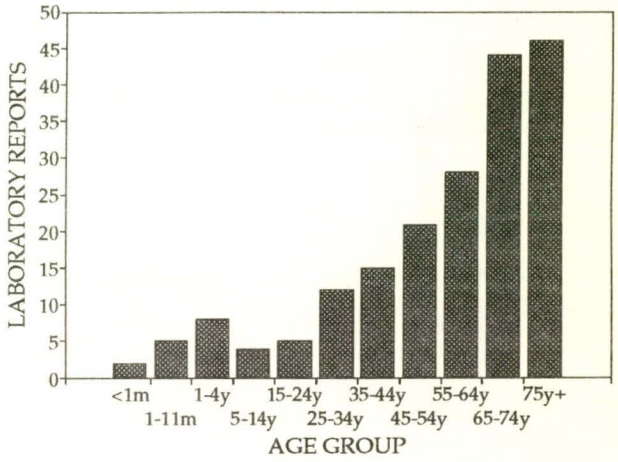


Table 4. LabDOSS reports of blood isolates, by organism and clinical information

Organism	Clinical information						Risk factors					Total[1]
	Bone/joint	Lower respiratory	Endocarditis	Gastrointestinal	Urinary tract	Skin	Surgery	Immunosuppressed	IV line	Hospital acquired	Neonatal	
Staphylococcus aureus	4	1	2	1			2	13	8		1	36[2]
Staphylococcus epidermidis								13	9			5
Staphylococcus coagulase negative								1				19
Enterococcus species			1	1				4				6[3]
Streptococcus pneumoniae		10				9		2				17
Escherichia coli		2		10	18	1	1	15				41
Enterobacter species				1	1	2		3	1			7[4]
Klebsiella pneumoniae				3	1			3				6
Pseudomonas aeruginosa		1		2		1		3				7

1. Only organisms with 5 or more reports are included in this table.
2. MRSA 2.
3. *Enterococcus faecalis* 5, *faecium* 1.
4. *Enterobacter aerogenes* 3, *cloacae* 3.

Salmonella species (42 year old female from NSW with history of recent travel to Bali and a 69 year old male from Qld), 2 *Haemophilus influenzae* (57 year old male and 71 year old female), 2 *Acinetobacter calcoaceticus*, 1 *Campylobacter jejuni* (80 year old female), 1 *Citrobacter diversus*, 1 *Citrobacter freundii*, 2 *Klebsiella oxytoca*, 1 *Pasteurella multocida*, 4 *Proteus mirabilis*, 3 *Pseudomonas* species, 1 *Aeromonas sobria* (history of cholangitis).

Anaerobes: 1 *Clostridium* species, 2 *Bacteroides thetaiotaomicron*.

Fungi: 1 *Candida albicans*, 1 *Candida krusei*, 1 *Candida parapsilosis*, 1 *Cryptococcus neoformans*.

Isolates from sites other than blood or CSF

Peritoneal fluid: 1 *Escherichia coli*, 1 *Pseudomonas aeruginosa*.

Joint fluid: 6 *Staphylococcus aureus*, 1 *Staphylococcus epidermidis*.

Other: 1 *Enterococcus faecalis*, 1 MRSA, 2 *Staphylococcus epidermidis*, 2 Group B *Streptococcus*, 1 *Streptococcus* 'viridans', 1 *Enterobacter cloacae*.

Table 5. LabDOSS reports of meningitis and/or CSF isolates, by organism and age group

	1-11 months	15-24 years	45-54 years	55-64 years	Total
Neisseria meningitidis serogroup C	1				1
Streptococcus Group A				1	1
Streptococcus Group B	1				1
MRSA				1	1
Acinetobacter calcoaceticus		1			1
Streptococcus pneumoniae	5		1		6

National Notifiable Diseases Surveillance System, 29 May to 11 June 1994

There were 1814 reports received for the period (Tables 6, 7 and 8 and Figure 12).

