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

LEGIONNAIRES' DISEASE OUTBREAK IN WESTERN SYDNEY

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Introduction

The Western Sector Public Health Unit (PHU) in North Parramatta, New South Wales, was notified of two cases of Legionnaires' disease on 16 January 1995. Over the subsequent two weeks we were notified of a further nine cases of Legionnaires' disease. All 11 cases were due to *Legionella pneumophila* serogroup 1. This paper reports the results of the outbreak investigation.

Methods

We commenced a case series and environmental investigation when we were notified of the first two cases. For all cases, we obtained clinical details from the attending medical officer or case notes. Clinical details included demographic information, date of onset of illness, symptoms, risk factors for Legionnaires' disease, and results of chest X-rays and laboratory investigations.

We initiated active case surveillance in the Western Sector and Wentworth Health Areas. We requested hospitals and hospital microbiology laboratories, as well as the New South Wales public health network, to notify us of any suspected cases.

We interviewed cases, or a close relative if the cases were too ill to be interviewed, about their exposure two to twelve days prior to onset of illness. Local govern-

ment and PHU environmental health officers identified premises with cooling towers from the exposure histories, inspected the maintenance log books and cooling towers, and obtained water samples for microbiological analysis. We also arranged for cooling towers to be cleaned as appropriate. In the environmental investigation, we gave priority to those premises which were mentioned more than once in the exposure histories.

Results

Case series investigation

We were notified of the first two cases on 16 January 1995. Over the ensuing two weeks we were notified of a further nine cases of Legionnaires' disease, all from the Western Sector Health Area. The last case was notified to us on 31 January 1995. Some cases were initially detected by active surveillance.

The date of onset of disease for the first notified case was 7 January 1995, and for the last notified case it was 25 January 1995 (Table). There were nine males and two females. The mean age of cases was 65 years (range: 45-75 years). Nine cases were confirmed by sputum culture, and the remaining two cases were confirmed by serology. All 11 cases of Legionnaires' disease were due to *Legionella pneumophila* serogroup 1. Four cases had a negative direct fluorescent antibody test.

Table. Description of cases in the Legionnaires' disease outbreak, January 1995

| Case | Age (years) | Sex | Date of onset | Direct fluorescent antibody test | Mode of laboratory confirmation |
|------|-------------|-----|---------------|----------------------------------|---------------------------------|
| 1 | 65 | M | 7/1/95 | +ve | Culture |
| 2 | 57 | M | 9/1/95 | +ve | Culture |
| 3 | 71 | M | 11/1/95 | +ve | Culture |
| 4 | 73 | F | 17/1/95 | +ve | Culture |
| 5 | 74 | M | 19/1/95 | +ve | Culture |
| 6 | 59 | M | 18/1/95 | -ve | Serology ¹ |
| 7 | 64 | M | 17/1/95 | Not done | Serology ¹ |
| 8 | 75 | M | 18/1/95 | -ve | Culture |
| 9 | 45 | F | 21/1/95 | -ve | Culture |
| 10 | 72 | M | 25/1/95 | +ve | Culture |
| 11 | 56 | M | 25/1/95 | -ve | Culture |

1. Serology was considered positive if there was at least a fourfold rise in titre, or the acute titre was $\geq 1:256$.

1. Western Sector Public Health Unit, North Parramatta, New South Wales.
2. Epidemiology Branch, New South Wales Health Department.

Clinical details were not available for one case (Case 5). Of the remaining ten cases, all had fever, nine had anorexia, and eight had chills and malaise. Nine cases had a productive cough and eight cases were reported to have a dry cough. Less common symptoms included diarrhoea (six cases) and confusion (six cases).

The majority of cases were current cigarette smokers (eight cases), two were past smokers, and one had never smoked. Three of ten cases had a history of chronic obstructive airway disease. None of the cases were on immunosuppressives and only one case was taking steroids.

All 11 cases were admitted to hospital, and seven cases were treated in an intensive care unit. There were three deaths (two males and one female). At the time of writing, two cases were still in hospital. One case was continuing to require ventilatory support, and the other case was undergoing dialysis for renal failure.

Environmental investigation

We investigated 49 premises in the environmental investigation, and sampled a total of 50 cooling towers. A cooling tower was classified as contaminated if ≥ 100 cfu/mL of *Legionella* organisms were detected in the water sample¹. Seventeen cooling towers (34%) were contaminated (range: 100cfu/mL to 24,000cfu/mL of *Legionella* organisms).

Seven cases either lived closeby, or had been in the vicinity of one contaminated cooling tower in a shopping mall (1500cfu/mL of total *Legionella* organisms). Two other cases (Cases 2 and 3) had been to premises that housed another contaminated cooling tower (1600cfu/mL of total *Legionella* organisms). The remaining two cases (Cases 5 and 8) were reported not to have been anywhere near the above contaminated cooling towers. Each, however, had visited other unrelated premises with contaminated cooling towers.

Discussion

In the last five years there have been two other clusters of Legionnaires' disease in the Western Sydney Health Area. Both were linked to cooling towers and *Legionella pneumophila* serogroup 1 was identified as the causative organism. One cluster was associated with a club (five cases) and the other with a hotel (four cases).

This outbreak was most likely due to exposure to the cooling tower at a local suburban shopping mall. The

majority of cases (seven) gave a history of exposure to the shopping mall. Two other cases had a common exposure to a second contaminated cooling tower. The remaining two cases did not have any common exposures with other cases. This suggests that there may have been two separate outbreaks and other sporadic cases linked in time. DNA fingerprinting may help in further defining the relationship between cases and sites of exposure². We are waiting on these results.

We do not routinely investigate and sample cooling towers, under self-regulation arrangements. In this investigation, a high proportion of cooling towers investigated were contaminated. Most of the contaminated cooling towers had complied with the New South Wales legislation³ and code of practice that detail requirements for the installation, operation and maintenance of cooling towers, including disinfection systems. This is of concern, and suggests that either approved disinfection systems are unreliable, or self regulation is not working.

A major challenge is unravelling the environmental factors that relate to transmission of disease and the effectiveness of maintenance protocols for cooling towers. We are currently examining the disinfection systems and the maintenance protocols of the contaminated cooling towers detected in this outbreak.

Acknowledgments

We thank all those who helped in the investigation, especially the environmental health officers from local councils. We also thank the staff of the *Legionella* Laboratory, Institute of Clinical Pathology and Medical Research, Westmead Hospital, and the Division of Analytical Laboratories, Lidcombe, for the laboratory work.

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3. New South Wales Public Health Act and Regulations, 1991.

HEATED SPA ASSOCIATED WITH *LEGIONELLA PNEUMOPHILA* DEATHS

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This report follows the death of an elderly Victorian couple holidaying on the Sunshine Coast, Queensland in August 1994. The 82 year old man, who had a history of strokes and heart disease, contracted *Legionella* infection after exposure to a private spa located on the roof-top of a high rise unit apartment owned by the couple's daughter and son-in-law. The couple had arrived at the apartment from Victoria on 7 August. The elderly man first developed symptoms between 15 and 18 August with a clinical picture consistent with Legionnaires' disease, and died of pneumonia on 23 August 1994. Subsequent culture of autopsy lung material grew *Legionella pneumophila*.

The man's 79 year old wife, who had no significant past medical history, developed symptoms which were similar to her husband's on 20 August 1994. She was hospitalised with a provisional diagnosis of Legionnaires' disease and died on 5 September 1994. Although the clinical picture was highly suggestive of Legionnaires' disease, *Legionella* organisms were not identified in or cultured from autopsy lung material, and antibodies to *Legionella* species were not detected in the patient's serum.

