

# Highlights for 1st quarter, 2001

Communicable Disease Surveillance Highlights report on data from various sources, including the National Notifiable Diseases Surveillance System (NNDSS) and several disease specific surveillance systems that provide regular reports to Communicable Diseases Intelligence. These national data collections are complemented by intelligence provided by State and Territory communicable disease epidemiologists and/or data managers who have recently formed a Data Management Network. This additional information has enabled the reporting of more informative highlights each month.

The NNDSS is conducted under the auspices of the Communicable Diseases Network Australia, and the CDI Virology and Serology Laboratory Reporting Scheme (LabVISE) is a sentinel surveillance scheme. In this report, data from the NNDSS are referred to as 'notifications' or 'cases', whereas those from ASPREN are referred to as 'consultations' or 'encounters' while data from the LabVISE scheme are referred to as 'laboratory reports'.

Figure 9 shows the changes in disease notifications compared with the 5-year first quarter mean. Disease notifications above or below the 5-year mean plus- or minus- two standard deviations are marked with an asterisk. These, and other disease trends are described below.

## Bloodborne diseases

There is a continuing increase in the numbers of incident cases of hepatitis B and C being reported to the NNDSS. This may reflect changes in surveillance procedures over the past 5 years, particularly with the introduction of enhanced surveillance for incident hepatitis C virus infections in some jurisdictions.

## Gastrointestinal disease

### Botulism

A case of infant botulism was reported from Victoria during the first quarter of 2001 (see National Polio Reference Laboratory report p.54, this issue). This is only the fourth case of botulism in Australia since 1996. All cases have been in infants aged less than one year. Infant (or intestinal) botulism cases arise from ingestion of *Clostridium botulinum* spores, which germinate in the intestine. Sources of spores are multiple and include foods such as honey and dust. In this case, a 5-month-old infant was hospitalised after a 3-day history of poor feeding, constipation, ptosis, difficulty in swallowing, weakness and loss of head control. Although there were various environmental exposures, including dust, no source for the child's infection could be determined.

### Hepatitis A

There were significantly fewer hepatitis A notifications in the first quarter 2001, than for the same quarter last year and when compared with the 5-year mean for first quarters. This continues a steep decline in the notification rate of hepatitis A in Australia, from a peak of 16.6 per 100,000 in 1997 to a projected rate of 2.0 per 100,000 in 2001.

### SLTEC

Increases in the notifications of Shiga-like- and verotoxin producing- *E. coli* infections from South Australia (12 of 16 notifications) increased the notifications of this disease above the 5-year mean. However, this needs to be interpreted with caution, as these infections have not been notifiable in all jurisdictions for all of the past 5 years.

### Typhoid

Thirty-three cases of typhoid were reported, including 12 from New South Wales and 10 from Western Australia. Four of the typhoid cases in Western Australia were at a detention centre for unauthorised entrants. Typing data and epidemiological investigations of these cases suggested that all were acquired outside Australia.

## Quarantinable diseases

No quarantinable diseases were reported in Australia in the first quarter of 2001.

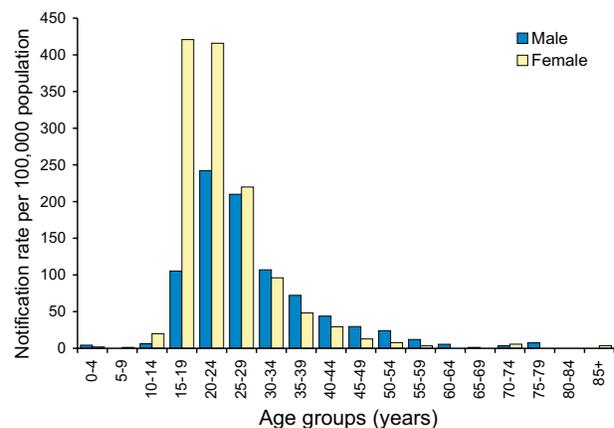
## Sexually transmitted infections

STI data in Victoria is currently under review, therefore notifications of chlamydia and syphilis for the first quarter of 2001 should be interpreted with caution. For further information please contact the Communicable Diseases Section of the Victorian Department of Human Services.

### Chlamydial infections

A total of 4,696 notifications in the first quarter gave a national notification rate of 98.1/100,000 population. Seventy-six per cent of all notifications were in the 15 to 29 year age range; 70 per cent of the notifications in the 15 to 24 year age range were women (Figure 1). The male to female ratio for chlamydial infections was 0.68:1.