- **Ross River virus infection** notifications for 1994 peaked in March with 1019 cases (Figure 9). There were 147 cases reported in the current period; 80 cases were male and 67 were female. Recorded ages ranged from the 5-9 to the 85-89 years age group. Ninety three percent of cases were resident in Statistical Divisions in Queensland. Recorded onset dates were February (one), March (8), April (32), May (99), and June (7).
- A single cases of **brucellosis** was notified in a female in the 15-19 years age group who was resident in a Statistic Division in rural Queensland. The recorded onset date was in May.
- There were 93 notifications of **gonococcal infection** received in the period. Fifty nine cases were male, 33 were female, and the sex of one case was unrecorded. The cases ranged in age from the 0-4 to the 60-64 years age group.
- Eight cases of ***Haemophilus influenzae* type b infection** were reported; 5 cases were male and 3 cases were female. Cases ranged in age from the 0-4 to the 70-74 years age group with 5 cases in the 0-4 years age group. Recorded onset dates were May (6) and June (2). To date there have been no cases reported in children under one year in May (Figure 10).

Figure 9. Ross River virus infection notifications, January 1992 to June 1994, by month of onset

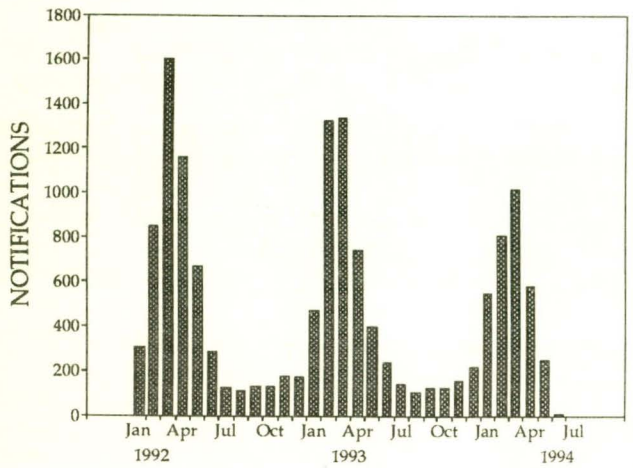
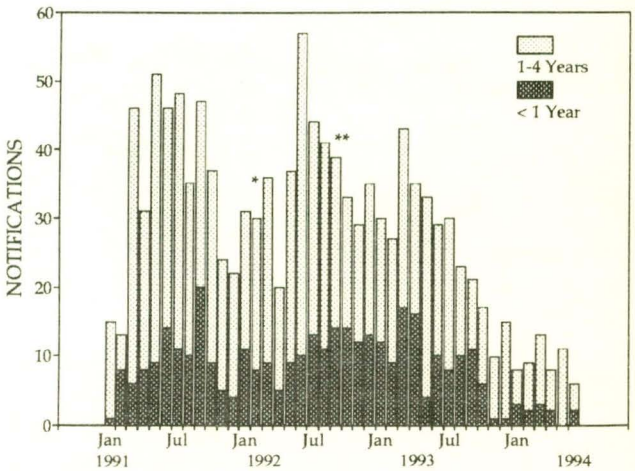


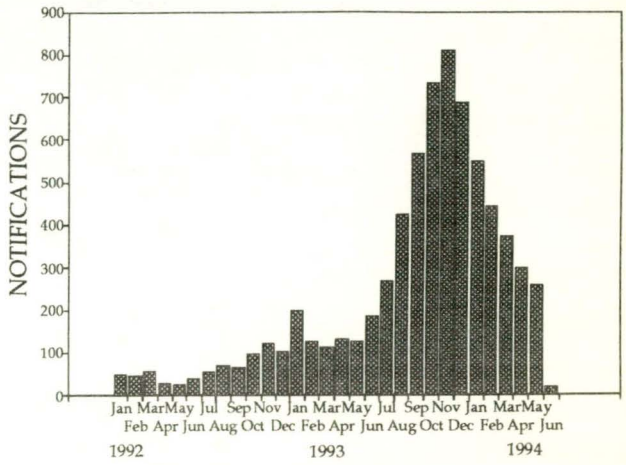
Figure 10. *Haemophilus influenzae* type b infection notifications, January 1991 to June 1994, by age and month of onset



* PRP-D approved in February 1992.
** Infant vaccine approved in September 1992.