The couple's 53 year old son-in-law, who developed symptoms including temperature, headache and lethargy on or about 20 August 1994, was also clinically diagnosed with pneumonia. Serum specimens did not confirm *Legionella* infection at the time and his departure overseas has prevented further serological testing.

Samples of water from the spa were taken for testing on 30 August, seven days after the death of the man, and *Legionella pneumophila* serogroup 1 was isolated from them. Restriction fragment length polymorphism analysis performed by the Institute of Medical and Veterinary Science, Adelaide showed that the *Legionella pneumophila* isolates from the spa and from the deceased male produced identical patterns which resembled that of Benidorm, one of the international reference strains.

All three persons apparently had a similar clinical disease at about the same time and all were exposed to the private spa located at the apartment. There is no record that the elderly couple used the spa but they did frequent the area adjacent to the spa.

As the spa was located on a high rise roof-top, directly facing the ocean, there was much air movement and it is conceivable that aerosol droplets carrying the bacteria may have infected the elderly male. The couple's daughter and her sister also used the spa during this period but did not develop any symptoms suggestive of *Legionella* infection.

The investigation also revealed that the elderly couple had some type of cooling device on the roof of their home in Victoria, however, water samples from this source have proved negative for *Legionella*. No other possible sources of infection were identified.

There was no evidence that the elderly man contracted the *Legionella* infection prior to the couple's departure from Victoria. The incubation period is two to ten days (normally five to six)¹, and his symptoms began eight to eleven days after arrival, demonstrating that the infection was probably acquired during their stay on the Sunshine Coast.

Comments

The investigation of the exposure histories of the case and his family and the detailed testing of the clinical and environmental isolates associated with the case have suggested that the contaminated spa water was a likely source of the elderly man's *Legionella* infection.

This incident has highlighted the public health significance of the proper maintenance and disinfection of spas. The majority of spa owners would have limited knowledge of correct maintenance and disinfecting techniques, and that water temperature control is an important facet of safe spa pool operation.

It is acknowledged that Statewide statutory control is required for both private and public spas. Such legislation could cover control of disinfection, maintenance and temperature monitoring in spas.

Because of this potential threat of *Legionella*, consideration should also be given to all privately owned spas being registered with a controlling authority (for example a regional health authority, a local authority or workplace health and safety branch). Upon registration, each spa owner could be provided with appropriate advice and guidelines for proper maintenance and disinfection. A condition of registration could be the provision of appropriate signage (maintenance manual) close to the spa.

An alternative to legislation and/or registration would be a Statewide or national campaign urging all spa owners to comply with the National Health and Medical Research Council guidelines on spas²⁻⁴.

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We wish to acknowledge the professional assistance given to us by Denise Murphy, Laboratory of Microbiology and Pathology, Queensland Health; Alan Wilson, Workplace Health and Safety Branch, Department of Education, Vocational, Employment, Training and Industrial Relations, and colleagues of the Envi-

ronmental Health Unit, Sunshine Coast Regional Health Authority.

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3. National Health and Medical Research Council. *Domestic spa pool. Instructions for safe and enjoyable spa pool use*. Canberra: National Health and Medical Research Council, 1989.
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CDI editorial comment

The National Health and Medical Research Council (NHMRC) has published three documents detailing recommendations for the safe use of spa pools. *Australian guidelines for heated spa pools* includes detailed recommendations on spa construction materials, microbiological aspects of spa use, disinfection, pH control and dumping of spa water. *Domestic spa pools. Instructions for safe and enjoyable spa pool use* is a brochure which outlines the steps to follow for correct maintenance of domestic spa pools. *Spa card* is a laminated, one page summary of spa pool maintenance requirements, designed to be permanently displayed adjacent to a spa.

The NHMRC has also published the brochure *Legionnaires' disease. A guide for building owners*, and the more comprehensive *Australian guidelines for the control of Legionella and Legionnaires' disease*. The guidelines are mainly concerned with recommendations regarding cooling towers and hot and cold water services; a future revised version is expected to update these and to include recommendations regarding potting mixes.

AN OUTBREAK OF GASTROENTERITIS AT A HOSTEL FOR THE AGED AND AT A PRIVATE HOSPITAL CAUSED BY A NORWALK-LIKE VIRUS

Rory Wilby, *Environmental Health Officer*; Catherine Ferreira, *Environmental Health Officer*; Infectious Diseases Unit, Health and Community Services Victoria

Introduction

On Monday 26 September 1994, Health and Community Services Victoria was notified of an outbreak of vomiting and diarrhoea among residents at a hostel for the frail aged in an eastern suburb of Melbourne. The transfer of a resident from the hostel to a private hospital the following day apparently resulted in the spread of the infection to the hospital.

Investigation

An investigation of the hostel was made on 26 September 1994 by members of the Infectious Diseases Unit. The sister in charge of the hostel was interviewed and dates of onset of illness in affected residents and staff, signs and symptoms, and duration of illness obtained. An environmental health inspection of the private hospital was made on 6 October 1994 and information obtained from the director of nursing. Faecal samples were collected from any symptomatic patients and staff at both the private hospital and hostel. The samples were submitted for bacteriological and virological examination.

We used the following case definition of gastrointestinal illness:

- diarrhoea and/or vomiting in staff or residents/patients following the first case on 17 September 1994.

Results

The hostel complex comprised three hostels, three nursing homes and independent living accommodation for 400 aged persons. Food was provided only from a central kitchen situated in the complex.

Cases occurred in one hostel of 87 residents, where 57 residents and 12 staff were affected. The first case occurred on 17 September 1994 and the last on 31 September 1994. The hostel had single and double rooms with shared toilet and bathroom between two residents. Residents sometimes shared towels as some were confused. The residents had their meals in a main dining room, for which there were communal toilets. It was found on interview that residents had been vomiting in the corridors and dining room. Residents of the hostel did not generally mix with residents from other hostels in the complex.

The hostel staff included personal care workers whose duties were to serve food and to clean the showers after residents' use, however, most cleaning was carried out by domestic staff.

Control measures implemented included disinfecting all toilets, bathrooms, and residents' personal areas. All staff who had been ill were advised not to return to work until 48 hours after cessation of symptoms. Affected residents were isolated, no admissions were accepted and no residents were to be transferred.

On 5 October 1994 Health and Community Services Victoria was notified of an outbreak of diarrhoea and vomiting following the transfer of a resident from the hostel to a private hospital on 27 September 1994. The resident, who had become severely dehydrated due to diarrhoea and vomiting, had been transferred to the hospital for rehydration. The hospital was apparently not informed of the outbreak at the hostel and the resident was not treated as infectious. This resident had vomited in the corridor of the hospital. The illness then spread through the hospital, which had 24 patients. Seventeen patients and 10 staff were affected. The patients in the hospital shared showers and toilets.

The private hospital was advised not to transfer patients or take new admissions. All infected patients were isolated and a disinfection procedure was undertaken.

From our interview with the sister in charge at the hostel and the director of nursing at the private hospital, we were able to determine that the incubation period was approximately 24 to 48 hours with a duration of illness between 24 and 72 hours.

There appeared to be no association between food and illness as all food was prepared in the central kitchen which supplied the whole complex and there were no other cases reported in the complex.

The most common symptoms found amongst the affected persons were nausea, vomiting, diarrhoea and abdominal cramps.

Laboratory investigations

Faecal samples were collected from five symptomatic cases at the hostel and four symptomatic cases at the private hospital.

Norwalk-like virus was detected by electron microscopy in one specimen collected from a patient at the private hospital.

Discussion

The first case occurred in the hostel on 17 September 1994. It appears that the illness then spread from person to person. The illness slowly spread through the hostel affecting both residents and staff with the last reported case occurring two weeks after the first. An

interview with the initial case did not reveal the source of her infection. On 27 September 1994 the transfer of one of the residents to a private hospital caused the illness to spread throughout this establishment with the last reported case on 6 October 1994.