Figure 1. Notification rates for chlamydial infections, first quarter 2001, by age group and sex



**Syphilis**

There were 278 notifications of syphilis reported (calculated incidence of 5.8/100,000). This is less than the 5-year mean and this quarter's results continue the decline in the notification of this disease in Australia.

**Donovanosis**

Two cases of donovanosis were reported; one each from the Northern Territory and Queensland.

**Other**

No chancroid or lymphogranuloma venereum cases were reported. Both these conditions have become very rare in Australia. The last reported case of chancroid was in 1998 and the last case of lymphogranuloma venereum was in 1995. The State and Territory health departments will no longer report these cases to the NNDSS with effect from 2001.

*Vaccine preventable diseases*

A single case of diphtheria in a 52-year-old man was reported from the Northern Territory. The infection was cutaneous and a toxigenic strain was isolated (*Corynebacterium diphtheriae* var. *mitis*). The patient acquired the disease in East Timor and had an uncertain vaccination history. This is the first case of toxigenic diphtheria reported in Australia since 1993.

Five cases of *Haemophilus influenzae* type b infection were reported in the first quarter 2001. Only 1 case was in an infant (1 month old), 2 cases were in children (4 years and 7 years) and 2 were adults. Vaccination information was not available for any case at a national level.

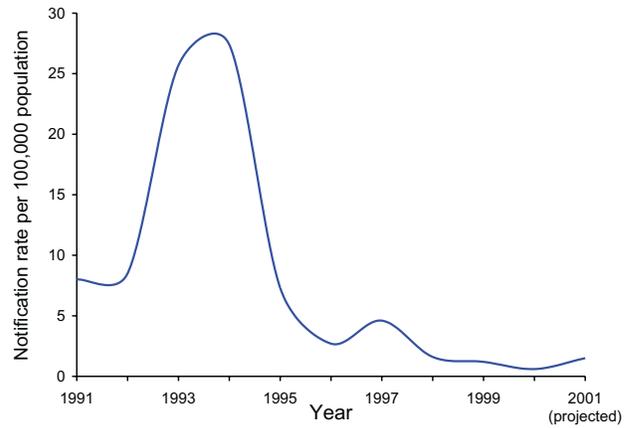
There were 70 cases of measles reported in the first quarter of 2001. Of these, 54 (77%) of the cases were reported from Victoria. A single outbreak involved 50 laboratory confirmed cases and one epidemiologically linked case, all of whom were associated with a single index case of laboratory confirmed measles. The index case appeared to have acquired measles in India. Four clear waves of transmission were identified. Among the secondary cases, 4 cases aged more than 14 years had a history of vaccination at 12 months. The trends in the incidence of measles is shown in Figure 2.

The Australian Capital Territory, the Northern Territory and South Australia reported no measles cases in this quarter. Indigenous transmission of the disease is now rare in Australia and most cases are among overseas travellers. In this quarter, the number of notifications among young adults aged more than 20 years was greater than the number of notifications among children aged 0 to 4 years (Figure 3).

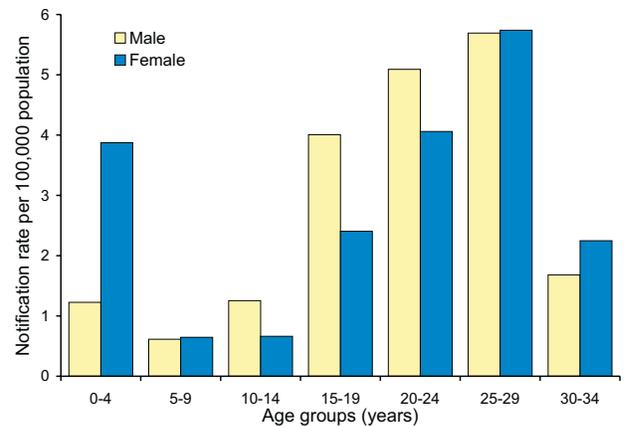
Reports of pertussis (1,212) were less than the 5-year mean. South Australia had the highest rate (43.8/100,000) and the national rate was 25.4/100,000. The notification rate was highest in the 10 to 14 year age group. The number of notifications of pertussis in children aged less than 10 years of age were similar to those in adults (Figure 4). This continues the trend seen since 1999 and is the probable result of the introduction of a fifth dose of pertussis vaccine in 1995.

A single case of tetanus was reported in an elderly man in Tasmania.