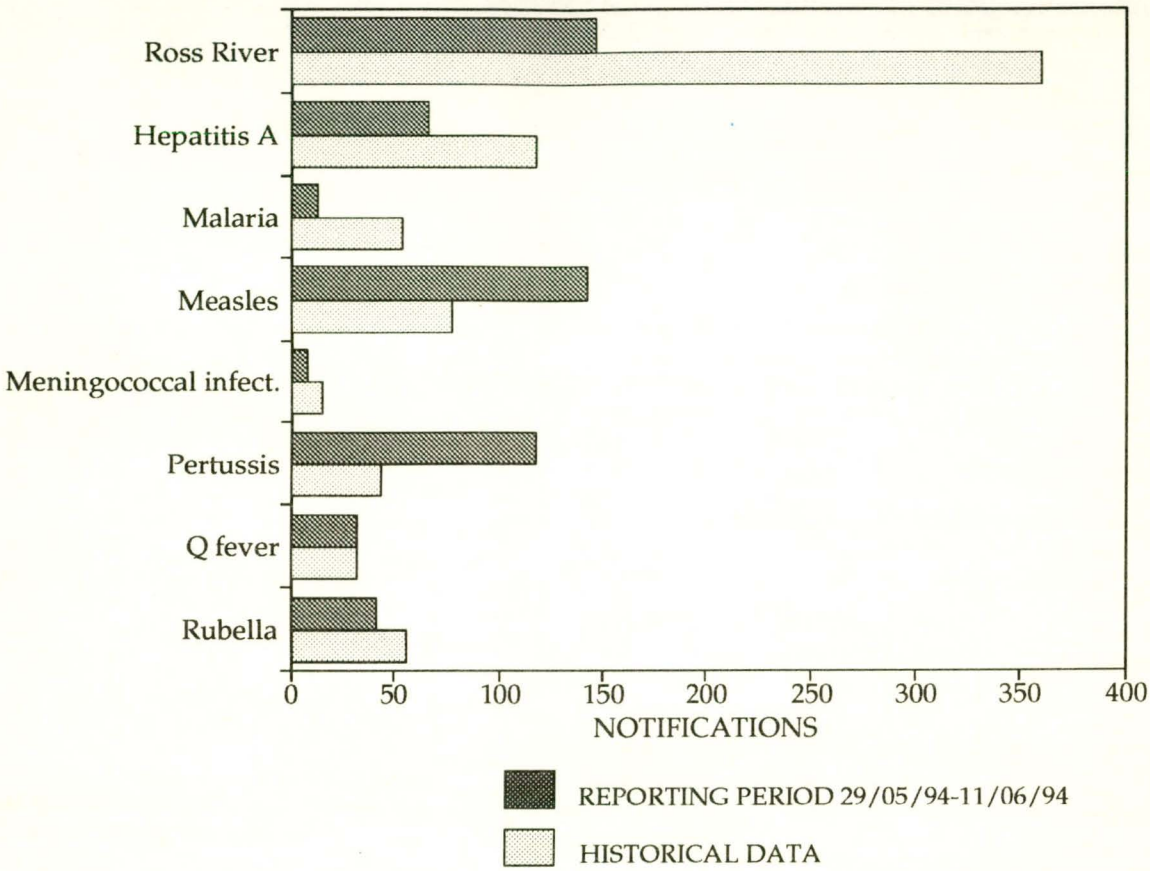
- There were 66 cases of **hepatitis A** reported; 35 cases were male, 30 cases were female, and the sex of one case was unrecorded. Cases ranged in age from the 0-4 to the 70-74 years age group. The highest proportion of cases (38%) were resident in the Statistical Division of Far North Queensland.
- There were 78 cases of **hepatitis B** notified; 12 of these were from States that report incident cases only. Eight of the incident cases were male, 3 were female, and sex was unrecorded for one case. Recorded ages of the incident cases ranged from the 20-24 to the 55-59 years age group.
- Three cases of **hydatid infection** were notified; 2 were male and one was female. Cases ranged from the 30-34 to the 40-44 years age group. Two cases were resident in the Statistical Division of Brisbane and one case was resident in the Statistical Division of Northwestern New South Wales.
- A single case of **legionellosis** was reported in a male in the 60-64 years age group resident in New South Wales. The recorded onset date was May.
- Three cases of **leptospirosis** were reported for males resident in the Statistical Division of Far North Queensland. Recorded ages ranged from the 10-14 to the 50-54 years age group.
- Two notifications of **listeriosis** were received. Both case were male and were resident in the Statistical Division of Moreton in Queensland. Cases were in the 55-59 years age group and the 75-79 years age group. Recorded onset dates were in May.
- There were 13 cases of **malaria** reported in the period; 9 cases were male and 4 cases were female. Recorded ages ranged from the 15-19 to the 65-69 years age group. Onset dates were May (9) and June (4).
- There were 143 cases of **measles** reported; 67 males and 76 females. The cases ranged from the 0-4 to the 65-69 years age group with a mean age of 14.5 years. There were 19 apparent clusters of between 2 and 16 cases each in the same postcode area. All apparent clusters were in Queensland.
- Eight cases of **meningococcal infection** were reported; 5 cases were male and 3 were female. Cases ranged in age from the 0-4 to the 40-44 years age group. Recorded onset dates were April (one), May (3), and June (3). There were no apparent clusters.
- The **pertussis** epidemic reached a peak in November 1993 and the number of notifications has decreased steadily since then (Figure 11). One hundred and eighteen notifications of pertussis were received in the current period; 49 males and 69 females. Cases ranged in age from the 0-4 to the 80-84 years age group. Recorded onset dates were February (2), March (3), April (15), May (88), and June (10). Forty seven percent of case were resident in Queensland.