Norwalk-like virus was detected in a specimen from only one patient, however, the incubation period of between 24 to 48 hours, the recovery within one to two days without treatment, and the signs and symptoms, all fit the United States' Centers for Disease Control description of disease caused by Norwalk-like viruses¹.

The close contact of patients, and the staff moving from patient to patient is conducive to person to person spread. This is the most common mode of spread of this agent, with the virus being transmitted by the faecal-oral route. However, aerosols being liberated by projectile vomiting can result in airborne transmission². This may have occurred in this instance as the affected resident who was transferred to the private hospital had vomited in the corridor of the hospital. The nurse who was caring for this resident and a number of other patients at the hospital became ill two days later and the illness then spread through the private hospital.

The fact that the virus was transmitted from the hostel to the private hospital by the admission to the hospital of one of the hostel residents indicates the necessity to try and isolate affected patients to prevent further spread of the illness. It also indicates the relatively easy transmission of the small round structured viruses such as Norwalk-like virus.

Acknowledgments

We would like to thank the Microbiological Diagnostic Unit, University of Melbourne, the Victorian Infectious Diseases Reference Laboratory, Fairfield Hospital, and Sheila Beaton, Health and Community Services Victoria and the National Centre for Epidemiology and Population Health.

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OVERSEAS BRIEFS

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

Yellow fever in Gabon

An outbreak of yellow fever-like illness has been reported by the health authorities of Gabon. Minouka in Ogooue-Ivindo Province has been affected. Yellow fever vaccination is under way in this Province with a coverage of about 90% in the area of the epidemic. Measures are also being undertaken to carry out yellow fever vaccination in the whole country.

Influenza in the Northern Hemisphere

Influenza A H₃N₂ and influenza B are continuing to spread in Europe. Influenza B activity in England has exceeded levels reported for the 1990-1991 season when influenza B last predominated in the United Kingdom. Most European countries are reporting sporadic influenza or localised outbreaks and epidemic levels have been reached in some regions (in Madrid, in two cities in the Russian Federation and amongst military conscripts in Finland). Some B isolates from The Netherlands and Germany differ from the B/Panama strain, and seem closer to B/Quingdao/102/91. In Madrid, there has been epidemic level activity since the

end of 1994, with 40 isolates of influenza A H₃N₂, some with drift detected.

In North America, eighteen of the United States reported regional or widespread influenza activity in the second week of February. Influenza viruses have been detected in 41 States and in the District of Columbia. Influenza A H₃N₂ predominates in all regions except the south Atlantic where about half the confirmed cases have been influenza B.

Influenza A H₁N₁ isolates have been reported from Singapore, where there has been an increasing number of cases of influenza A since December. Israel had reported one isolate of influenza A and three of influenza B by mid-January.

Cholera update

Maio Island in Cape Verde has been declared infected.

Cholera cases have been reported for November, December, January and February from Albania, Angola, Benin, Brazil, Cambodia, Cameroon, Cape Verde, Chile, Costa Rica, Djibouti, Ecuador, El Salvador, Gaza, Ghana, Guinea, Guinea Bissau, Guyana, India, Italy, Kenya, Niger, Philippines, Sierra Leone, Tanzania (in Rwandan refugee camps) and Zaire (in Rwandan refugee camps).

COMMUNICABLE DISEASES SURVEILLANCE

Virology and Serology Reporting Scheme

There were 1444 reports received in the CDI Virology and Serology Reporting Scheme this fortnight (Tables 8, 9 and 10).

- Thirty-eight reports of **measles** were received this period, for 17 males and 20 females with the sex of one patient unknown. Diagnosis was by IgM detection (37) and single high titre (one).
- **Rubella** was reported for 35 patients this fortnight including 13 females (13 in the 15 to 44 year age group), and 22 males. One 25 year old female was pregnant. Thirty-three diagnoses were by IgM detection and two by fourfold rise in titre.
- Twenty reports of **hepatitis A** were received including 6 males and 12 females, with the sex of two patients unknown. The age range of patients was one to 44 years.
- Positive **hepatitis B** serology was reported for 89 patients this fortnight, 45 males and 42 females (two sex not stated). Forty-eight patients were in the 25 to 44 year age group, and 20 in the 15 to 24 year age group.
- Positive **hepatitis C** serology was reported for 290 patients this fortnight, 178 males and 112 females. Two hundred and twenty-four reports were for the 25 to 44 year age group. Included were 36 injecting drug users.
- One case of **hepatitis E** was reported in a 34 year old male born outside Australia.
- **Ross river virus** was reported for 88 patients this fortnight, 32 from Queensland, 41 from the Northern Territory, 12 from Western Australia and three from New South Wales. The diagnosis was confirmed (fourfold rise in titre) for three patients, one from the Northern Territory and two from Western Australia. The remainder were presumptive diagnoses (IgM detected). Specimen collection dates ranged from October 1994 to February 1995. The number of reports has risen in January consistent with the seasonal rise of previous years.
- Seven reports of **Barmah Forest virus** were received this period, 5 from Queensland, one from the Northern Territory and one from Western Australia. Two patients were male and five female. Diagnoses were all by IgM detection in specimens collected in January.

- One report of an untyped **flavivirus** was received in a 22 year old male who had recently returned from Thailand.
- Twenty-three reports of **adenovirus** were received this fortnight diagnosed by virus isolation (12) antigen detection (9) and single high titre (two). Included was one report of **adenovirus type 7**, isolated from an eye specimen.
- **Herpes simplex virus type 1** was reported for 164 patients this fortnight with 151 isolations, 11 antigen detections and two single high titres.
- There were 23 reports of **cytomegalovirus (CMV)** this fortnight, 16 virus isolations, two single high titres and 5 IgM detections. Included were one immunocompromised patient, one pregnant female and an AIDS patient (positive autopsy specimen).
- **Varicella-zoster virus** was reported for 54 patients this period. Method of diagnosis included virus isolation (21), antigen detection (17), single high titre (1) and IgM detection (15). Included was a pregnant female.
- Nine reports of **parvovirus** were received this fortnight, all diagnosed by IgM detection. **Coxsackievirus B2** and **coxsackievirus B6** were reported for one patient each.
- Three reports of **echovirus type 3** were received. All were diagnosed by virus isolation with one isolate coming from a cervical lymph node. **Echovirus type 6** was reported isolated from the CSF of 3 adult patients.
- Nine reports of **rhinovirus** were received this period all diagnosed by virus isolation. Seven patients were under the age of 4 years.
- **Influenza A** was reported for 7 patients this fortnight. Diagnoses were by virus isolation (one), single high titre (5) and fourfold rise in titre (one).
- Two reports of **influenza B** were received this period, for a female aged 54 years and a male aged 19 years. Both had recently returned from travel overseas, one to Thailand.
- Eleven reports of **parainfluenza virus type 3** were received this fortnight. Diagnosis was by virus isolation (7) and single high titre (4). The virus was isolated from CSF in three patients (a male aged two months, a female aged 8 months and a male aged 35 years) and from the urine of a male aged 46 years.
- Seven reports of **respiratory syncytial virus** were received this fortnight, 3 for patients under one year of age. Diagnosis was by virus isolation (4) and antigen detection (3).
- **Rotavirus** was reported for 7 patients this period including 3 males and 4 females. All patients were under the age of 5 years.
- Ninety-three reports of **Chlamydia trachomatis** were received this fortnight, for 29 males and 64 females. Eighty-five patients were in the 15 to 44 years age group and 3 were aged less than one year. Diagnosis was by culture (9), antigen detection (66) and nucleic acid detection (18).
- **Q fever** was reported for 4 patients this period. All were males all in the 18 to 30 years age range and one was an abattoir worker. Diagnosis was by four-fold rise in titre (1) and single high titre (3).
- Twenty-one reports of **Bordetella** were received this fortnight, 16 **Bordetella pertussis** and 5 **Bordetella** species. Fourteen patients were male and 7 female.
- Thirty-six reports of positive **syphilis** serology were received this period, for 18 males and 18 females, 32 of whom were in the 15 to 44 years age group. Three patients were pregnant women.