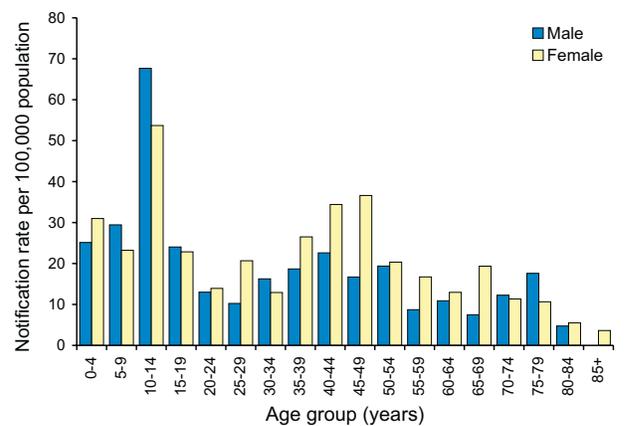
**Figure 2. Notification rate of measles, Australia, 1991 to 2001**



**Figure 3. Notification rate of measles, first quarter 2001, by age group and sex**



**Figure 4. Notification rate of pertussis, first quarter 2001, by age group and sex**



## Vectorborne diseases

There was a small increase in the number of reports of Barmah Forest virus infection (n=324), particularly from Queensland. This may reflect increased transmission due to heavier than average rainfall in Queensland and northern New South Wales during this first quarter, which may increase vector numbers.

Ross River virus infections were increased in South Australia (n=100) in the lower Murray River and West coast regions in the latter part of 2000 and in the early part of the first quarter 2001. However, overall national notifications (n=1,577) were lower than previous years.

Murray Valley encephalitis (MVE) and Kunjin virus infections became separately notifiable to the NNDSS with effect from January 2001. Prior to this, notifications were reported as 'Arboviruses (NEC)'. Data are not yet available from all States and Territories. A confirmed case of MVE in a 3-year-old male child was reported from Queensland and another in a 60-year-old male from Western Australia. There were no reports of Kunjin virus or Japanese encephalitis virus infection in this quarter.

## Zoonoses

There was an increased number of reports of Q fever, especially from Queensland, in the first quarter of 2001. The number of Q fever notifications (169 reports) received nationally was above the range of notifications for this disease in the past 5 years. This may be due to increased awareness and testing for this disease ahead of the implementation of the National Q Fever Management Program.

## Other diseases

### Legionellosis

An outbreak of legionellosis in Victoria contributed 38 of the 65 cases reported to the NNDSS in this reporting period. Five of these cases came from a small outbreak in the Melbourne Central Business District in February and March 2001. There were 2 deaths associated with this outbreak.

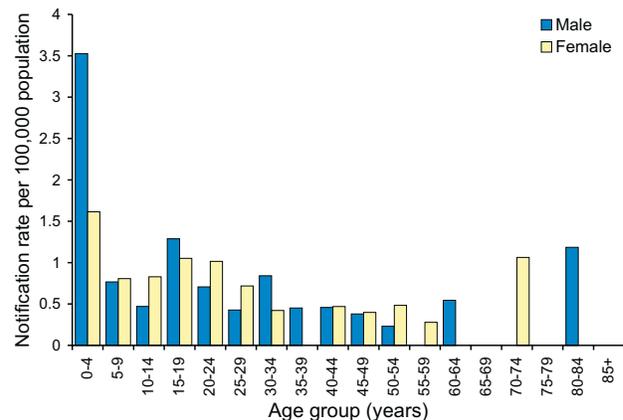
Of the 38 cases in Victoria, 89 per cent of the cases were confirmed as *Legionella pneumophila* serogroup 1. Nationally, legionellosis was only reported in people aged 20 years or more with 65 per cent of the notifications from those aged 50 years or more. There was a preponderance of males in the reports with a male to female ratio of more than 4:1.

### Meningococcal disease

In the first quarter 2001, 128 cases of meningococcal disease were reported in Australia. This was more than the upper limit of the 5-year range for this disease. Of the total 128 cases, 61 (47%) were reported from New South Wales.

Figure 5 shows there was a predominance of meningococcal cases among children under 5 years, with a secondary peak of notifications among 15 to 19 years olds. Serogroup typing was available for 54 cases: these were serogroup B (30 cases), serogroup C (23 cases) and 1 case of serotype W135.