Figure 11. Pertussis notifications, January 1992 to June 1994, by month of onset



- There were 32 cases of **Q fever** reported; 29 cases were male and 3 were female. Recorded ages ranged from the 0-4 to the 75-79 years age group.
- Forty-one cases of **rubella** were reported in the period; 23 cases were male and 18 were female. Cases ranged in age from the 0-4 to the 65-69 years age group with a mean age of 22.9 years. There were 9 cases reported for females in the 15-44 years age group.
- There were 65 cases of **syphilis** reported; 34 cases were male and 31 were female. Recorded ages were in the 0-4 to the 80-84 years age group with one case recorded in a child less than one year .
- There were 18 notifications of **tuberculosis** received; 10 cases were male and 8 cases female. Cases ranged in age from the 15-19 to the 75-79 years age group. Recorded onset dates were January (4), March (3), April (2), May (8), and June (one).
- A single case of **typhoid** was reported for a male in the 40-41 years age group who resided in rural New South Wales.

Figure 12. Selected National Notifiable Diseases Surveillance System reports, and historical data[1]



1. 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. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by State and Territory health authorities in the period 29 May to 11 June 1994

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[1] This period 1994	This period 1993	Year to date 1994	Year to date 1993
Diphtheria	0	0	0	0	0	0	0	0	0	0	23	12
Haemophilus influenzae b infection	0	3	0	3	1	0	1	0	8	14	89	207
Measles	2	6	0	130	0	2	0	3	143	72	1361	622
Mumps	0	0	NN	NN	0	NN	0	1	1	0	4	1
Pertussis	0	19	0	55	18	0	13	13	118	65	2364	710
Poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0
Rubella[2]	0	1	2	26	4	0	3	5	41	73	690	1381
Tetanus	0	0	0	NN	0	0	0	0	0	1	8	5

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: CRS only.