Australian Sentinel Practice Research Network

Data for week 6 (ending 12 February) and week 7 (ending 19 February) are included in this issue of *CDI* (Table 1). There were 8163 consultations reported for week 6 and 7300 reported for week 7. The influenza reporting rate remains low, with no more than 6 cases reported from any one State or Territory.

Table 1. Australian Sentinel Practice Research Network, weeks 6 and 7, 1995

| Condition | Week 6, to 12 February 1995 | | Week 7, to 19 February 1995 | |
|-----------------|-----------------------------|--------------------------|-----------------------------|--------------------------|
| | Reports | Rate per 1000 encounters | Reports | Rate per 1000 encounters |
| Influenza | 12 | 1.5 | 21 | 2.9 |
| Rubella | 3 | 0.4 | 3 | 0.4 |
| Measles | 0 | 0 | 0 | 0 |
| Chickenpox | 9 | 1.1 | 10 | 1.4 |
| Pertussis | 3 | 0.4 | 2 | 0.3 |
| Gastroenteritis | 118 | 14.5 | 89 | 12.2 |

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.

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 September 1994, as reported to 31 December 1994, are included in this issue of *CDI* (Tables 2 and 3).

Sterile Sites Surveillance (LabDOSS)

Data for this fortnight have been provided by 9 laboratories. There were 201 reports of recent significant sepsis:

New South Wales: John Hunter Hospital 60; Liverpool Hospital 4; Prince of Wales Hospital 12; Royal North Shore Hospital 43.

Queensland: Central Queensland Pathology Laboratory 3; Ipswich General Hospital 15; Nambour General Hospital 30.

ACT: Woden Valley Hospital 33.

Tasmania: Royal Hobart Hospital 1.

Table 2. New diagnoses of HIV infection, new diagnoses of AIDS and deaths following AIDS occurring in the period 1 to 30 September 1994, by sex and State or Territory of diagnosis

| | | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | TOTALS FOR AUSTRALIA | | | |
|----------------|--------------------|-----|-----|----|-----|----|-----|-----|----|----------------------|------------------|-------------------|-------------------|
| | | | | | | | | | | This period 1994 | This period 1993 | Year to date 1994 | Year to date 1993 |
| HIV diagnoses | Female | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 4 | 59 | 56 |
| | Male | 1 | 33 | 0 | 21 | 4 | 0 | 19 | 1 | 79 | 65 | 669 | 722 |
| | Sex not reported | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 9 |
| | Total ¹ | 1 | 34 | 0 | 21 | 4 | 0 | 20 | 1 | 81 | 70 | 737 | 791 |
| AIDS diagnoses | Female | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 15 | 25 |
| | Male | 0 | 21 | 2 | 10 | 6 | 0 | 14 | 0 | 52 | 42 | 433 | 419 |
| | Total ¹ | 0 | 22 | 0 | 10 | 6 | 0 | 16 | 0 | 55 | 43 | 450 | 447 |
| AIDS deaths | Female | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 4 | 23 | 18 |
| | Male | 1 | 17 | 0 | 4 | 5 | 0 | 13 | 0 | 40 | 42 | 455 | 437 |
| | Total ¹ | 1 | 18 | 0 | 5 | 5 | 0 | 14 | 0 | 43 | 46 | 479 | 457 |

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

Table 3. Cumulative diagnoses of HIV infection, AIDS and deaths following AIDS since the introduction of HIV antibody testing to 30 September 1994, by sex and State or Territory

| | | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | AUSTRALIA |
|----------------|--------------------|-----|-------|----|------|-----|-----|------|-----|-----------|
| HIV diagnoses | Female | 12 | 514 | 4 | 82 | 40 | 4 | 148 | 56 | 860 |
| | Male | 147 | 9523 | 75 | 1442 | 517 | 68 | 3110 | 680 | 15562 |
| | Sex not reported | 0 | 2043 | 0 | 1 | 0 | 0 | 44 | 0 | 2088 |
| | Total ¹ | 159 | 12088 | 79 | 1529 | 557 | 72 | 3309 | 737 | 18530 |
| AIDS diagnoses | Female | 2 | 103 | 0 | 22 | 13 | 2 | 36 | 10 | 188 |
| | Male | 58 | 2986 | 23 | 490 | 227 | 25 | 1104 | 208 | 5121 |
| | Total ¹ | 60 | 3096 | 23 | 514 | 240 | 27 | 1146 | 218 | 5324 |
| AIDS deaths | Female | 2 | 74 | 0 | 15 | 10 | 2 | 16 | 3 | 122 |
| | Male | 44 | 2166 | 16 | 330 | 143 | 20 | 840 | 136 | 3695 |
| | Total ¹ | 46 | 2245 | 16 | 346 | 153 | 22 | 860 | 139 | 3827 |

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

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 | Neonatal | |
| <i>Enterococcus faecalis</i> | 1 | | | 2 | | | | 2 | | | 5 |
| <i>Staphylococcus aureus</i> | 2 | 2 | | 2 | | 13 | 5 | 15 | 10 | | 38 ² |
| <i>Staphylococcus coagulase negative</i> | | 1 | | 1 | | 1 | 1 | 2 | 3 | | 12 |
| <i>Streptococcus pneumoniae</i> | | 3 | | | | | | | | | 8 |
| <i>Acinetobacter</i> species | | | | 1 | | | 1 | 2 | 3 | | 5 |
| <i>Escherichia coli</i> | | | | 2 | 9 | | | 5 | | | 28 |
| <i>Enterobacter cloacae</i> | | | | 3 | | | 1 | 3 | 1 | | 5 |
| <i>Klebsiella pneumoniae</i> | | | | 2 | 2 | 1 | 1 | 4 | | | 8 |
| <i>Pseudomonas aeruginosa</i> | | | | | 3 | | 1 | 4 | 1 | | 6 |

1. Only organisms with 5 or more reports are included in this table.

2. MRSA 4.

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 *Listeria monocytogenes* (70 year old immunocompromised male, from New South Wales), 2 *Staphylococcus epidermidis*, 1 *Staphylococcus hominis*, 1 *Streptococcus* Group A, 1 *Streptococcus* Group B, 1 *Streptococcus* Group C, 2 *Streptococcus* Group G, 2 *Streptococcus 'milleri'*, 2 *Streptococcus oralis*, 1 *Streptococcus 'viridans'*.

Gram negative: 2 *Citrobacter diversus*, 2 *Citrobacter freundii*, 1 *Citrobacter* species, 2 *Enterobacter* species, 2 *Flavobacterium* species, 1 *Haemophilus parainfluenzae*, 1 *Klebsiella oxytoca*, 1 *Neisseria* species, 1 *Pasteurella multocida*, 2 *Pasteurella* species, 1 *Proteus mirabilis*, 1 *Salmonella* Paratyphi A (reported in a 22 year old male from New South Wales with a history of overseas travel), 1 *Salmonella* Typhi (20 year old female from ACT, no risk factors reported), 3 *Serratia marcescens*, 1 *Shewanella putrefaciens* (58 year old female with cellulitis, from New South Wales), 1 *Vibrio parahaemolyticus* (82 year old male from Queensland, no risk factors reported), 3 *Xanthomonas maltophilia*.