**Figure 5. Notification rate of meningococcal disease, first quarter, 2001, by age group and sex**



Data from the National Neisseria Network indicate there have been 101 laboratory confirmed cases of invasive meningococcal disease in 2001 up to 11 April (Table 1). Of the 101 cases, 54 (53%) were diagnosed by culturing the organism while 47 (47%) cases were diagnosed using non-culture techniques. Of the culture negative diagnoses, 20 (43% of all culture negative cases and 20% of total diagnoses) were diagnosed using PCR, while the remaining 27 (57% of all culture negative cases and 27% of total diagnoses) were confirmed by serology. Subtyping was possible for the majority of culture and PCR confirmed cases, with serogroup B being the most common subtype. Approximately half of all cases were diagnosed in New South Wales (Table 1).

Across Australia, *Neisseria meningitidis* serogroup B was the dominant serogroup. The ratio of serogroup B to serogroup C disease was 1.8:1, 6:1, 2:1, 4:0 and 1:0 in New South Wales, Queensland, South Australia, Western Australia and the Northern Territory respectively. Victoria recorded a preponderance of serogroup C disease with a serogroup B to serogroup C ratio of 8.8:1.

### Tuberculosis

Tuberculosis notifications in the first quarter 2001 were significantly down compared with the 5-year mean and lower than the 5-year range (ratio 0.6:1).

**Table 1. Data on laboratory confirmed cases of invasive meningococcal disease, Australia, 2001**

Culture positive	NSW	Qld	SA	Vic	WA	ACT	NT	Tas	Australia (%of subtotal)
Serogroup B	12	6	2	6	4	0	1	0	31 (57%)
Serogroup C	9	1	1	8	0	0	0	0	19 (35%)
Serogroup W135	1	1	0	0	0	0	0	0	2 (4%)
Serogroup Y	0	1	0	0	0	0	0	0	1 (2%)
Serogroup to follow	0	0	0	0	0	0	0	1	1 (2%)
<b>Subtotal</b>	<b>22</b>	<b>9</b>	<b>3</b>	<b>14</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>54</b>
Culture negative									
Serogroup B	6	4	0	3	1	0	0	0	10 (50%)
Serogroup C	1	0	0	3	0	0	0	0	4 (20%)
Other/ND	1	0	0	1	0	0	0	0	6 (30%)
<b>Subtotal</b>	<b>8</b>	<b>4</b>	<b>0</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>
<b>Subtotal</b>	<b>22</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>27</b>
<b>Total</b>	<b>52</b>	<b>15</b>	<b>4</b>	<b>21</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>101</b>

### LabVISE

The Laboratory Virology and Serology (LabVISE) reporting scheme is a passive surveillance scheme of voluntary reports of infectious agents contributed by sentinel laboratories around Australia, to the Commonwealth Department of Health and Aged Care.

LabVISE provides information on a number of notifiable and non-notifiable viruses and other infectious agents (bacteria, parasites and fungi) of potential public health importance. Data include the demographic characteristics of infected persons that are not reported by other surveillance schemes. The scheme currently holds over 500,000 records collected since 1982.

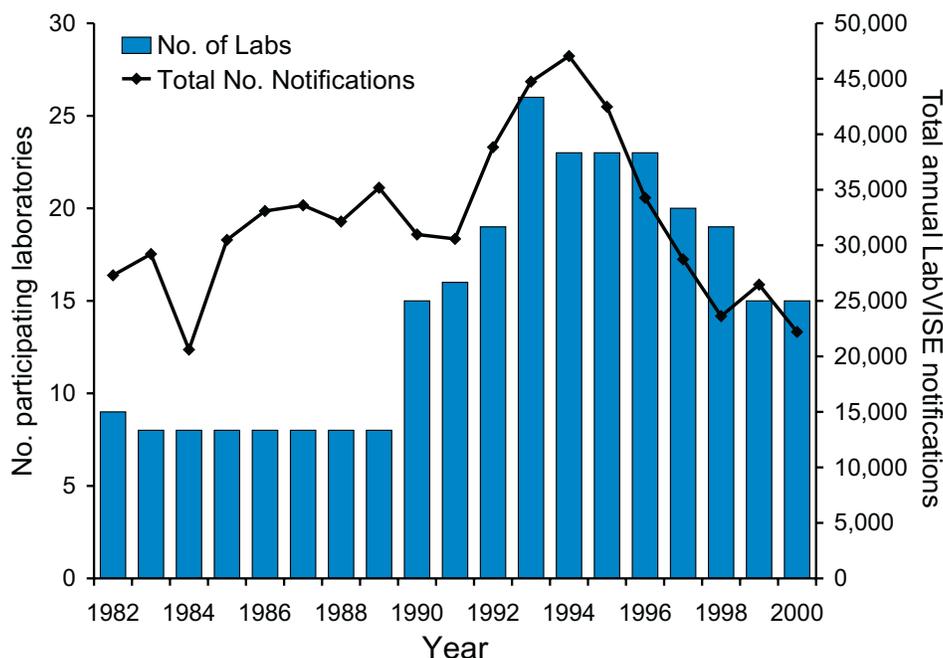
There has been a decline in the number of notifications and participating laboratories in LabVISE (Figure 6), since a