NN Not Notifiable.

Table 7. Notifications of other diseases[1] received by State and Territory health authorities in the period 29 May to 11 June 1994

DISEASES	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	TOTALS FOR AUSTRALIA[2] This period 1994	This period 1993	Year to date 1994	Year to date 1993
Arbovirus infection												
Ross River virus infection	0	5	1	137	1	NN	0	3	147	139	3401	4332
Dengue	0	-	0	0	-	NN	0	NN	0	36	11	200
NEC[3]	1	3	1	23	0	1	3	0	32	21	379	321
Campylobacteriosis[4]	22	-	10	67	52	21	63	36	271	245	4134	3580
Chlamydial infection (NEC)[5]	7	NN	47	100	26	13	19	12	224	218	2807	3052
Donovanosis	0	NN	1	2	NN	NN	0	1	4	0	52	23
Gonococcal infection[6]	0	6	22	36	3	0	2	24	93	102	1347	1394
Hepatitis A	0	10	1	44	2	0	1	8	66	74	878	933
Hepatitis B[7]	17	2	0	49	2	0	1	7	78	52	804	1067
Hepatitis C	24	0	NN	124	0	0	31	54	233	233	3787	2752
Hepatitis (NEC)	0	0	0	4	0	0	0	NN	4	4	22	38
Legionellosis	0	1	0	0	0	0	0	0	1	6	90	81
Leptospirosis	0	0	0	3	0	0	0	0	3	4	83	81
Listeriosis	0	0	NN	1	0	0	1	0	2	0	15	21
Malaria	0	5	0	0	0	0	2	6	13	9	334	307
Meningococcal infection	1	1	0	2	3	0	1	0	8	8	116	100
Ornithosis	0	NN	0	0	1	0	0	0	1	5	44	45
Q fever	0	11	0	19	1	0	0	1	32	26	285	353
Salmonellosis (NEC)	4	29	23	53	16	0	16	23	164	149	3071	2547
Shigellosis[4]	0	-	2	5	1	0	0	10	18	13	401	387
Syphilis	2	10	9	35	8	0	0	1	65	55	920	1017
Tuberculosis	4	6	1	4	1	0	2	0	18	38	389	383
Typhoid[8]	0	1	0	0	0	0	0	0	1	0	20	23
Yersiniosis (NEC)[4]	0	-	0	16	5	0	0	0	21	8	231	211

1. For HIV and AIDS, see Tables 2 and 3. 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. SA, Tas: includes Ross River virus and dengue.
4. NSW: only as 'foodborne disease' or 'gastroenteritis in an institution'.
5. WA: genital only.
6. NT, Qld, SA and Vic: includes gonococcal neonatal ophthalmia.
7. Acute cases only are reported by NSW, NT, SA, Tas and WA.
8. NSW and Vic includes paratyphoid.

NN Not Notifiable.
NEC Not Elsewhere Classified.
- Elsewhere Classified.

Table 8. Notifications of rare[1] diseases received by State and Territory health authorities in the period 29 May to 11 June 17

DISEASES	Total this period	Reporting States or Territories	Year to date 1994
Botulism	0		0
Brucellosis	1	Qld	7
Chancroid	0		0
Cholera	0		3
Hydatid infection	3	NSW 1, Qld 2	20
Leprosy	0		3
Lymphogranuloma venereum	0		0
Plague	0		0
Rabies	0		0
Yellow fever	0		0
Other viral haemorrhagic fevers	0		0

1. Fewer than 50 cases of each of these diseases were notified each year during the period 1988 to 1993.

Table 9. Virology and serology laboratory reports by State or Territory[1] for the reporting period 2 to 15 June 1994, historical data[2], and total reports for the year