Anaerobes: 1 *Bacteroides bivius* (57 year old male, from ACT), 3 *Bacteroides fragilis*, 3 *Bacteroides* species, 1 *Bacteroides thetaiotaomicron*, 1 *Clostridium perfringens*, 2 *Clostridium* species.

Fungi: 4 *Candida albicans*, 1 *Cryptococcus neoformans*.

There were six blood isolates from patients aged less than one year and 115 from patients aged 55 years and over (Figure 1).

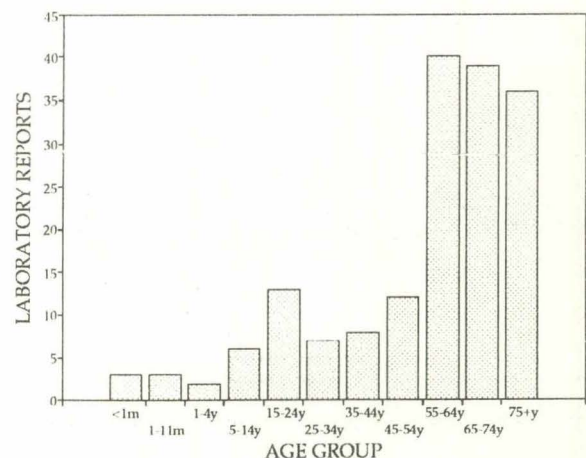
Hospital acquired blood isolates

A total of 57 isolates were reported as hospital acquired. The five most commonly reported organisms were: 20 *Staphylococcus aureus* (including 4 MRSA), 5 *Acinetobacter* species, 5 *Pseudomonas aeruginosa*, 3 *Enterobacter cloacae*, 3 *Klebsiella pneumoniae*.

Meningitis and/or CSF isolate reports

There were 3 reports of meningitis and/or CSF isolates. One isolate, from blood, was *Staphylococcus aureus* reported in a 34 year old male with no risk factors, from Queensland. Two isolates were reported as *Staphylococcus epidermidis*. One isolate, from CSF, was for a 49 year old male with a risk factor of neurosurgery. The second isolate, from CSF, was for a 14 year old male

Figure 1. LabDOSS reports of blood isolates, by age group



with a risk factor of head trauma. Both cases were from New South Wales.

Isolates from sites other than blood or CSF

Joint fluid: 1 *Escherichia coli*, 1 *Pseudomonas aeruginosa*, 7 *Staphylococcus aureus*, 1 *Staphylococcus coagulase negative*.

Peritoneal dialysate: 1 *Candida* species, 1 *Pseudomonas aeruginosa*, 1 *Serratia marcescens*.

Pleural fluid: 1 *Arcanobacterium haemolyticum*, 1 *Clostridium perfringens*, 2 *Enterococcus faecalis*, 1 *Enterococcus faecium*, 1 *Enterococcus* species, 2 *Escherichia coli*, 1 *Klebsiella oxytoca*, 1 *Pseudomonas* species, 1 *Streptococcus 'milleri'*, 1 *Streptococcus* Group C, 2 *Streptococcus pneumoniae*.

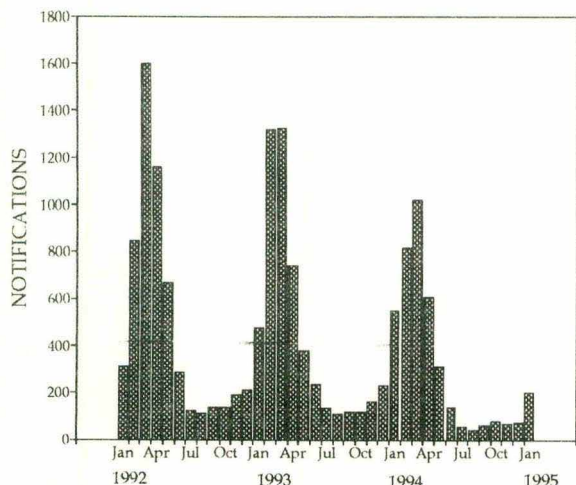
Other: 1 *Streptococcus 'milleri'*.

National Notifiable Diseases Surveillance System, 5 February to 18 February 1995

There were 2445 notifications received for the period (Figure 4 and Tables 5, 6 and 7).

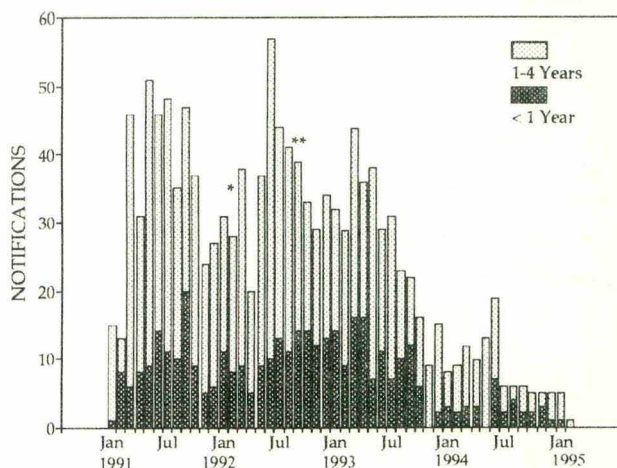
- There were 117 notifications of **Ross River virus infection** received for the period. The seasonal activity is less than that seen in previous years (Figure 2). Fifty-nine cases were male and 58 cases were female. Recorded ages were between the 5-9 and the 80-84 years age groups with 75% of cases in the 25-54 years age group. Cases were reported from New South Wales, Queensland, the Northern Territory, South Australia, and Western Australia with 63% of cases reported for residents of the Northern Territory.

Figure 2. Ross River virus infection notifications, January 1992 to February 1995, by month of onset



- A single case of **dengue** was reported for a female in the 10-14 years age group.
- There were 476 cases of **campylobacteriosis** reported; 242 cases were male, 231 cases were female, and the sex of 3 cases was unrecorded. Cases were aged between the 0-4 and the 85-89 years age groups with 26% of cases aged less than 5 years.
- Ninety-eight cases of **gonococcal infection** were reported; 64 cases were male and 34 cases were female. The cases were aged between the 0-4 and the 60-64 years age group with 2 cases aged less than 10 years.
- Two notifications of **Haemophilus influenzae type b infection** were received. Both cases were male and in the 5-9 years age group. This is the first reporting period when there have been no cases reported for children aged less than 5 years (Figure 3).
- Sixty-seven cases of **hepatitis A** were reported; 43 cases were male and 24 cases were female. Recorded ages were between the 0-4 and the 60-64 years age groups.
- There were 9 incident cases of **hepatitis B** reported; 5 cases were male and 4 cases were female. Recorded ages were between the 15-19 and the 25-29 years age groups.
- A single incident case of **hepatitis C** was reported for a male in the 45-49 years age group.
- A single case of **hydatid infection** was reported for a female in the 20-24 years age group.