peak in the early 1990s. Currently 11 laboratories reporting on samples from all States and Territories contribute data regularly to LabVISE.

LabVISE has an essential role in providing data for the certification of Australia as a wild polio-free country and in providing data on influenza and isolates for characterisation and formulation of vaccines.

LabVISE has the potential to provide essential subtyping and antibiotic susceptibility data on important pathogens and to monitor new notifiable diseases and exotic emerging pathogens in Australia. The scheme needs to develop a more comprehensive network of laboratories to be representative of the patterns of disease in Australia, to provide more timely and well-documented data to national surveillance systems and to focus data collection on

**Figure 6. Trends in reporting and participating laboratories, LabVISE, 1982-2000**



pathogens of public health significance. These issues will be addressed in a review of LabVISE in 2001.

**Comments on first quarter 2001 LabVISE data**

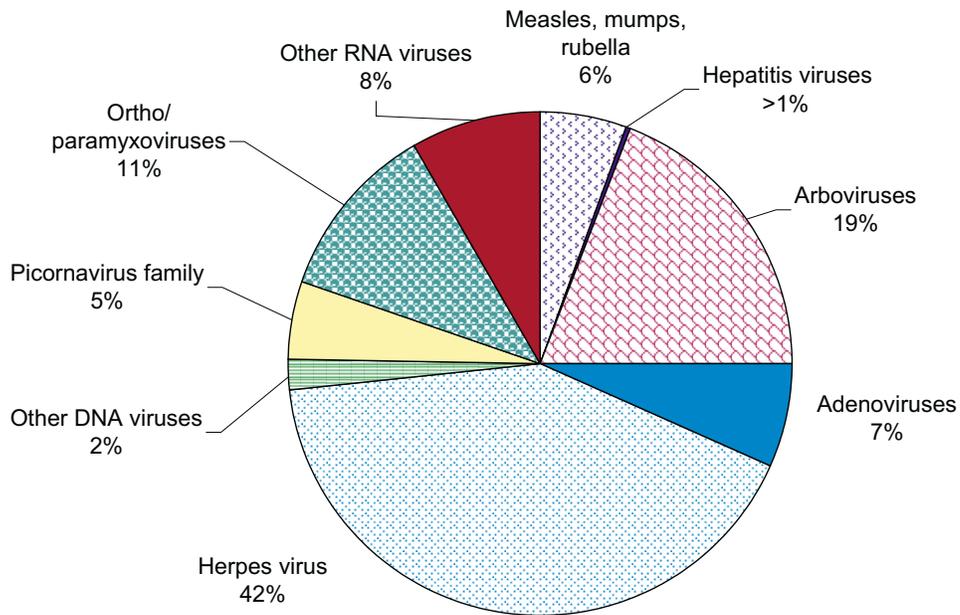
In the first quarter of this year, 2,499 reports were received from 11 laboratories compared with 5,425 reports from 14 in first quarter of 2000. Table 5 shows the totals for the first quarter 2001 compared with the number of isolates in first quarter 2000. Species for which there were no isolates in 2001 were excluded from the list. Contributing laboratories are shown in Table 6.

As in previous years, the majority of pathogens reported to LabVISE were viruses (1,523, 61%, Figure 7). The majority of viral reports belonged to the Herpes virus family (42%), including cytomegalovirus, varicella-zoster virus and