	State or Territory [1]								Total this fortnight	Historical data [2]	Total reported this year
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
MEASLES, MUMPS, RUBELLA											
Measles virus				2			5	2	9	4.7	548
Mumps virus							2	2	4	2.0	39
Rubella virus								2	2	14.2	280
HEPATITIS VIRUSES											
Hepatitis A virus		3		2				2	7	13.8	159
Hepatitis B virus	5	40		3			16	23	87	83.8	1,194
Hepatitis C virus	9	63	3			1	11	102	189	129.0	2,626
ARBOVIRUSES											
Ross River virus						1		2	3	88.0	1,318
Flavivirus (unspecified)							1		1	3.5	10
ADENOVIRUSES											
Adenovirus type 1							1		1	2.2	35
Adenovirus type 3							1		1	4.0	23
Adenovirus type 4							1		1	1.0	7
Adenovirus not typed/pending	1	16		3		1	10	5	36	39.8	621
HERPES VIRUSES											
Herpes simplex virus type 1	1	21		22			34	27	105	116.0	2,241
Herpes simplex virus type 2		43		22			43	41	149	144.8	2,531
Herpes simplex not typed/pending	5	22						2	29	31.5	354
Cytomegalovirus		14		16			14	5	49	58.2	783
Varicella-zoster virus	1	3		2		1	14	3	24	25.8	495
Epstein-Barr virus		4					7	5	16	59.7	701
Herpes virus group - not typed								1	1	1.5	10
OTHER DNA VIRUSES											
Papovavirus group							1		1	.2	1
Parvovirus							1		1	3.5	34
PICORNA VIRUS FAMILY											
Coxsackievirus A16							5		5	.7	33
Coxsackievirus B2		2					1		3	.2	17
Coxsackievirus B4	1						2		3	.8	10
Echovirus type 6		4							4	4.2	37
Echovirus type 11		2							2	2.7	36
Echovirus type 14		1							1	1.2	4
Echovirus type 30		8				1	3		12	1.5	235
Poliovirus type 1 (uncharacterised)		1					1		2	2.7	14
Poliovirus type 2 (uncharacterised)		1							1	2.0	16
Poliovirus not typed/pending		2							2	.5	18
Rhinovirus (all types)		4		7			18	2	31	21.5	455
Enterovirus not typed/pending		5		20			5	13	43	31.7	703

Table 9. Virology and serology laboratory reports by State or Territory[1] for the reporting period 2 to 15 June 1994, historical data[2], and total reports for the year, continued

	State or Territory [1]								Total this fortnight	Historical data [2]	Total reported this year
	ACT	NSW	NT	Qld	SA	Tas	Vic	WA			
ORTHO/PARAMYXOVIRUSES											
Influenza A virus		1					2		3	40.5	151
Influenza B virus							1		1	9.5	93
Parainfluenza virus type 1	2	5		14			31	6	58	8.3	326
Parainfluenza virus type 2							6		6	6.2	40
Parainfluenza virus type 3		1		5			10	1	17	13.7	133
Parainfluenza virus typing pending							2		2	5.3	28
Respiratory syncytial virus		43		55		3	25	41	167	284.3	686
OTHER RNA VIRUSES											
HIV-1								1	1	1.3	47
Rotavirus		21				1	14	14	50	70.2	473
Small virus (like) particle							1	1	2	1.3	11
OTHER											
Chlamydia trachomatis not typed	5	1				1	4	23	34	106.5	1,259
Chlamydia psittaci							4		4	2.3	38
Mycoplasma pneumoniae							6	1	7	40.5	487
Coxiella burnetii (Q fever)		1					3		4	14.3	157
Yersinia enterocolitica		1							1	.2	6
Bordetella pertussis		8					11	6	25	6.0	303
Cryptococcus species		1							1	.0	8
Treponema pallidum	1	20							21	16.3	190
Toxoplasma gondii		7		2			1		10	1.8	30
Echinococcus granulosus		1							1	.2	7
TOTAL	31	370	3	175		10	318	333	1,240	1,525.5	20,061

1. State or Territory of postcode, if reported, otherwise State or Territory of reporting laboratory.
2. 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. Virology and serology laboratory reports by clinical information for the reporting period 2 to 15 June 1994