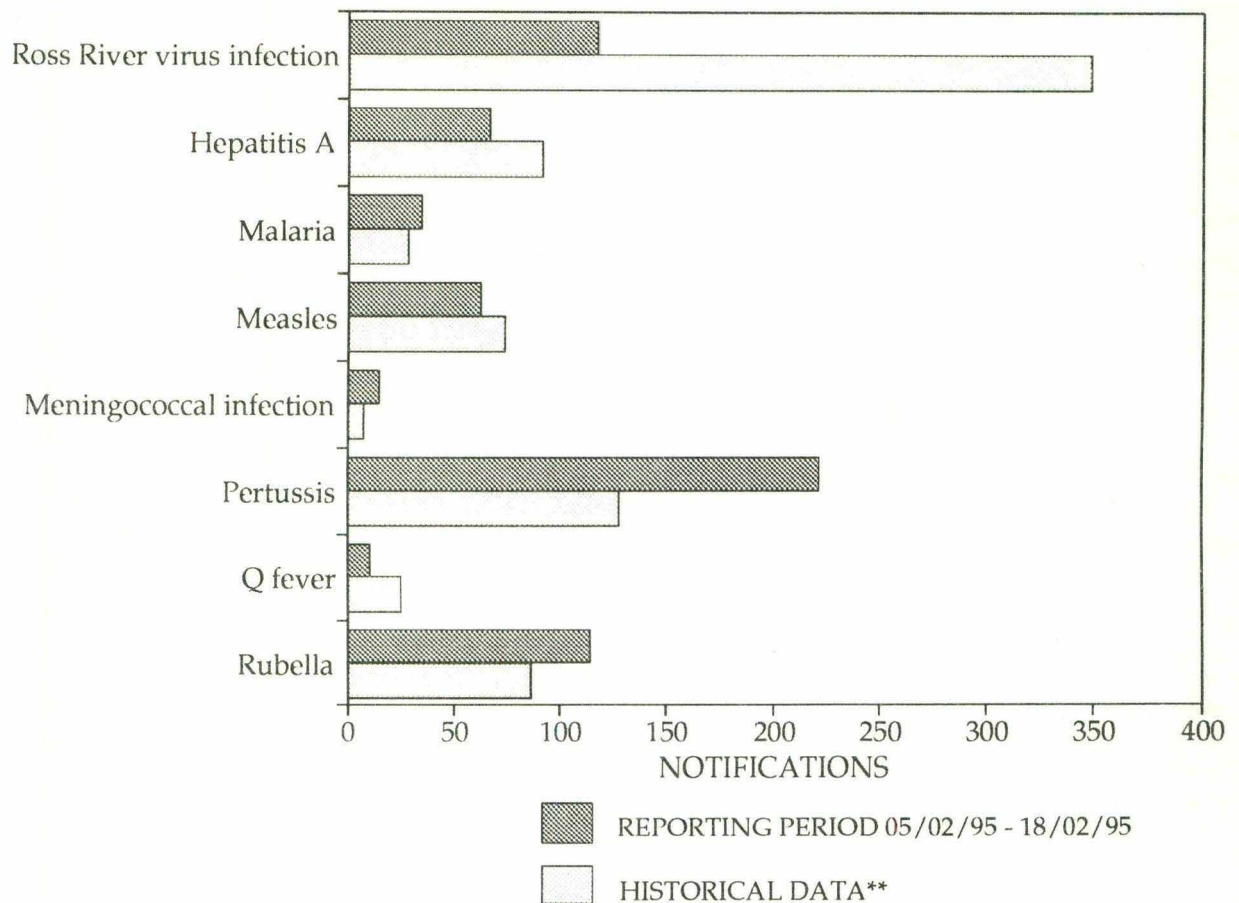
Figure 3. Haemophilus influenzae type b infection notifications, January 1992 to February 1995, by age group and month of onset



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

- Eight notifications of **legionellosis** were received; 5 cases were male and 3 cases were female. Recorded ages were between the 35-39 and the 75-79 years age groups.
- There were 13 cases of **leptospirosis** reported. All the cases were male and the recorded ages were between the 10-14 and the 50-54 years age groups.
- Six notifications of **listeriosis** were received; 4 cases were male and 2 cases were female. Recorded ages were between the 30-34 and the 85-89 years age groups.
- There were 35 cases of **malaria** reported; 24 cases were male and 11 cases were female. Recorded ages were between the 0-4 and the 65-69 years age groups. Nineteen cases were resident in the Statistical Division of Brisbane. Recorded onset dates were September (2), October (2), November (4), December (10), January (12) and February (5).
- Sixty-two cases of **measles** were reported; 30 cases were male, 31 cases were female, and the sex of one case was unrecorded. Cases were aged between the 0-4 and the 50-54 years age groups with 10 cases aged less than one year.
- There were 15 cases of **meningococcal infection** reported; 7 cases were male, 7 cases were female, and the sex of one case was unrecorded. Recorded ages were between the 0-4 and the 80-84 years age groups with 9 cases in the 0-4 years age group.
- Two hundred and twenty-two cases of **pertussis** were reported; 100 cases were male, 121 cases were female, and the sex of one case was unrecorded. Cases were aged between the 0-4 and the 85-89 years age groups with a mean age of 19.9 years. There were 15 cases aged less than one year.
- Eleven cases of **Q fever** were reported. All cases were male and the recorded ages were between the 15-19 and the 45-49 years age groups.
- There were 114 notifications of **rubella** received; 77 cases were male, 36 cases were female, and the sex of one case was unrecorded. Cases were aged between the 0-4 and the 55-59 years age groups with 24 cases reported for females in the 15-44 years age group.
- There were 383 notifications of **salmonellosis (not elsewhere classified)** received; 188 cases were male, 186 cases were female, and the sex of 9 cases was unrecorded. Cases were aged between the 0-4 and the 80-84 years age group with 47% of cases aged less than 5 years.
- Forty-two cases of **syphilis** were reported; 24 cases were males, 17 cases were female, and the sex of one case was unrecorded. Cases were aged between the 5-9 and the 80-84 years age groups.
- A single case of **tetanus** was reported for a male of unknown age who was resident in the Statistical Division of Perth.
- There were 23 cases of **tuberculosis** reported; 18 cases were male and 5 cases were female. Recorded ages were between the 0-4 and the 85-89 years age group. Recorded onset dates were August (one), November (2), January (11) and February (9).
- A single case of **typhoid** was reported for a female in the 20-25 years age group resident in the Statistical Division of Canberra.
- Sixteen notifications of **yersiniosis** were received; 7 cases were male, 8 cases were female, and the sex of one case was unrecorded. Cases were aged between the 0-4 and the 55-59 years age groups.

Figure 4. Selected National Notifiable Diseases Surveillance System reports, and historical data¹



1. The historical data are the averages of the number of notifications in 9 previous 2-week reporting periods: the corresponding periods of the last 3 years and the periods immediately preceding and following those.

Table 5. Notifications of diseases preventable by vaccines recommended by the NHMRC for routine childhood immunisation, received by state and Territory health authorities in the period 5 to 18 February 1995

| DISEASES | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | TOTALS FOR AUSTRALIA ¹ | | | |
|---|-----|-----|----|-----|----|-----|-----|----|-----------------------------------|------------------|-------------------|-------------------|
| | | | | | | | | | This period 1995 | This period 1994 | Year to date 1995 | Year to date 1994 |
| Diphtheria | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| <i>Haemophilus influenzae</i> b infection | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 9 | 11 | 34 |
| Measles | 0 | 16 | 9 | 28 | 0 | 2 | 6 | 1 | 62 | 157 | 330 | 636 |
| Mumps | 0 | 1 | NN | NN | 0 | NN | 0 | 0 | 1 | 2 | 7 | 4 |
| Pertussis | 3 | 29 | 19 | 95 | 14 | 6 | 22 | 34 | 222 | 327 | 751 | 1194 |
| Poliomyelitis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rubella ² | 1 | 3 | 3 | 90 | 5 | 0 | 2 | 10 | 114 | 88 | 471 | 357 |
| Tetanus | 0 | 0 | 0 | NN | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |

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. Tas: CRS only.
 NN Not Notifiable.