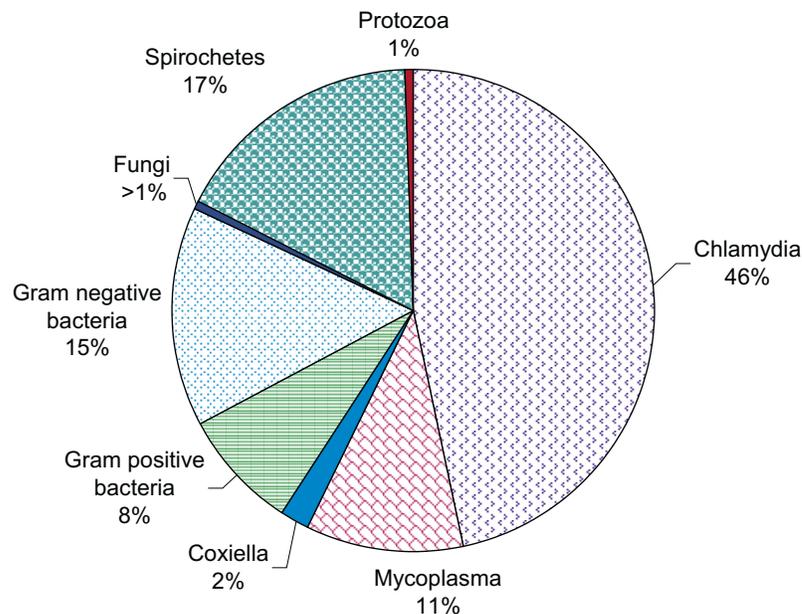
Epstein Barr virus. Arboviruses made up 19 per cent of virus reports (n=290). Significantly fewer cases of Ross River virus were reported in the first quarter 2001 (n=228) compared with the first quarter 2000 (n=573). This reflects a smaller number of total reports of Ross River virus to the NNDSS (Table 2) in this quarter (1,393) compared with 2,097 reports of Ross River virus in the first quarter of 2000. This may be due to no reports being received from PathCentre Virology, Perth, during the first quarter 2001 (Table 6).

Among the 976 non-viral pathogens (Figure 8), 454 (46%) were identified as *Chlamydia*. The most commonly identified species was *Chlamydia trachomatis* (442 isolates) accounting for 97 per cent of the total chlamydial reports. There were 163 *Treponema pallidum* reports to LabVISE in this quarter, representing 17 per cent of the non-viral results.

**Figure 7. Viral infections detected, first quarter 2001, LabVISE**



**Figure 8. Non-viral isolates, first quarter 2001, LabVISE**



# Corrections for *CDI*

## **Victorian *Legionella* commentary correction**

In the previous issue of *CDI* it was reported that an outbreak of legionellosis in Victoria contributed to 38 of the 65 cases reported to the National Notifiable Diseases Surveillance System with an onset within the reporting period. While there were 38 cases of legionellosis with an onset date within this time period, the cases were not linked to a single outbreak.

There were 36 confirmed cases and one possible case of legionellosis in Victoria notified to the Department of Human Services between January and March 2001, of whom 30 (83%) were male. One case was in an overseas visitor who acquired his infection in Melbourne, 3 live and work in non-metropolitan areas, whilst 32 (89%) live and work in metropolitan Melbourne. Of the 36 cases, one case was confirmed as *Legionella longbeachae*, 32 (89%) as *Legionella pneumophila* 1 (Lp1), and the remaining 3 as unspecified *Legionella pneumophila*. Diagnosis was confirmed by culture in 5 (14%) cases, by seroconversion in 5 (14%) cases, and by urinary antigen to Lp1 in 31 (86%) cases. Confirmation by multiple methods was made in 5 cases; one seroconversion to Lp1 and four Lp1 culture-positive cases were first identified by urinary antigen. The CBD outbreak involved 5 people, 2 of whom died, who worked or visited the same area of the city during their incubation times.

## **Non-TB mycobacteria**

In Communicable Diseases Surveillance Highlights section of the April 2001 *CDI*, non-TB mycobacteria infection was reported as a new nationally notifiable disease. This was reported in error. This condition was previously nationally notifiable however, the National TB Advisory Committee of the Communicable Diseases Network Australia recommended its removal from the national list from 1 January 2001. It remains under surveillance in some jurisdictions.

## **New South Wales National Notifiable Diseases Surveillance System tables correction**

The previous issue of *CDI* included no reports of cryptosporidiosis, shigellosis, influenza and invasive pneumococcal disease for New South Wales for the period of 1 January to 31 March 2001. This was incorrect. During this period there were:

52 notified cases of cryptosporidium;

32 cases of shigellosis;

7 cases of laboratory confirmed influenza; and

27 cases of invasive pneumococcal disease.

The error was due to a technical problem during data delivery. Japanese encephalitis, Kunjin virus infection and Murray Valley encephalitis are notifiable in New South Wales, however, there were no notifications for these diseases during the reporting period.