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
MEASLES, MUMPS, RUBELLA													
Measles virus					1			1				7	9
Mumps virus												4	4
Rubella virus												2	2
HEPATITIS VIRUSES													
Hepatitis A virus							4					3	7
Hepatitis B virus							14					73	87
Hepatitis C virus							18					171	189
ARBOVIRUSES													
Ross River virus										1		2	3
Flavivirus (unspecified)												1	1
ADENOVIRUSES													
Adenovirus type 1									1				1
Adenovirus type 3												1	1
Adenovirus type 4									1				1
Adenovirus not typed/pending					14	13			3			6	36
HERPES VIRUSES													
Herpes simplex virus type 1				1	5			59	3		23	14	105
Herpes simplex virus type 2					1			45			75	28	149
Herpes simplex not typed/pending					1			13			2	13	29
Cytomegalovirus				2	16	1						30	49
Varicella-zoster virus		1						20				3	24
Epstein-Barr virus					1		1					14	16
Herpes virus group - not typed								1					1
OTHER DNA VIRUSES													
Papovavirus group												1	1
Parvovirus												1	1
PICORNA VIRUS FAMILY													
Coxsackievirus A16								4				1	5
Coxsackievirus B2		1			1							1	3
Coxsackievirus B4		2			1								3
Echovirus type 6					1	1						2	4
Echovirus type 11		1										1	2
Echovirus type 14						1							1
Echovirus type 30		10	2										12
Poliovirus type 1 (uncharacterised)					1							1	2
Poliovirus type 2 (uncharacterised)												1	1
Poliovirus not typed/pending												2	2
Rhinovirus (all types)					24							7	31
Enterovirus not typed/pending		1	3		16	4		3				16	43

Table 10. Virology and serology laboratory reports by clinical information for the reporting period 2 to 15 June 1994, continued

	Encephalitis	Meningitis	Other CNS	Congenital	Respiratory	Gastrointestinal	Hepatic	Skin	Eye	Muscle/joint	Genital	Other/unknown	Total
ORTHO/PARAMYXOVIRUSES													
Influenza A virus					2							1	3
Influenza B virus					1								1
Parainfluenza virus type 1					44			2				12	58
Parainfluenza virus type 2					6								6
Parainfluenza virus type 3					16							1	17
Parainfluenza virus typing pending					2								2
Respiratory syncytial virus					126				1			40	167
OTHER RNA VIRUSES													
HIV-1												1	1
Rotavirus						43						7	50
Small virus (like) particle						2							2
OTHER													
Chlamydia trachomatis not typed									3		29	2	34
Chlamydia psittaci					2							2	4
Mycoplasma pneumoniae					3							4	7
Coxiella burnetii (Q fever)					2							2	4
Yersinia enterocolitica												1	1
Bordetella pertussis					17							8	25
Cryptococcus species												1	1
Treponema pallidum											2	19	21
Toxoplasma gondii						1						9	10
Echinococcus granulosus												1	1
TOTAL		16	5	3	304	66	37	148	12	1	131	517	1240

Table 11. Virology and serology laboratory reports by contributing laboratories for the reporting period 2 to 15 June 1994

STATE OR TERRITORY	LABORATORY	REPORTS
Australian Capital Territory	Woden Valley Hospital, Canberra	29
New South Wales	Institute of Clinical Pathology & Medical Research, Westmead	104
	Prince Henry/Prince of Wales Hospitals, Sydney	163
	South West Area Pathology Service, Liverpool	109
Queensland	State Health Laboratory, Brisbane	174
Tasmania	Northern Tasmanian Pathology Service, Launceston	9
Victoria	Monash Medical Centre, Melbourne	11
	Royal Children's Hospital, Melbourne	131
	Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital	174
Western Australia	Princess Margaret Hospital, Perth	73
	State Health Laboratory Services, Perth	263
TOTAL		1240