Table 6. Notifications of other diseases¹ received by State and Territory health authorities in the period 5 to 18 February 1995

| DISEASES | ACT | NSW | NT | Qld | SA | Tas | Vic | WA | TOTALS FOR AUSTRALIA ² | | | | |
|---|-----|-----|----|-----|-----|-----|-----|----|-----------------------------------|------------------|-------------------|-------------------|--|
| | | | | | | | | | This period 1995 | This period 1994 | Year to date 1995 | Year to date 1994 | |
| Arbovirus infection | | | | | | | | | | | | | |
| Ross River virus infection | 0 | 5 | 74 | 31 | 2 | - | 0 | 5 | 117 | 429 | 342 | 987 | |
| Dengue | 0 | 0 | 1 | 0 | 0 | - | 0 | 0 | 1 | 0 | 2 | 3 | |
| NEC ³ | 0 | 6 | 1 | 28 | 0 | 1 | 0 | 0 | 36 | 31 | 78 | 83 | |
| Campylobacteriosis ⁴ | 21 | - | 16 | 93 | 124 | 21 | 157 | 44 | 476 | 377 | 1433 | 1360 | |
| Chlamydial infection (NEC) ⁵ | 6 | NN | 8 | 131 | 4 | 9 | 0 | 30 | 188 | 287 | 653 | 903 | |
| Donovanosis | 0 | NN | 0 | 4 | NN | NN | 0 | 1 | 5 | 6 | 8 | 12 | |
| Gonococcal infection ⁶ | 1 | 9 | 10 | 61 | 3 | 1 | 0 | 13 | 98 | 129 | 309 | 384 | |
| Hepatitis A | 2 | 24 | 2 | 19 | 2 | 1 | 5 | 12 | 67 | 100 | 245 | 283 | |
| Hepatitis B incident | 0 | 0 | 1 | 6 | 0 | 0 | 2 | 0 | 9 | 4 | 26 | 34 | |
| Hepatitis C incident | - | 1 | 0 | - | 0 | - | - | - | 1 | 0 | 2 | 3 | |
| Hepatitis C unspecified | 21 | | | 202 | | 0 | 139 | 53 | 415 | 443 | 1100 | 1213 | |
| Hepatitis (NEC) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | NN | 1 | 1 | 9 | 11 | |
| Legionellosis | 0 | 2 | 0 | 3 | 2 | 0 | 1 | 0 | 8 | 4 | 27 | 26 | |
| Leptospirosis | 0 | 0 | 0 | 9 | 0 | 0 | 4 | 0 | 13 | 20 | 24 | 42 | |
| Listeriosis | 1 | 1 | 0 | 2 | 0 | 0 | 2 | 0 | 6 | 2 | 12 | 6 | |
| Malaria | 1 | 1 | 0 | 30 | 0 | 0 | 1 | 2 | 35 | 31 | 72 | 61 | |
| Meningococcal infection | 0 | 9 | 0 | 3 | 0 | 0 | 2 | 1 | 15 | 13 | 47 | 47 | |
| Ornithosis | 0 | NN | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 8 | 26 | 20 | |
| Q fever | 0 | 3 | 0 | 7 | 0 | 0 | 1 | 0 | 11 | 32 | 41 | 97 | |
| Salmonellosis (NEC) | 21 | 57 | 24 | 108 | 70 | 10 | 70 | 23 | 383 | 338 | 1001 | 974 | |
| Shigellosis ⁴ | 0 | - | 10 | 18 | 2 | 0 | 5 | 6 | 41 | 35 | 129 | 106 | |
| Syphilis | 0 | 14 | 4 | 22 | 0 | 0 | 0 | 2 | 42 | 92 | 182 | 305 | |
| Tuberculosis | 0 | 7 | 1 | 6 | 2 | 0 | 7 | 0 | 23 | 44 | 106 | 158 | |
| Typhoid ⁷ | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 4 | 8 | |
| Yersiniosis (NEC) ⁴ | 0 | - | 0 | 10 | 3 | 1 | 2 | 0 | 16 | 19 | 78 | 80 | |

1. For HIV and AIDS, see Tables 2 and 3. For rarely notified diseases, see Table 7.

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. 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. NSW, Vic: includes paratyphoid.

NN Not Notifiable.

NEC Not Elsewhere Classified.

- Elsewhere Classified.

Table 7. Notifications of rare¹ diseases received by State and Territory health authorities in the period 5 to 18 February 1995

| DISEASES | Total this period | Reporting States or Territories | Year to date 1995 |
|---------------------------------|-------------------|---------------------------------|-------------------|
| Botulism | | | 0 |
| Brucellosis | | | 7 |
| Chancroid | | | 0 |
| Cholera | | | 0 |
| Echinococcosis | 1 | Qld | 2 |
| Leprosy | 1 | NT | 1 |
| 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 1988 to 1993.

Table 8. Virology and serology laboratory reports by State or Territory¹ for the reporting period 9 to 22 February 1995, historical data², and total reports for the year

| | State or Territory ¹ | | | | | | | Total this fortnight | Historical data ² | Total reported this year |
|----------------------------------|---------------------------------|----|-----|----|-----|-----|-----|----------------------|------------------------------|--------------------------|
| | NSW | NT | Qld | SA | Tas | Vic | WA | | | |
| MEASLES, MUMPS, RUBELLA | | | | | | | | | | |
| Measles virus | | 9 | 20 | | | | 9 | 38 | 31.5 | 191 |
| Mumps virus | | | 3 | | | | | 3 | 2.2 | 15 |
| Rubella virus | | | 20 | 2 | | | | 13 | 28.2 | 366 |
| HEPATITIS VIRUSES | | | | | | | | | | |
| Hepatitis A virus | 2 | 1 | 3 | 2 | | 1 | 11 | 20 | 25.3 | 103 |
| Hepatitis B virus | 24 | 2 | 18 | 3 | | 10 | 32 | 89 | 98.0 | 396 |
| Hepatitis C virus | 16 | 7 | 60 | 58 | 1 | 14 | 134 | 290 | 164.8 | 1,150 |
| ARBOVIRUSES | | | | | | | | | | |
| Ross River virus | 3 | 41 | 32 | | | | 12 | 88 | 135.5 | 238 |
| Barmah Forest virus | | 1 | 5 | | | | 1 | 7 | 11.7 | 46 |
| Dengue not typed | | 1 | | | | | 1 | 2 | 1.0 | 3 |
| Flavivirus (unspecified) | | | 1 | | | | | 1 | 2.5 | 4 |
| ADENOVIRUSES | | | | | | | | | | |
| Adenovirus type 7 | | | | 1 | | | | 1 | .2 | 8 |
| Adenovirus not typed/pending | 3 | 1 | 6 | 5 | | 1 | 6 | 22 | 44.3 | 205 |
| HERPES VIRUSES | | | | | | | | | | |
| Herpes simplex virus type 1 | 7 | 2 | 85 | 16 | | 7 | 47 | 164 | 202.8 | 963 |
| Herpes simplex virus type 2 | 4 | 1 | 79 | 11 | | 1 | 72 | 168 | 210.0 | 857 |
| Herpes simplex not typed/pending | | | 8 | | | | | 8 | 24.8 | 97 |
| Cytomegalovirus | 1 | | 13 | | | 3 | 6 | 23 | 54.0 | 269 |
| Varicella-zoster virus | 4 | | 30 | 3 | 1 | 1 | 15 | 54 | 38.5 | 227 |
| Epstein-Barr virus | 6 | | 59 | 12 | | 1 | 21 | 99 | 69.2 | 433 |
| OTHER DNA VIRUSES | | | | | | | | | | |
| Parvovirus | | | 1 | 1 | | | 7 | 9 | 4.2 | 36 |
| PICORNA VIRUS FAMILY | | | | | | | | | | |
| Coxsackievirus B2 | | | | 1 | | | | 1 | .3 | 5 |
| Coxsackievirus B6 | | | | | | 1 | | 1 | .0 | 2 |
| Echovirus type 3 | 1 | | | 2 | | | | 3 | .0 | 8 |
| Echovirus type 6 | | | | 2 | | 1 | | 3 | .5 | 20 |
| Rhinovirus (all types) | | | 9 | | | | | 9 | 21.8 | 131 |
| Enterovirus not typed/pending | 1 | 1 | 17 | | | | 11 | 30 | 29.3 | 177 |
| ORTHO/PARAMYXOVIRUSES | | | | | | | | | | |
| Influenza A virus | | | 3 | | | 1 | 3 | 7 | 9.3 | 38 |
| Influenza B virus | | | 2 | | | | | 2 | 4.2 | 7 |
| Parainfluenza virus type 2 | | | | | | 1 | | 1 | 1.0 | 3 |
| Parainfluenza virus type 3 | | | 10 | | | 1 | | 11 | 10.7 | 139 |
| Respiratory syncytial virus | | | 3 | 1 | | 2 | 1 | 7 | 13.0 | 82 |
| OTHER RNA VIRUSES | | | | | | | | | | |
| HIV-1 | 1 | | 2 | | | 1 | 1 | 5 | 2.2 | 16 |
| Rotavirus | 1 | | | 5 | | | 1 | 7 | 24.5 | 204 |

Table 8. Virology and serology laboratory reports by State or Territory¹ for the reporting period 9 to 22 February 1995, historical data², and total reports for the year, continued

| | State or Territory ¹ | | | | | | | Total this fortnight | Historical data ² | Total reported this year |
|--|---------------------------------|----|-----|-----|-----|-----|-----|----------------------|------------------------------|--------------------------|
| | NSW | NT | Qld | SA | Tas | Vic | WA | | | |
| OTHER | | | | | | | | | | |
| <i>Chlamydia trachomatis</i> not typed | 5 | 7 | 41 | 6 | 1 | 1 | 32 | 93 | 122.8 | 468 |
| <i>Chlamydia psittaci</i> | | | 6 | | | 2 | | 8 | 3.2 | 44 |
| <i>Chlamydia</i> spp typing pending | 1 | | | 1 | | | | 2 | 1.0 | 2 |
| <i>Chlamydia</i> species | | | | 1 | | | | 1 | .3 | 6 |
| <i>Mycoplasma pneumoniae</i> | | | 12 | | | 1 | 1 | 14 | 67.2 | 70 |
| <i>Coxiella burnetii</i> (Q fever) | | | 3 | | | | 1 | 4 | 14.5 | 70 |
| <i>Rickettsia</i> spp - other | | | | | | | 1 | 1 | .3 | 1 |
| <i>Streptococcus</i> group A | 1 | 5 | 11 | | | | | 17 | 11.5 | 78 |
| <i>Brucella abortus</i> | | | 3 | | | | | 3 | .0 | 5 |
| <i>Bordetella pertussis</i> | | 1 | 4 | | 2 | | 9 | 16 | 13.3 | 126 |
| <i>Bordetella</i> species | | 1 | 4 | | | | | 5 | 17.3 | 36 |
| <i>Legionella</i> species | | | 1 | | | | 16 | 17 | .2 | 18 |
| <i>Cryptococcus</i> species | 1 | | 1 | | | | | 2 | .5 | 7 |
| <i>Leptospira pomona</i> | | | 2 | | | | | 2 | .3 | 3 |
| <i>Leptospira hardjo</i> | | | 3 | | | | | 3 | .5 | 5 |
| <i>Leptospira australis</i> | | | 1 | | | | | 1 | .2 | 1 |
| <i>Leptospira</i> species | | | 1 | | | | 1 | 2 | .7 | 6 |
| <i>Treponema pallidum</i> | 11 | 6 | 4 | | | | 15 | 36 | 21.0 | 137 |
| <i>Toxoplasma gondii</i> | | | 3 | | | | | 3 | 1.5 | 19 |
| <i>Schistosoma</i> species | | | | | | | 5 | 5 | .2 | 7 |
| <i>Echinococcus granulosus</i> | | | 1 | | | | | 1 | .3 | 4 |
| TOTAL | 93 | 87 | 590 | 133 | 5 | 51 | 485 | 1,444 | 1,542.3 | 7,552 |

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 9. Virology and serology laboratory reports by clinical information for the reporting period 9 to 22 February 1995, continued

| | Encephalitis | Meningitis | Other CNS | Congenital | Respiratory | Gastrointestinal | Hepatic | Skin | Eye | Muscle/joint | Genital | Other/unknown | Total |
|--|--------------|------------|-----------|------------|-------------|------------------|---------|------|-----|--------------|---------|---------------|-------|
| OTHER RNA VIRUSES | | | | | | | | | | | | | |
| HIV-1 | | | | | | | | | | | | 5 | 5 |
| Rotavirus | | | | | | 6 | | | | | | 1 | 7 |
| OTHER | | | | | | | | | | | | | |
| <i>Chlamydia trachomatis</i> not typed | | | | | | | | | 3 | | 62 | 28 | 93 |
| <i>Chlamydia psittaci</i> | | | | | 6 | | | 1 | | | | 1 | 8 |
| <i>Chlamydia</i> spp typing pending | | | | | | | | | | | 1 | 1 | 2 |
| <i>Chlamydia</i> species | | | | | 1 | | | | | | | | 1 |
| <i>Mycoplasma pneumoniae</i> | | | | | 7 | 1 | | | | | | 6 | 14 |
| <i>Coxiella burnetii</i> (Q fever) | | | | | | | | | | | | 4 | 4 |
| <i>Rickettsia</i> spp - other | | | | | | | | | | | | 1 | 1 |
| <i>Streptococcus</i> group A | | | | | 1 | | | 2 | | 2 | | 12 | 17 |
| <i>Brucella abortus</i> | | | | | | | | | | | | 3 | 3 |
| <i>Bordetella pertussis</i> | | | | | 6 | | | | | | | 10 | 16 |
| <i>Bordetella</i> species | | | | | 4 | | | | | | | 1 | 5 |
| <i>Legionella</i> species | | | | | 1 | | | | | | | 16 | 17 |
| <i>Cryptococcus</i> species | | | | | | | | | | | | 2 | 2 |
| <i>Leptospira pomona</i> | | | | | | | | | | | | 2 | 2 |
| <i>Leptospira hardjo</i> | | | | | | | | | | | | 3 | 3 |
| <i>Leptospira australis</i> | | | | | | | | | | | | 1 | 1 |
| <i>Leptospira</i> species | | | | | | | | | | | | 2 | 2 |
| <i>Treponema pallidum</i> | | | | | | | | | | | | 36 | 36 |
| <i>Toxoplasma gondii</i> | | | | | | | | | | | | 3 | 3 |
| <i>Schistosoma</i> species | | | | | | | | | | | | 5 | 5 |
| <i>Echinococcus granulosus</i> | | | | | | | | | | | | 1 | 1 |
| TOTAL | 1 | 3 | 3 | 2 | 85 | 26 | 56 | 220 | 9 | 31 | 237 | 771 | 1444 |

Table 10. Virology and serology laboratory reports by contributing laboratories for the reporting period 9 to 22 February 1995

| STATE OR TERRITORY | LABORATORY | REPORTS |
|--------------------|---|---------|
| New South Wales | South West Area Pathology Service, Liverpool | 61 |
| Queensland | Queensland Medical Laboratory, West End | 521 |
| | State Health Laboratory, Brisbane | 170 |
| South Australia | Institute of Medical and Veterinary Science, Adelaide | 133 |
| Tasmania | Northern Tasmanian Pathology Service, Launceston | 4 |
| Victoria | Monash Medical Centre, Melbourne | 48 |
| Western Australia | State Health Laboratory Services, Perth | 507 |
| TOTAL | | 1444 |